12. Appendices

Appendix A1

Controlled Action

Australian Government
Department of Climate Change, Energy, the Environment and Water

Notification of referral decision and designated proponent – controlled action

Decision on assessment approach

New Beith Road Upgrade, Queensland (EPBC 2023/09505)

This decision is made under section 75 and section 87 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Proposed action

designated proponent	Peet Flagstone City Pty Ltd ABN: 17 151 187 594
proposed action	To clear vegetation, conduct earthworks and install associated infrastructure to upgrade and widen 3.2 km of New Beith Road, Flagstone, Queensland (See EPBC Act referral 2023/09505)

Referral decision: controlled action

status of proposed action	The proposed action is a controlled action. The project will require assessment and approval under the EPBC Act before it can proceed.
relevant controlling provisions	• Listed threatened species and communities (sections 18 & 18A)

Assessment approach decision

assessment approach	The project will be assessed by preliminary documentation

Person authorised to make decision

name and position	Declan O'Connor-Cox Branch Head Environment Assessments Queensland Branch
signature	
date of decision	2 August 2023

Australian Government
Department of Climate Change, Energy, the Environment and Water

EPBC ref: 2023/09505

Michael Stone
General manager
Peet Flagstone City Pty Ltd
Level 3, 167 Eagle Street
Brisbane Qld 4000

michael.stone@peet.com.au

Decision on referral, assessment approach – preliminary documentation for New Beith Road Upgrade, Queensland (EPBC 2023/09505)

Dear Mr Stone

Thank you for submitting a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This is to advise you of my decision about the referral of the proposed action to clear vegetation, conduct earthworks and install associated infrastructure to upgrade and widen 3.2 km of New Beith Road, Flagstone, Queensland.

Decision on referral

As a delegate of the Minister for the Environment and Water, I have decided under section 75 of the EPBC Act that the proposed action is a **controlled action**. Therefore, further assessment is needed before a decision can be made on whether or not approval can be granted under the EPBC Act.

The information I have considered indicates that the proposed action is likely to have a significant impact on the following maters protected by the EPBC Act:

- Listed threatened species and communities (sections 18 and 18A).

Based on the information available in the referral, the proposed action is likely to have a significant impact on the following matters of national environmental significance, including but not limited to:

- **Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and Southeast Queensland bioregions (TEC) - Endangered**

  Based on the referral, I consider the proposed action will result in the loss of 1.23 ha of the TEC, as well as increasing fragmentation and introducing threats.

- **Koala (*Phascolarctos cinereus* (combined populations of Qld, NSW and the ACT) – Endangered**

  Based on the referral, I consider the proposed action will result in the loss of 13.57 ha of habitat critical to the survival of the Koala. Additionally, I consider the loss of this habitat will reduce connectivity between patches of habitat, and further expose Koalas to additional threats such as vehicle strike.

I consider that the proposed action may also result in a significant impact to the following species:

- Grey-headed Flying fox (*Pteropus poliocephalus*) - Vulnerable
- Greater Glider (*Petauroides volans*) – Endangered
- Yellow-bellied Glider (*Petaurus australis australis*) - Vulnerable
- South-eastern Glossy Black-Cockatoo (*Calyptorhynchus lathami lathami*) – Vulnerable
- Swift Parrot (*Lathamus discolor*) – Critically Endangered
- Spotted-tailed Quoll (*Dasyurus maculatus maculatus*) – Endangered
- Regent Honeyeater (*Anthochaera phrygia*)- Critically Endangered

A copy of the document recording this decision is attached and will be published on the department's website. Please note that this decision only relates to the potential for significant impacts on matters protected by the Australian Government under Chapter 2 of the EPBC Act.

Decision on assessment approach – preliminary documentation

I have also decided, under section 87 of the EPBC Act, that the proposed action will be assessed by preliminary documentation.

Each assessment approach requires different levels of information and involves different steps. All levels of assessment include a public consultation phase, in which any third parties can comment on the proposed action.

You may also need to consult with First Nations people and communities during the assessment process. Please refer to our First Nations engagement guidelines for more information on how and when to engage with First Nations people and communities.

Details on the assessment process for your proposed action and the responsibilities of the proponent are set out in the EPBC Act — Environment Assessment process fact sheet. You can also read about the department's referral and assessment process for further guidance. The project manager will contact you shortly to discuss the assessment process.

Cost Recovery

Under subsection 520(4A) of the EPBC Act and the *Environment Protection and Biodiversity Conservation Regulations 2000* (EPBC Regulations) your assessment is subject to cost recovery. Attached is a copy of the initial fee schedule for your proposed action. A statement of charges for Stage 1 will be sent to the project's nominated entity responsible for payment. Fees must be paid before each stage of the assessment can commence. Further details on cost recovery are available on the department's website.

If you disagree with the fee schedule provided, you may apply under section 514Y of the EPBC Act for reconsideration of the method used to work out the fee. You must make your one-off request within 30 business days of the date of this letter. Further details regarding the reconsideration process can be found on the department's website.

Further information required

While I have determined that your project will be assessed by preliminary documentation, some further information will be required to be able to assess the relevant impacts of the action. You should expect to receive a letter from the department within 10 business days of the payment of Stage 1 fees, outlining the information required.

If an election is made under section 132B of the EPBC Act, cost recovery will apply to the approval of any action management plans you submit.

Cost recovery does not apply to the approval of action management plans where you do not elect to submit an action management plan for approval under section 132B of the EPBC Act and the approval of the action management plan does not arise from a variation to the approval conditions that you have requested.

Where you vary an approval condition and it results in you being required to submit an action management plan for approval, cost recovery will apply to the approval of the action management plan. Please refer to the attached Action Management Plan fee election form.

Further guidance

I have also written to the following parties to advise them of this decision:

State or Territory minister(s)	The Hon Leanne Linard MP Minister for the Environment and the Great Barrier Reef, Minister for Science and Minister for Multicultural Affairs
Commonwealth minister(s)	The Hon Linda Burney MP Minister for Indigenous Australians

Please also note that once a proposal to take an action has been referred under the EPBC Act, it is an offence under section 74AA(1) to take any component of the action while the decision-making process is ongoing (some exemptions may apply). Persons convicted of an offence under this provision of the EPBC Act may be liable for a penalty of up to 500 penalty units.

The department has published an Environmental Impact Assessment Client Service Charter which outlines the department's commitments when undertaking environmental impact assessments under the EPBC Act.

If you have any questions about the referral process or this decision, please contact the project manager, Subha Abeysinghe, by email to Subha.Abeysinghe@dcceew.gov.au and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

Declan O'Connor-Cox
Branch Head
Environment Assessments Queensland Branch
2 August 2023

Enc.

- NIAA comments
- Notice recording the CA and assessment approach decisions
- Fee schedule
- Action Management Plan fee election form

Appendix A2

EPBC Information Request

Australian Government
Department of Climate Change, Energy, the Environment and Water

EPBC ref: 2023/09505

Michael Stone
General manager
Peet Flagstone City Pty Ltd
Level 3, 167 Eagle Street
Brisbane Qld 4000

Further information required for preliminary documentation for New Beith Road Upgrade, Queensland.

Dear Michael Stone

I am writing to you about your proposal to clear vegetation, conduct earthworks and install associated infrastructure to upgrade and widen 3.2 km of New Beith Road, Flagstone, Queensland.

On 2 August 2023, a delegate of the Minister for the Environment and Water decided that the proposed action is a controlled action and that it will be assessed by preliminary documentation. Further information was required to assess the relevant impacts of the proposed action.

I now request, under s95A(2) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), further information as outlined in Attachment A and Attachment B.

Details on the assessment process for the project and the responsibilities of the proponent are set out in the EPBC Act — Environment Assessment process fact sheet. Further information on the referral and assessment process can be found on the department's website.

If you have any questions about the assessment process or the further information required, please contact the project manager Subha Abeysinghe by email to Subha.Abeysinghe@dcceew.gov.au, and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

Tyrie Starrs
Director
Queensland South Assessments Section
22 November 2023

ATTACHMENT A
REQUEST FOR ADDITIONAL INFORMATION REQUIRED FOR ASSESSMENT BY PRELIMINARY DOCUMENTATION

New Beith Road Upgrade, Queensland (EPBC 2023/09505)

Under s95A(2) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), further information is required to inform the assessment of impacts of this action, including information about strategies for avoiding and mitigating any adverse impacts.

The preliminary documentation for the proposal must include:

a) specified information included in the original referral.

b) additional information you provide in response to this request.

c) any other information specified in this request or provided during the referral or assessment process.

Please note the department may require further information, in addition to the information required below, should new issues come to light during the assessment stage.

The preliminary documentation must address the matters set out below.

1. General content, format and style

The preliminary documentation must be written so that any conclusions reached can be independently assessed, and:	
1.	Include a reference table indicating where to find information and links within the document to relevant sections. Where relevant information was provided in the referral, please incorporate, or cross-reference to this information as necessary in the preliminary documentation.
2.	Contain sufficient information to allow the Minister (or delegate) to make an informed decision on whether to approve, under Part 9 of the EPBC Act, the taking of the action for the purposes of each controlling provision. Contain sufficient information to enable interested stakeholders to understand the environmental consequences of the proposed development on matters of national environmental significance (MNES).
3.	Ensure all work and conclusions: a) are presented clearly, unambiguously, succinctly and objectively. b) are evidence based, and the evidence is provided. c) are supported by peer reviewed literature, with references provided, or expert opinion. d) use scientifically robust methodologies appropriate to the purpose, including a justification of why the methodology/s was selected; details of the methodology described in a manner that allows an independent suitably qualified

	practitioners to apply the method; and, state any limitations of the chosen approach. e) are supported by maps, plans, diagrams, baseline surveys or other descriptive detail. f) maps must clearly identify development footprints, buffer zones, and any conservation areas where impacts will be avoided, and areas of adjacent habitat that would be subject to indirect impacts, including areas that are to be retained within and adjacent to the site. g) use active language and state clear commitments (e.g., 'must' and 'will') where appropriate, particularly in describing avoidance, mitigation and management actions and outcomes. h) demonstrate the use of the most up to date statutory documents* including Approved Listing Advice(s), Conservation Advice(s), Recovery Plan(s), Threat Abatement Plan(s) or comparable policy guidelines, and approved survey methods. i) demonstrate the use of up-to-date; policy guidelines, scientific methods, information, data and species-relevant survey methods. j) appropriately reference all sources using the Harvard standard. The reference list must include the address of any internet pages used as data sources. **relevant documents include, but are not limited to, the resources found in the Species Profile and Threats Database (SPRAT database) and EPBC Act publications and resources*.
4.	Be able to read as a stand-alone document and must include summaries of all relevant information referenced or provided in appendices. Complex or detailed technical information, studies or investigations necessary to support the main text should be attached to the main document as appendices.

2. Description of the action

The preliminary documentation must include:	
1.	a) A description of all components of the proposed action (such as pre-construction, construction and operational), including the staging, sequencing, duration and timing. b) A description of the anticipated start and completion dates of all actions such as the extent, staging and timing of clearing undertaken over the construction period. c) The location, extent, and size (in hectares) of the total project footprint, disturbance/impact footprint, and of any adjoining areas (beyond the impact area) that may be subject to indirect or facilitated impacts, including edge effects, noise or light spill, vehicle access or other associated activities.

	Provide detailed maps of these areas. d) A description, with supporting spatial information, detailing all site access roads and any other shared infrastructure with adjacent projects/areas to be constructed to facilitate the proposed action. *Please describe any changes to project or disturbance footprints that may have occurred since the original referral. Please note these changes may require a formal variation request.*
2.	Information that delineates the footprint and activities of the proposed action from adjacent proposed or existing developments. *Note that it is your responsibility to provide full description of shared infrastructure with adjacent projects/areas.*
3.	Provide a description of the intended land uses proposed as part of the completed development, including of any proposed open space and/or conservation areas and associated ongoing activities, and details of the intended party that would be responsible for future management activities.
4.	Details of any local or State Government planning scheme, or plan or policy under any local or State Government planning system that applies or is likely to apply to the proposed action. Details should include (but are not limited to): a) what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy? b) application/approval numbers for existing applications where relevant c) obtained approvals or additional approvals that are required.

3. Description of the environment and Matters of National Environmental Significance

Description of the environment The preliminary documentation must provide a description of the environment affected by and surrounding the proposed action area, over both the short and long term, including:	
1.	A description of the environment more broadly, including previous and current land use and disturbances within and surrounding the proposed action area.
2.	A description of any potential listed threatened species or ecological community (including but not limited to those listed in this request for information) that occur in the project area and adjacent areas. *Please ensure that a recent Protected Matters Search Tool report is generated and used during the assessment before finalising the draft preliminary documentation to identify any additional species (listed at the time of the controlled action area) that may be*

	affected by the proposal.
3.	For listed threatened species and ecological communities that have the potential, or are likely, to be present at and in the vicinity of the project site, including but not limited to those listed in this request, please provide a likelihood of occurrence assessment including the following: a) Information on the abundance, distribution, ecology and habitat preference of the species or communities. b) Quantification of the extent of habitat (including maps identifying known or potential habitat) on site and, where feasible, in the broader landscape. c) Quality and importance of known or potential habitat for the species or communities. d) Information detailing known populations or records within at least five kilometres of the development footprint and (if known) the size of these populations. e) Conclusions on the likelihood of occurrence of listed threatened species and ecological communities within the project site, or within an area of impacts outside the project site. *Likelihood or occurrence and habitat assessments must be informed by up-to-date desktop and field surveys and informed by relevant departmental documents (e.g., approved Conservation Advice, Recovery Plans, draft referral guidelines and Listing Advice, and SPRAT Database) and/or species experts.*
4.	Up to date baseline and survey data at the impact site(s), and if relevant, the proposed offset site(s) site, including: a) Information on the survey methodology or technique used (e.g., thermal image detection, dog detection, eDNA methods, camera trapping, tree hollow search, SAT surveys etc) b) When surveys were conducted (e.g., dates, time of day, season, etc.) and survey effort (e.g., two hours for every one hectare within a 5-hectare area) c) Map/s of survey points or transects and how the survey points or transects were selected. d) An assessment of the adequacy of any surveys undertaken with reference to any relevant scientific literature and/or statutory documents. In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with relevant survey guidelines. *Please note: If you are unable to provide details of survey in accordance with relevant survey guidelines (approved by the Australian Government) the department considers the species are present within the proposed action area.* e) Results of all surveys undertaken. *Please also note that a lack of sighting will not always support claims of a lack of*

	habitat, especially for 'cryptic' species. The department recommends field surveys utilise a combination of industry best-practice methods for all protected matters that have a likelihood of occurrence (where relevant, such as environmental DNA, thermal imaging, acoustic sensors etc.), as this can increase the accuracy, and acceptability of survey results.
5.	Based on survey data and with reference to relevant statutory documents, provide a clear description of the total extent and quality of habitat present within and surrounding the proposed action area for each species or ecological community potentially present or impacted by the action. For all species with residual significant impacts the method used to quantitatively assess the quality of habitat must be discussed and endorsed by the department before being applied.

Survey requirements

Survey timing

Please note that some surveys can take more than a year to complete to ensure they are undertaken in the correct season. The department generally cannot accept survey data that's more than 5 years old because:

- populations of species can change due to fires, drought, flooding and land management changes.
- some species' ranges can shift due to climate change.

If your data is older than 4 years when you start planning your project, the department recommends you undertake further up to date surveys to allow for the assessment timeframe.

For information on survey methodologies approved by the Australian Government, please refer to https://www.dcceew.gov.au/environment/epbc/advice/surveys-and-data

Failing to survey appropriately for threatened species that may be present at a site could result in the department applying the precautionary stance with regard to residual significant impact determinations.

That is, if no supporting evidence (such as survey results) is presented to support the claim of species absence, then the department may assume that the species is in fact present. The department will not accept claimed species absence without effective validation, such as through the application of survey guidelines, other survey techniques (for example, a state guideline or an accepted industry guideline), or statements from relevant species experts. Where a claim of absence is made, proposals must provide a robust evaluation of species absence.

4. Impact assessment

Based on the information provided in the referral, additional information provided in support of the referral, information provided in the SPRAT database, and online observation records, the department considers the proposed action will impact the following matters protected by the EPBC Act:

- Listed threatened species and communities (sections 18 and 18A)

Based on the information available in the referral, the proposed action is likely to have a significant impact on the following matters of national environmental significance, including but not limited to:

- Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions – Endangered
- Koala (*Phascolarctos cinereus* (combined populations of Qld, NSW and the ACT)) – endangered

Based on all the information available to the department (including the PMST, which suggests the presence of the following species or communities in the area of the proposal), and without further detailed assessment of potential impacts, the department considers that the proposed action may significantly impact on other listed threatened species including but not limited to:

- Grey-headed Flying-fox (*Pteropus poliocephalus*) – Vulnerable
- Greater Glider (*Petauroides volans*) – Endangered
- South-eastern Glossy Black-Cockatoo (*Calyptorhynchus lathami lathami*) – Vulnerable

- Swift Parrot (*Lathamus discolor*) – Critically endangered
- Regent Honeyeater (*Anthochaera phrygia*)- Critically Endangered
- Yellow-bellied Glider (*Petaurus australis australis*) – Vulnerable
- Spotted-tailed Quoll (*Dasyurus maculatus maculatus*) – Endangered

Note that this may not be a complete list and it is your responsibility, as the proponent, to ensure that any species or ecological communities listed under the EPBC Act at the time of the controlled action decision, which may be present or potentially significantly impacted, are assessed as part of the preliminary documentation.

<table>
<tr><td colspan="2">The preliminary documentation must include an up-to-date assessment of potential impacts that may occur as a result of the proposed action.

Consideration of impacts must not be confined to the immediate area of the proposed action but must also consider the potential of the proposed action to impact on adjacent areas that are likely to contain populations and/or habitat for MNES.</td></tr>
<tr><td>1.</td><td>Include a clear description of the total extent and quality of the following:

a) the total extent of habitat present for each relevant protected matter within the project footprint

b) direct and indirect impact areas (including the total extent of habitat for each relevant protected matter to be impacted, both within and external to the project footprint)

c) Habitat areas to be retained/avoided, and an assessment whether these areas will provide viable habitat (including the total extent of habitat present for each relevant protected matter to be avoided).

d) For Threatened Ecological communities, clearly describe how the habitat on and adjacent to the action area meets the condition thresholds, and whether proposed action will likely result in direct and/or indirect impacts that:

a. increase fragmentation

b. reduce patch quality

c. reduce patch size

d. result in patches too small to be considered habitat.</td></tr>
<tr><td>2.</td><td>To inform point 4.1, please provide an assessment of the direct, indirect, facilitated and cumulative impacts that may occur as a result of the proposed action at a local and regional scale.

The assessment should include consideration of:

a) the nature, likelihood, significance, and extent of impacts and whether any relevant impacts are likely to be unknown, unpredictable or irreversible.

b) timing of impacts, and whether the impact is temporary or permanent.</td></tr>
</table>

	c) species specific habitat requirements, such as hollow bearing trees, nest trees, refuge habitat, foraging and breeding habitat, sheltering or other microhabitat features relevant to the species within and surrounding the development footprint (if applicable). d) whether connectivity and movement opportunities in the surrounding area may be retained, removed, functionally lost or compromised. e) adjacent areas of habitat that may or will be subject to intensification of ongoing impacts (for example, through increased human and vehicle presence) f) indirect or facilitated impacts that may result from the proposed action during the pre-construction, construction and operation phases , including but not limited to the following: i. Edge effects – including the potential for the introduction of weed species and pathogens in the referral area and adjacent environment. ii. Vehicle movement, resulting in disturbance and fauna strike. iii. Increased presence of dogs. iv. Earthworks – potential to generate dust emissions from the removal of vegetation and movement of soil. v. Disturbance from increased noise, artificial light, sediment generation and other relevant stressors. g) cumulative impacts, where potential project impacts on MNES are in addition to existing impacts of other activities (including current or future developments by the proponent and other proponents in the region and vicinity)
Note:	*Please review the following policy statement, providing guidance on what impacts constitute an 'indirect consequences(s)', under paragraph 527E(1)(b) of the EPBC Act.* *Facilitated impacts may include (but are not limited to) the risk of injury or mortality to MNES as a result of the increased exposure to domestic dogs, vehicle strike, and loss of remaining small patches of habitat as a result of land-clearing and introduced disturbing factors.*
	Include current maps and coordinates/shapefiles showing the total project footprint, total disturbance/direct and indirect impact areas, areas of habitat for MNES proposed to be retained.
	Include details of any policy guidelines, relevant studies, surveys, or consultations with species experts/field specialists, which were not included in the referral or additional information provided in support of the referral.

5. Avoidance, mitigation and management measures

The information available in the referral indicates that there is substantial area within the project footprint with protected matters present or likely to be present.

The mitigation hierarchy is a process that is used to limit the amount of damage that a proposed action will have on the environment. There are three steps, and each step must be followed in order and to the greatest extent practicable before moving on to the next. These steps are:

1. **avoid** harm to the environment within and surrounding the project area.
2. **reduce** or mitigate environmental damage within and surrounding the project area.
3. identify **offsets** within the region that compensate for the significant residual impacts to listed species or ecological communities.

The preliminary documentation must provide information on proposed avoidance, safeguards and mitigation measures to deal with the relevant impacts of the proposed action on MNES.

1.	Demonstrate that you have applied the mitigation hierarchy and exhausted all options to avoid and mitigate harm to protected matters, before resorting to environmental offsets. In doing this, you must demonstrate that any avoidance or mitigation measures will provide ecological benefits to the species in the long-term. For example, on-site avoidance/conservation areas must be connected or provide connectivity opportunities for species in the broader landscape, and must include enduring mitigation of impacts from adjacent development.
2.	Provide details (including a summary list or table) of avoidance and mitigation measures proposed to be undertaken to prevent or minimise impacts on protected matters (or their habitat) from the proposed action area, including: a) a description of avoidance measures that have been considered and applied. For example, project site selection to avoid valuable habitat, micro-siting of infrastructure to avoid impacts on habitat on site, or avoidance of any activity that may indirectly impact on essential lifecycle processes for species. b) a description of proposed safeguards and mitigation measures to minimise and manage relevant impacts of the action, with reference to relevant statutory or policy documents at the Commonwealth and State level (e.g., *Guideline: State Development Assessment Provisions (State Code 25)*) c) pre-clearance and clearance procedures to ensure that species are detected and managed to minimise mortality, stress, injury, or introduction of disease. d) Information on any buffer zones between the construction footprint and remaining habitat in the referral area and adjacent to the site. e) Measures to address the risk of MNES entering developed areas, and becoming trapped/isolated without resources for shelter. f) Ongoing management of direct and indirect impacts due to increased likelihood of human presence, attacks by domestic dogs, and injury caused by negotiating

	various fence types. g) details of how speed reduction is to be achieved (e.g., traffic calming devices) and plans showing the locations of each of these features and the manner in which they will be implemented). h) information on safe road design and placement, including installation of crossing warning signs, wildlife threshold marking on road (include maps and imagery). i) the locations and size of any proposed fauna movement solutions, fire breaks, no-go or buffer zones (including buffers between the construction footprint or remaining habitat in the referral area and adjacent to the site), and potential fencing, including: i. the location of any movement solutions, fire breaks, buffer zones, or fencing. ii. the characteristics of the fauna movement solutions, fire breaks, buffer zones and fencing, (i.e., height, length, wildlife proof measures etc) iii. whether the proposed measures, such as fencing will provide a wildlife barrier to/from/within the proposed action area. iv. When the movement solutions will be constructed, and whether there will be periods with no connectivity. v. The maintenance intervals of the above measures. vi. The consistency of the above measures with relevant federal, state or industry guidelines. j) a description of the environmental outcomes the measures are expected to achieve including details of any baseline data or proposed monitoring to demonstrate progress towards achieving these outcomes. k) information on the timing, frequency, and duration of the measures to be implemented. l) an actual or estimated cost of the mitigation measures.
3.	Provide an assessment of the predicted effectiveness of each proposed avoidance or mitigation measure, noting that the effectiveness of a particular measure is a reflection of confidence in the anticipated outcome. The assessment of effectiveness should be evidence based and include examples of demonstrated success of a particular measure to achieve the desired avoidance/mitigation outcome.
4.	For each measure proposed, indicate the: a) impacts that are being avoided and/or the significance of impacts being reduced through mitigation. b) Scientific basis for conclusions being drawn c) an evidence-based likelihood of success/risk assessment

	d) responsible party e) milestones / performance / completion criteria f) proposed monitoring and evaluation program.
5.	Describe any statutory or policy basis for the proposed measures, including reference to the SPRAT Database and relevant approved conservation advice, recovery plan or threat abatement plan, and a discussion on how the proposed measures are not inconsistent with relevant plans. For example, the National Recovery Plan for the Grey-Headed Flying Fox states an objective to: '*To improve the Grey-headed Flying-foxes national population trend by reducing the impact of the threats outlined in this plan on Grey-headed Flying-foxes through habitat identification, protection, restoration and monitoring'.* Please provide a discussion on how the proposed action is not inconsistent with relevant species' recovery objectives or alternatively, how the proposed avoidance, mitigation/management and offsetting actions will compensate for any residual significant impacts, thereby ensuring consistency with the objective for relevant EPBC Act species.
6.	All proposed measures must consider the 'S.M.A.R.T' principle: S – Specific (species-specific objectives, methods, outcomes, and repeatability) M – Measurable (baseline information, quantifiable, auditable) A – Achievable (timeframes, financial and human resources) R – Relevant (conservation advice, recovery plans, threat abatement plans) T – Time-bound (set implementation, performance and completion timeframes). *All proposed measures must use words of certainty, instead of possibility. For example, a fauna spotter catcher <u>will</u> perform pre-clearance checks on the first day that clearing is proposed, and will be present during all clearing.*

6. Proposed offsets

Where residual significant impacts to listed threatened species or ecological communities remain after application of all reasonable avoidance and mitigation measures, a compensatory environmental offset in accordance with the Environment Protection and Biodiversity Conservation Act 1999 *Environmental Offsets Policy* (EPBC Offsets Policy)[1] is required.

Offsets must be specific to the species or ecological community being impacted, must address the attribute of the protected matter that is impacted, and must deliver an outcome for the protected matter that is demonstrably equal or better than if neither the impact nor the offset occurred. Offsets are not intended to make proposed actions with unacceptable impacts, acceptable.

[1] https://www.awe.gov.au/environment/epbc/publications/epbc-act-environmental-offsets-policy

Direct land-based offsets must achieve a nature positive outcome for the impacted matter. For example, where the proposed action will result in the permanent loss of habitat, the proposed offset should create habitat. An offset that proposes to deliver improvements to existing habitat is less likely to be approved, and strong evidence must be provided that habitat improvement is both a) the best outcome for the species, and b) that funding and management arrangements can maintain those benefits for the same duration of the impact (i.e. in-perpetuity)

If an offset is required, prior to publication, the preliminary documentation must include an:

1. **Offset Proposal** – The Offset Proposal must provide detail about the proposed offset site or sites including baseline survey information, habitat or vegetation quality scores, how the offset will be managed for the duration of the impact, and evidence that the protected matter is present or uses the offset site. The Offset Proposal must demonstrate how the proposed offset is suitable and meets the principles of the EPBC Offsets Policy and must include sufficient information for the department to assess it using the EPBC Offsets Assessment Guide.
2. **Offset Management Plan (OMP)** – The OMP supports the Offset Proposal and must detail all the management activities to be undertaken at the offset site including setting interim and final environmental outcomes, milestones, monitoring and reporting measures. Management plans and activities must be targeted towards the specific plant, animal, ecological community, or place (protected matter) that is being offset. If there is more than one offset site, then a separate OMP must be prepared for each site.

For further details regarding offset requirements and the requirements of an Offset Proposal and OMP, see Attachment B.

7. Habitat quality assessment

A methodology that is suitable for each listed threatened species or threatened ecological community (i.e., endorsed by the department or supported by literature) where there is a residual significant impact must be used to assess habitat quality, noting the same scoring mechanism must be used at both impact and offset sites.

The department encourages proponents to consult and seek endorsement from the department on a proposed method prior to undertaking any habitat quality assessment at both impact and offset site(s).

The department currently prefers habitat quality scoring methods for each prescribed matters to be consistent with the Modified Habitat Quality Assessment (MHQA) method. The MHQA tool derives habitat quality scores using an adaptation of the Queensland Government's 'Guide to determining terrestrial habitat quality version 1.2 (DEHP Guide).

The MHQA aligns, as far as possible, the DEHP Guide with the requirements of the EPBC Act Environmental Offsets Policy for determining habitat quality scores. In aligning with this policy, all habitat quality scoring methods are required to generate future scores for 'with' and without' offset scenarios. Forecast gains or loss in habitat quality score must be substantiated by scientific information and via the endorsed MHQA (or an approved alternative) method.

To support the habitat quality assessment, a link to the DEHP Guide, a MHQA scoring guide, and a

MHQA scoring spreadsheet template (.xlsx) are provided herein. When calculating offsets, please refer to the department's published guidance: How to use the Offsets Assessment Guide.

A precautionary approach to forecasting scores should be applied, with all limitations and uncertainties considered, documented and integrated within the 'Confidence in Result % (Quality)' value applied in the Offset Assessment Guide (offset calculator). Please also note the following:

- If you propose a habitat quality gain of more than 2 points, or an achieved future habitat quality score 'with offset' of 9 or 10, it becomes less certain that the conservation outcome can be achieved. The justification of effectiveness of your proposed management measures and associated habitat quality score improvements and (reflected in the confidence in result) must be supported by substantial evidence.
- Higher habitat quality gains will generally be associated with lower 'confidence in result' scores in the Offset Assessments Guide to reflect the difficulty associated with achieving the conservation outcomes. In these cases, it is likely that outcomes-based commitments will be required in the associated management plan for the site, including specifying binding metrics to be met to demonstrate quality improvement. For further information, please contact the department to discuss the metrics that will be used to demonstrate achievement of quality standards.

If you intend to propose an alternative methodology for assessing and scoring habitat quality for any/all of the prescribed matters likely to experience significant residual impacts as a result of the proposed action, the alternative methodology must:

- directly relate to habitat requirements of the species and factors associated with the viability of the prescribed matter, and align with information contained in the SPRAT database and relevant statutory/departmental documents, and
- be substantiated with appropriate field surveys in accordance with the relevant survey guidelines or using a scientifically robust and repeatable methodology.

Where there are any inconsistencies between the habitat assessment approach and information contained in the SPRAT database, the inconsistencies must be discussed with the department prior to the submission of the assessment documentation and must be supported by scientific evidence including published research, independent expert advice and information derived from field surveys.

Note:

The department considers the Guide to determining terrestrial habitat quality version 1.2 (2017) and MHQA have numerous limitations when being applied to large linear infrastructure projects. The narrow linear projects have regional scale impacts that cross over many MNES.

1. Habitat quality scoring (HQS) methodologies that depart from the Bio Condition 2015, DEHP 2017 or Standard MHQA attributes, the proponent must ensure proxy measures capture the same site/species values for Site Condition, Site Context and Species Stocking Rate components – to ensure consistency with the EPBC Act 1999 Environmental Offsets Policy 2012.

2. For threatened fauna species, population-scale information is required to inform Species Stocking Rate component values, for both impact and offset HQS. For impact sites, HQS must capture information on fauna populations likely to be impacted by the proposed action.

a) Population information cannot rely on observation records alone and fauna surveys must be

conducted on, and adjacent to the disturbance area to understand the importance of both the site and associated population(s).

b) Methods to streamline the assessment, such as using targeted surveys in zones or using landscape-scale attribute values to represent a zone during the data analysis should be applied - but these should not simplify the assessment to the extent that real or measurable uncertainties and environmental risks are overlooked.

For example, it may be appropriate and more efficient to adopt an area (zone) of contiguous habitat as the basis of defining the extent of a single fauna sub/population. This area could be subject to targeted MHQA surveys (including transects beyond the narrow impact area) to provide representative survey data of MNES. Many attribute values measured within the area could then be applied across the entire impact footprint (e.g., Site Context component values).

Please engage with the department throughout the HQS method development phase to ensure it is scientifically robust, and that all measures to increase efficiency are reasonable. The department welcomes discussing the feedback provided in this document with Peet Flagstone City Pty Ltd.

8. Economic and social matters

If not previously provided in the referral documentation, the preliminary documentation must:	
	Provide details on the social and economic costs and/or benefits of undertaking the proposed action, including the basis for any estimations of costs and/or benefits. Where possible, please include the total economic capital investment and economic ongoing value of the project.
	Identify if economic benefits and employment opportunities are in addition to what would have been expected if the action were not to take place.
	Provide details of any public stakeholder consultation activities, including the outcomes of those consultations.
	Provide details of any consultation with Indigenous stakeholders. **Indigenous engagement** Identify existing or potential native title rights and interests, including any areas and objects that are of particular significance to Indigenous peoples and communities, possibly impacted by the proposed action and the potential for managing those impacts. Describe any Indigenous consultation that has been undertaken, or will be undertaken, in relation to the proposed action and their outcomes. This should include: a) details regarding the specific Indigenous groups and Traditional Owners consulted and an indication of the areas, both tangible and intangible, of cultural significance across the project site; and b) a discussion about how impacts to areas and/or objects of Indigenous cultural significance (tangible and intangible) are avoided, mitigated or minimised. The department considers that best practice consultation, in accordance with the

	Guidance for proponents on best practice Indigenous engagement for environmental assessments under the EPBC Act (2016) includes: a) identifying and acknowledging all relevant affected Indigenous peoples and communities. b) committing to early engagement. c) building trust through early and ongoing communication for the duration of the project, including approvals, implementation and future management. d) setting appropriate timeframes for consultation; and e) demonstrating cultural awareness. Describe any state requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action with regards to Indigenous peoples and communities.

9. Ecologically sustainable development

If not previously provided in the referral, the preliminary documentation must:	
	Provide a description of how the proposed action meets the principles of ecologically sustainable development, as defined in section 3A of the EPBC Act, which are as follows: (a) decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations. (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. (c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. (d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making

10. Environmental record of the person proposing to take the action

Include details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:	
	the person proposing to take the action;
	for an action for which a person has applied for a permit, the person making the application;
	if the person is a body corporate—the history of its executive officers in relation to environmental matters; and
	if the person is a body corporate that is a subsidiary of another body or company (the parent body)—the history in relation to environmental matters of the parent body and its executive officers.

11. Ecological data provision

The preliminary documentation must include an appendix of occurrence records (both sightings and evidence of presence) for all listed threatened and migratory species identified during field surveys for the proposed action. This data may be used by the department to update the relevant species distribution models that underpin the publicly available Protected Matters Search Tool (PMST).

The species occurrence records must be provided in accordance with the department's *Guidelines for biological survey and mapped data* (2018) using the species observation data template provided with this request for additional information. Sensitive ecological data must be identified and treated in accordance with the department's *Sensitive Ecological Data – Access and Management Policy V1.0* (2016) or subsequent revision.

Appendix A3

Traffic Assessment

FLAGSTONE NEW BEITH ROAD CONNECTION

ECONOMIC MEMORANDUM

07 MARCH 2019
P0008084
DRAFT
PREPARED FOR PEET FLAGSTONE CITY PTY LTD

URBIS

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Paul Riga
Associate Director	Kobus van der Vyver
Senior Consultant	Rene Tonna
Research Assistant	Liam Cassidy, Emmerson Dodds
Project Code	P0008084
Report Number	1

© Urbis Pty Ltd
ABN 50 105 256 228

All Rights Reserved. No material may be reproduced without prior permission.

You must read the important disclaimer appearing within the body of this report.

TABLE OF CONTENTS

Executive Summary i
1. Introduction 2
2. Flagstone overview 3
3. Opportunities 4
4. Economic Benefit Assessment 6
4.1. Land-Use Demand Employment Benefits 6
4.2. Economic Value Contribution 6
5. Barriers to market entry 8
5.1. SWOT Analysis 8
5.2. Agent Engagement 9
Disclaimer 10

Appendix A Road Upgrade Map
Appendix B Structure Plan
Appendix C Peak Urban Technical Memorandum

EXECUTIVE SUMMARY

Urbis was appointed by Peet Flagstone PTY LTD to undertake an independent high-level review of the direct and indirect opportunities linked to the upgrades and construction of a northern connection road for their landholdings in the Flagstone PDA. The proposed road upgrade will extend from the Northern Boundary of the Peet Landholdings in the Flagstone PDA connecting to the Springfield Greenbank Arterial road and provide ultimate accessibility to the Centenary Highway.

The development opportunity will consist of a mix of land-uses including residential of various typologies and densities including apartments. Provision is made for a town centre which will contain office and retail uses, other local centres, community services (including education and health care) and employment land (Light Industry and MIBA) in excess of 600,000 GFA. Accessibility is highlighted throughout the opportunity assessment as a key enabling factor and an access road would play a catalytic role in enabling opportunities to realise across all land-uses. The aspiration of heavy vehicle access is noted to allow for ultimate utilisation and broad market appeal to mixed business and industry occupiers. **Activation of business uses will serve an important employment driver and allow for improved self-containment**.

The road construction will deliver a direct benefit 83 FTE jobs and $10.6 million during construction. The catalytic benefit of the road has the potential to unlock in excess of $4,100 million expenditure impact and 37,000 jobs during the construction phase for ultimate development build out. Sustained operational benefits includes approximately $2,200 million GSP contribution and 27,000 permanent jobs, subject to accessibility constrains being resolved.

Flagstone has various strengths and opportunities, but most are tied to improving accessibility to realise these benefits. Weaknesses and threats including the mitigation of negative distance from main centres and the Brisbane CBD distance perceptions all relate to accessibility and the need for advantageous road connections. The proposed road connection as such has the ability to **address many of the negative factors and strengthen the positives**. Interaction with local agents confirmed the importance of accessibility to generate population growth momentum, drive amenity and improve the marketability of the precinct for employment land uses.

The infrastructure delivery of the entire section of road extending from the northern boundary of the Peet Land holdings to connect to the Springfield Greenbank arterial is key in the realisation of the development vision for Flagstone. The enabling infrastructure will serve an important purpose to drive employment, position the development as a key centre for Brisbane's South West Corridor and fostering a community of growth opportunities where businesses can grow and prosper

1. INTRODUCTION

Peet Flagstone PTY LTD appointed Urbis to undertake an independent high-level review of the direct and indirect opportunities linked to the construction upgrades of a northern connection road for the Peet landholdings in the Flagstone PDA.

The proposed road upgrade is noted as sections 208, 46 and 218 on the Greater Flagstone Subregional Road Upgrade Map and will extend from the Northern Boundary of the Peet Land Holdings in the Flagstone PDA through New Beith connecting to the Springfield Greenbank Arterial road and ultimately the Centenary Highway. The Road Upgrade map is attached as Appendix A.

Key direct benefits of the upgrade include, but is not limited to, providing a catalytic access to the Centenary Highway towards the greater SEQ destinations, an access alternate to the existing Homestead Drive and an effective link for the Flagstone PDA with northern destinations such as Springfield, New Beith, Spring Mountain and Greenbank.

The Logan Council has nominated the upgrade for the period of 2036-2056 as an anticipated external upgrade. Only the northern extent has been included within the 2018-2026 window. This report will provide economic evidence promoting the importance of escalating sections, 208, 46 and 218 to prior to 2026 to support development in Flagstone.

2. FLAGSTONE OVERVIEW

The Greater Flagstone PDA has three components consisting of Flagstone, Greenbank Central, and North Maclean. Flagstone is envisioned to become “a large integrated community of around 100,000 people living in attractive, compact neighbourhoods, and provided with a wide range of facilities and services located in a network of accessible activity centres and low impact business and industry areas”

Peet Flagstone PTY LTD has control of around 1,500 ha of land representing the largest single holding of the Flagstone component of the PDA. The envisioned development will consist of a mix of land-uses including residential of various typologies and densities including apartments. Provision is made for a town centre which will contain office and retail uses, other local centres, community services including education and health care and employment land (Light Industry and MIBA). See Appendix B for more details on the land use mix and layout in the updated structure plan.

3. OPPORTUNITIES

This section provides an overview of development opportunities identified for Flagstone in the Economic Development Strategy (undertaken for PEET in 2016). The opportunity assessment was guided by the following key visioning principles as summarised below:

- Driving employment generation (integrate timeliness if possible,
- Positioning Flagstone as the key centre for Brisbane's South West Corridor (note specifically for the Logan City Council and the importance of Flagstone as a contributor to jobs)
- Fostering a community of growth opportunities with Flagstone highlighted as a location where businesses can grow and prosper (self-containment potential)

The strategic direction, an output aligned to the visioning, for the Flagstone land is summarised in Table 1:

Table 1 – Flagstone Strategic Direction, Flagstone Economic Development Strategy (Urbis, 2016):

Strategic component	Peet land	Greater Flagstone UDA	Peet as % of Greater Flagstone
Population	33,625	110,000-120,000	28%-31%
Dwellings	12,225	50,000	24%
Major Regional Activity Centres	1	1	100%
District & Neighbourhood Centres	1 District 3 Neighbourhood	3 District 11 Neighbourhood	33% of District 27% of Neighbourhood
Employment	15,881	34,795	46%
Job Self Containment	80%-100%	60%	N/A
Land	1,496 ha	7,188 ha	21%
Interim Land Uses	Centre and Frame = Bulk landscape supplies; Warehouses Non-Centre = Industrial; Rural uses		
Industries	Retail; Professional Services; Community Services; Education; Service and Light Industry; Construction and Housing; Agriculture and Rural Based Activities; Knowledge Based Industries; Green Technologies		

Note: The above figures exclude the existing population and dwellings in the Flagstone area; and employment estimates are based on Urbis calculations and include North Maclean and other proposed projects within the PDA. Retirement Dwellings have not been included in the total dwellings figure. Please refer to EDS 2016 for more details.

The vision and strategic direction was translated into land use opportunities from, Urbis Benchmark calculations spanning a 30-year timeline:

Land Use	GFA
Retail	129,638
Commercial	78,766

Land Use	GFA
Entertainment	12,500
Community Services	29,700
Education	77,431
Attached Residential	65,120
Health	127,000
Light/Service Industry	146,520

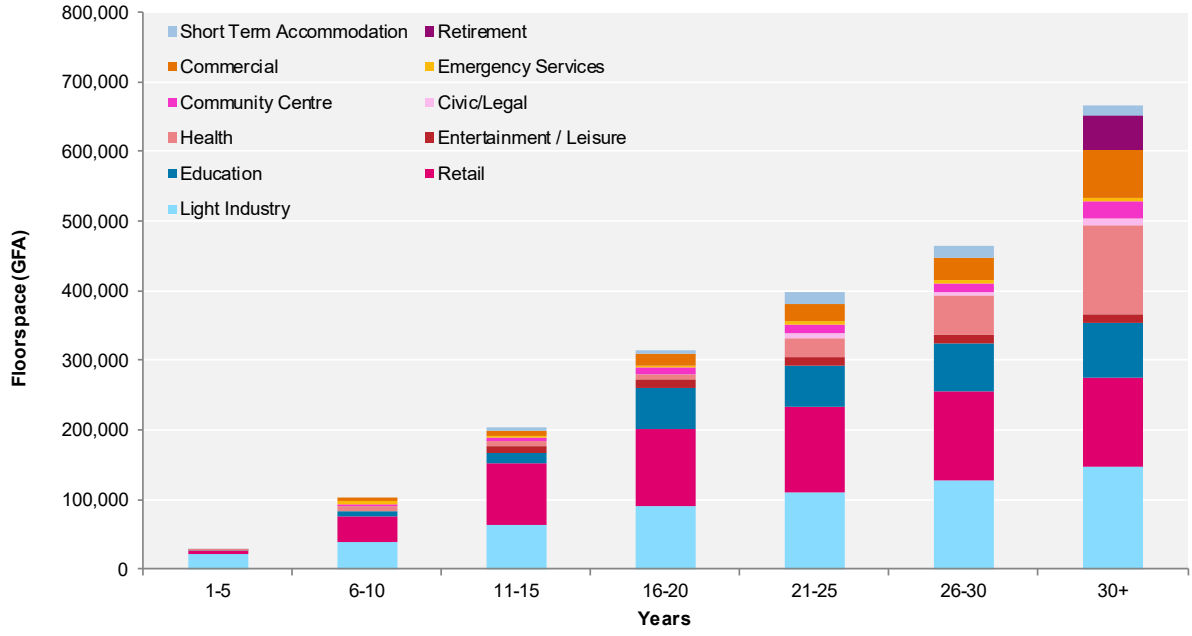
Source: Flagstone Economic Development Strategy, 2016

Accessibility is highlighted throughout the opportunity assessment as a key enabling factor and an access road would play a catalytic role in enabling opportunities across all land-uses. The client has the aspiration for the road to have sufficient load capacity to carry heavy vehicles including B-Doubles to allow for ultimate utilisation and broad market appeal, in particular to mixed business and industry occupiers. This will serve an important employment driver and allow for improved employment self-containment. Recent investigations by Urbis working with agents across the entire South West Corridor has confirmed that up to 95% of current prospective tenants taking up space, mostly in the logistics and warehousing sectors, would not consider a location if not accessible to frequent heavy vehicle trips and have at least two major road connection points. Interaction of the client with prospective tenants have provided similar outcomes with potential occupiers noting that regional accessibility will inhibit their operations prompting decision to consider areas alternate than Flagstone.

Catalytic projects identified as part of the Economic Development Strategy cover a variety of key industries. . Enabling these industries as catalysts would require positive location attributes and the resolution of current accessibility constraints.

The Town Centre fringe activation is expected to commence in 2020 consisting of approximately 10ha. Figure 1 illustrates the projected take up in 5-year increments from the report date. The take up was calculated under the base case growth scenario just over 460,000 sq.m of non-residential floorspace can be supported in the next 30 years, whilst from 30+ years approximately 670,000 sq.m is supportable. In order to achieve these growth targets, the road upgrade will require critical consideration.

Figure 1 – Non-Residential Land-Use Timeline



Source: Flagstone EDS (Urbis, 2016)

4. ECONOMIC BENEFIT ASSESSMENT

The road upgrade will deliver employment and value addition benefits during the construction period, with flow on effects by unlocking opportunity for further development. Urbis has calculated the economic benefit specific to the road construction assuming a 2-year construction timeframe and cost inputs from the PeakUrban Technical Memorandum (Annexure C).

Table 2 – Beith Road Connection Economic Benefit

Construction Phase	Direct Benefits	Indirect Benefits	Total
Employment[1]			
Logan LGA (FTE jobs – 2 year project duration)	38	45	**83**
Gross Value Added (GVA)[2]			
Logan LGA ($-millions over 2 year project duration)	$4.8	$5.8	**$10.6**

1. Full-time equivalent (FTE) jobs for the equivalent of one year of employment during construction.

2. Annual benefits measured in constant M$ 2019 dollar value including GST.

4.1. LAND-USE DEMAND EMPLOYMENT BENEFITS

When land use demand estimates for Flagstone is converted to employment estimates through industry employment benchmarks, it is estimated that Flagstone will hold 18,710 jobs at ultimate development. The employment can be broken down to 4,580 office workers, 3,470 jobs in retail services (including bulky goods) and 3,175 healthcare workers.

4.2. ECONOMIC VALUE CONTRIBUTION

Table 3 provides a summary of the potential economic value contribution[1] associated with the construction and operation of the proposed Flagstone Developments.

Table 3 – Flagstone Economic Value Contribution Summary

	Construction Phase	Operation Phase
Expenditure Impact	**$ millions**	**$ millions GSP Contribution**
Direct Expenditure	5,498.9	
Initial Impact Value Addition	2,196.4	
Industrial Support Value Addition'	1,970.3	
Total Value Addition	***4,166.7***	***2,205.2***
Employment Impact	**Number of Jobs**	
Initial Impact	20,933	18,710.0
Industrial Support	16,090	8,532.0

[1] The summary has not been updated to current figures and provides figures based on assumptions, inputs and information available at the time the 2016 Economic Development Strategy was compiled.

	Construction Phase	Operation Phase
Total	***37,023***	***27,242***

Source: Economic Development Strategy, Urbis, 2016

Benefits specific to the road construction efforts will deliver a benefit 83 FTE jobs and $10.6 million during construction, but with the potential to unlock in excess of $4,100 million expenditure impact and 37,000 jobs during the construction phase for the greater Peet Flagstone development.

Sustained operational benefits includes approximately 2,200 million GSP contribution and 27,000 permanent jobs. These benefits are subject to accessibility constrains being unlocked. The next section profiles the positioning of Flagstone by means of a SWOT summary with specific focus on transport and accessibility.

5. BARRIERS TO MARKET ENTRY

This section considers the SWOT analysis and profiles key insights from Sales Agent respondents Urbis has engaged with regarding the marketability of Flagstone and the ability to unlock opportunity.

5.1. SWOT ANALYSIS

Table 4 provides a brief summary of the main SWOT findings in the EDS with commentary on the relevance and importance of the proposed road upgrade to realise strengths and opportunities and mitigate weaknesses and threats.

Table 4 – SWOT Summary

SWOT	Key Factors and Implications	Road Connection Motivation
Strength	Key strengths identified includes proximity to future employment nodes such as North Maclean, good rail accessibility, designation as a major regional activity centre, existing infrastructure and planning advantages.	In the absence of the proposed road connection the potential link to employment nodes such as North Maclean, Springfield and other areas are constrained. Similarly, a great deal of advantage lies in multimodal transport infrastructure, availability of infrastructure and planning support, but the absence of accessibility as a catalytic factor the development will result in limited benefit from these strengths being derived.
Weakness	The main weakness themes in the Economic Development Strategy revolved around the accessibility constraints. The need for better roads and supporting infrastructure, particularly public transport is identified. Another key weakness is the distance from major centres, perception of distance from the Brisbane CBD and competitiveness to other centres such as Park Ridge, Yarrabilba, Jimboomba, Beaudesert, Kooralbyn. The lack of main road exposure is another key theme among the weaknesses.	Accessibility will greatly alleviate development constraints implicated by improving the positioning of Flagstone to attract businesses to take up space and create local jobs.
Opportunity	Potential for industry clustering and development of a regional activity centre and commercial hub.	All industries noted place high value on their location and accessibility. Opportunities will be hard realised without intervention to solve access constraints.
Threat	Key threats include the inability to attract major development drivers due to access, the absence of infrastructure and anchors as well as employment constraints A delay in Town Centre development timing holds a risk for competitors to build with first mover advantage.	To solve these development threats for Flagstone, investment in key infrastructure such as road access is required to improve its positioning to ensure resilience and long-term sustainability.

5.2. AGENT ENGAGEMENT

Urbis has engaged with Sales Agents actively working in the Greater Flagstone Area. Below is a combined summary of the key insights regarding the positioning of Flagstone and value attributed to the road upgrade from their individual perspectives:

- Flagstone's marketability is constrained by the lack of infrastructure and low population base.
- Addressing the accessibility aspect would greatly improve marketability.
- Commercial tenants currently have a preference towards competitors on the South West Corridor due to accessibility of labour and clientele and also the availability of amenity.
- Competitors of nearest proximity include Logan Village, Jimboomba and Springfield.
- Supporting infrastructure that will increase accessibility is viewed as a critical sales point across all non-residential land-uses, but also of some importance for households in location selection.
- Providing a direct connection road and alternate access is viewed as an important key to unlock opportunities to link with local and regional hubs.
- No direct connectivity is limiting commercial viability of the area.
- MIBA demand is driven by amenity and greater accessibility.
- Agents with active Light Industry and MIBA portfolios all noted that heavy vehicle access is a must for the area to be considered and to unlock opportunity.

5.3. CONCLUSION

The infrastructure delivery of the entire section of road extending from the northern boundary of the Peet Land holdings to connect to the Springfield Greenbank arterial is key to see the realisation of the development vision for Flagstone. The enabling infrastructure will serve an important purpose to drive employment, position the development as a key centre for Brisbane's South West Corridor and fostering a community of growth opportunities where businesses can grow and prosper.

DISCLAIMER

This report is dated 11 March 2019 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of PEET Flagstone City PTY LTD (**Instructing Party**) for the purpose of Economic Memorandum (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

In preparing this report, Urbis may rely on or refer to documents in a language other than English, which Urbis may arrange to be translated. Urbis is not responsible for the accuracy or completeness of such translations and disclaims any liability for any statement or opinion made in this report being inaccurate or incomplete arising from such translations.

Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

Appendix A ROAD UPGRADE MAP

Appendix B STRUCTURE PLAN

Appendix C PEAK URBAN TECHNICAL MEMORANDUM

BRISBANE
Level 7, 123 Albert Street
Brisbane QLD 4000
Australia
T +61 7 3007 3800

MELBOURNE
Level 12, 120 Collins Street
Melbourne VIC 3000
Australia
T +61 3 8663 4888

PERTH
Level 14, The Quadrant
1 William Street
Perth WA 6000
Australia
T +61 8 9346 0500

SYDNEY
Level 23, Darling Park Tower 2
201 Sussex Street
Sydney NSW 2000
Australia
T +61 2 8233 9900

URBIS.COM.AU

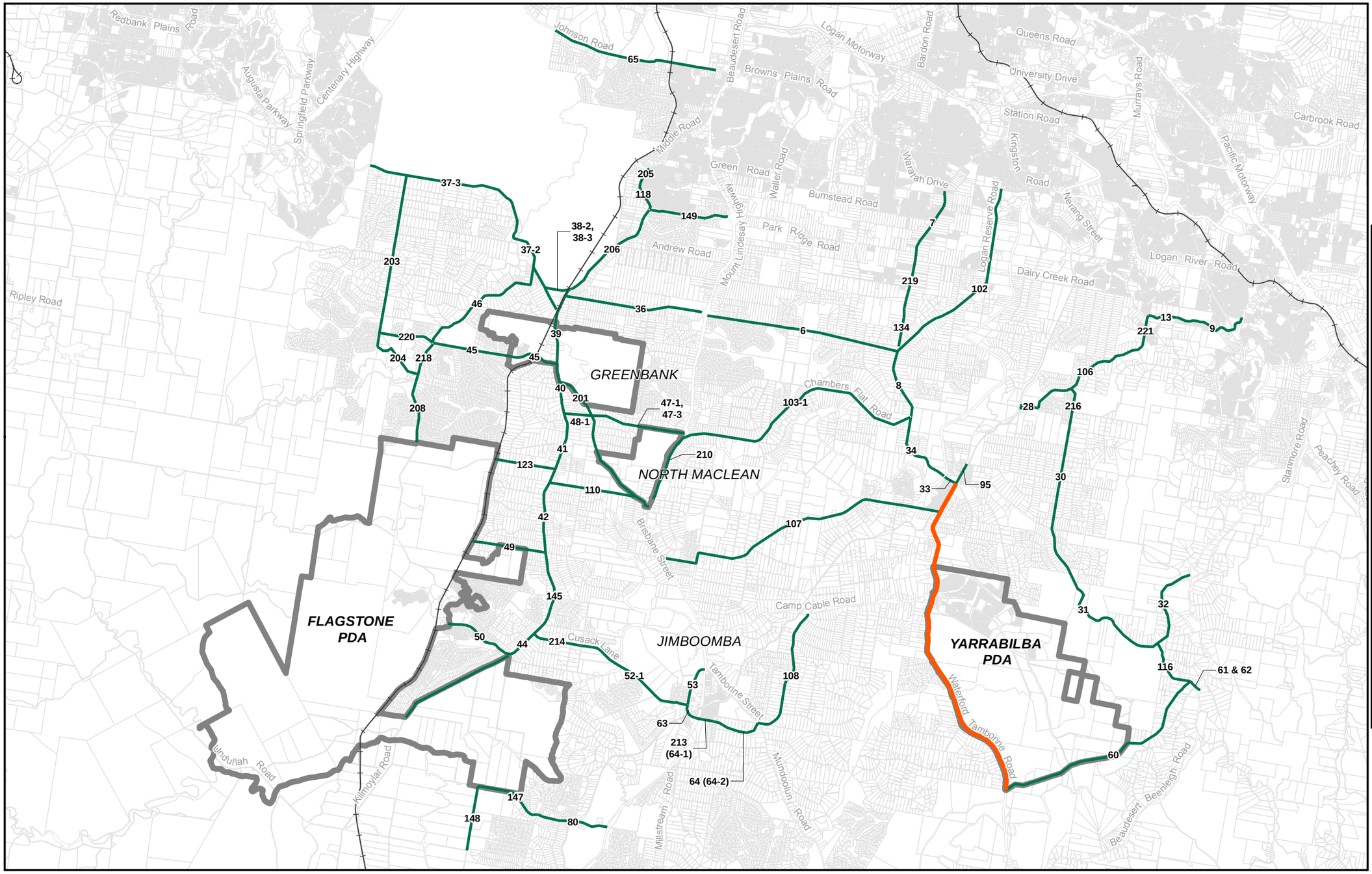


Figure 15
Sub-regional Road Upgrades

Legend

- Priority Development Area (PDA)
- Railway
- Land parcels, September 2018
- State road Project
- Local road Project

Key to Road Project IDs

Project ID	Description
6	Granger Rd (Mt Lindesay Hwy to Chambers Flat Rd / Logan Reserve Rd)
7	Chambers Flat Rd (Entrance St to Park Ridge Rd / School Rd)
8	Chambers Flat Rd (Logan Reserve Rd to Kenny Rd)
9	Wuraga Road (Prangley Road to Beaudesert Beenleigh Road)
13	Wuraga Rd (Menora Rd to Prangley Rd)
28	Stegemann Rd (Waterford-Tamborine Rd to Hein Rd)
30	Latimer Rd (Stegemann Rd to Quinzeh Creek Rd/Swanborough Rd)
31	Quinzeh Creek Rd (Latimer Road to Chardon Bridge Rd)
32	Veivers Rd (Chardon Bridge Rd to Beaudesert Beenleigh Rd)
33	Anzac Avenue (Waterford-Tamborine Rd to Logan River Bridge)
34	Anzac Avenue/Kird Rd/Kenny Rd (Logan River Bridge to Chambers Flat Rd)
36	Stoney Camp Rd (Brightwell Rd to Mt Lindesay Hwy)
37-2	Goodna Rd (Middle Rd to Thompson Road)
37-3	Goodna Rd (Thompson Road to Springfield)
38-2, 38-3	Middle / Stoney Camp / Teviot Interchange
39	Teviot Rd (Middle Rd to Greenbank Rd)
40	Teviot Rd (Greenbank Rd to Crowson Lane Extension)
41	Teviot Rd (Crowson Lane Extension to Scott Lane)
42	Teviot Rd (Scott Lane to Mountain Ridge Rd)
44	Teviot Rd (Cusack Lane to Homestead Drive)
45	Pub Lane (Teviot Rd to New Beith Road)
45	Pub Lane (Teviot Rd to New Beith Road)
46	New Beith Rd (Pub Lane to Goodna Rd)
47-1, 47-3	Crowson Lane (Mt Lindesay Hwy to Greenbank Rd)
48-1	Crowson Lane Extension (Greenbank Rd to Teviot Rd)
49	Mountain Ridge Rd (Paula Rd to Teviot Rd)
50	Homestead Drive (Teviot Rd to Wild Mint Dr)
52-1	Cusack Lane (Duncan Rd to Johanna St)
53	Johanna St (Cusack Lane to Mt Lindesay Hwy)
60	Plunkett Rd (Waterford-Tamborine Rd to Chardon Bridge Rd)
61 & 62	Chardon Bridge Rd (Plunkett Rd to Beaudesert-Beenleigh Rd)
63	New Rd (from South St to Cusack Lane)
64 (64-2)	New Rd (from South St to Edelsten Rd)
65	Johnson Rd (Staplyton Rd to Southlink St)
80	Cedar Grove Road (from Mt Lindesay Highway to Irwin Road)
95	Logan Village Main Street (Logan Street to North Street)
102	Logan Reserve Road (Chambers Flat Road to Beutel Street)
103-1	Chambers Flat Road (Kenny Road to Mt Lindesay Hwy)
106	Hein Road (Stegemann Road to Menora Road)
107	Stockleigh Road (from Mount Lindesay Hwy to Waterford-Tamborine Rd)
108	Edelsten Road (Mundoolun Road to Camp Cable Road)
110	Scott Lane (Teviot Road - Greenbank Road)
116	Chardon Bridge Rd (Veivers Road to Plunkett Road)
118	Middle Road (from Bass Street to Crest Road)
123	Olson Road (from Teviot Road to Railway Line)
134	Chambers Flat Road (from Derby Road to Sungold Road)
145	Teviot Rd (Mountain Ridge Road to Cusack Lane)
147	Cedar Grove Road (Irwin Road to Cedar Pocket Road)
148	Cedar Pocket Road (from Cedar Grove Road to Undullah Road)
149	Crest Road (from Middle Road to Mount Lindesay Highway)
201	Greenbank Road (from Crowson Lane to Teviot Road)
203	Lyndale Road (from McTaggart Road to Springfield_Greenbank Arterial)
204	McTaggart Road (from Lyndale Road to New Beith Road)
205	Middle Road (from Tovey Road to Bass Street)
206	Middle Road (from Crest Road to Teviot Road)
208	New Beith Road (from UDA Boundary to McTaggart Road)
210	New Road (from Chambers Flat Road to Wearing Road)
213 (64-1)	South St (Mount Lindesay Hwy to John East St)
214	Cusack Lane (Teviot Rd to Duncan Rd)
216	Latimer Rd (Stegemann Rd to Hein Rd)
218	New Beith Road (from McTaggart Rd to Pub Lane)
219	Chambers Flat Rd (Park Ridge Rd / School Rd to Derby Rd)
220	Spring Mountain Drive (from New Beith Road to Lyndale Road)
221	Menora Road (Heins Road to Wuraga Road)

0 1 2 3 4 5

Kilometres

Map created at: **A3**

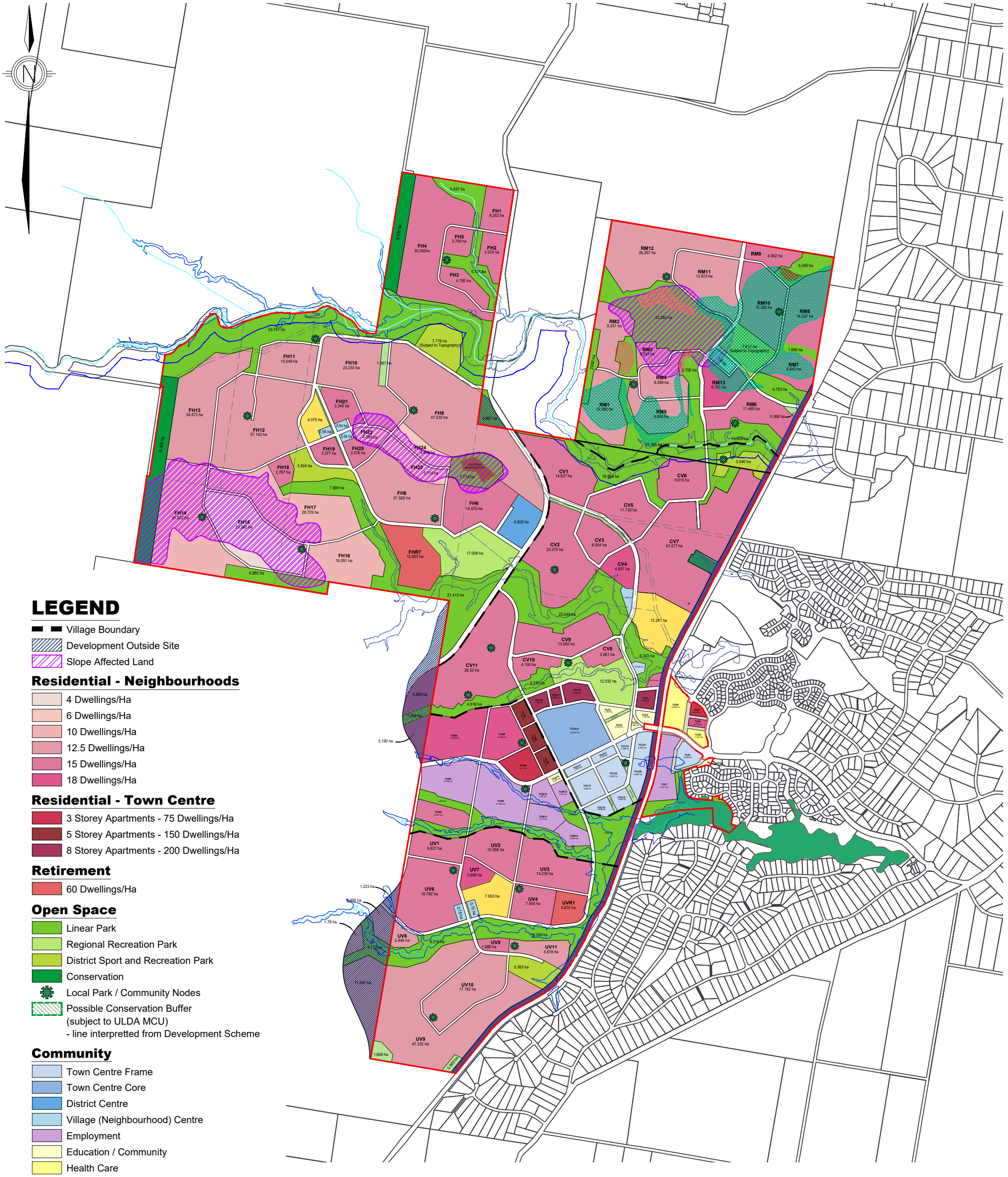
Coordinate System: GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994

Map produced by the Department of State Development, Manufacturing,Infrastructure and Planning
Spatial Services Unit, 23/10/2018

Queensland Government

© Copyright the State of Queensland (Department of State Development, Manufacturing, Infrastructure and Planning) 2018. To the extent permitted by law. The Department of State Development, Manufacturing, Infrastructure and Planning gives no warranty in relation to material or information contained in this data (including accuracy, reliability, completeness or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including indirect or consequential damage) relating to any use of the material or information contained in the Data; and responsibility or liability for any loss or damage arising from its use.

S:\Projects\Major Projects\20181019\Greater Flagstone ICOP – EDQ



LEGEND

- Village Boundary
- Development Outside Site
- Slope Affected Land

Residential - Neighbourhoods

- 4 Dwellings/Ha
- 6 Dwellings/Ha
- 10 Dwellings/Ha
- 12.5 Dwellings/Ha
- 15 Dwellings/Ha
- 18 Dwellings/Ha

Residential - Town Centre

- 3 Storey Apartments - 75 Dwellings/Ha
- 5 Storey Apartments - 150 Dwellings/Ha
- 8 Storey Apartments - 200 Dwellings/Ha

Retirement

- 60 Dwellings/Ha

Open Space

- Linear Park
- Regional Recreation Park
- District Sport and Recreation Park
- Conservation
- Local Park / Community Nodes
- Possible Conservation Buffer (subject to ULDA MCU) - line interpretted from Development Scheme

Community

- Town Centre Frame
- Town Centre Core
- District Centre
- Village (Neighbourhood) Centre
- Employment
- Education / Community
- Health Care

Heritage Sites

- Burial Site
- Test Pit Location
- Surface Collection Location
- Test Trench Location

Rail

- Potential Land Dedication – Salisbury to Beaudesert Rail Corridor
  Note: Refer condition 15 DEV2012/209

DRAFT

Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: Registered Survey Plans.
Adjoining information: DCDB.
Heritage information: Jagera Daran

RPS

SCALE 1 : 25,000 @ A3

0 400 800 1200 1600

STRUCTURE PLAN - OPTION 2M

FLAGSTONE

DATE: 13 DEC 2017 DWG NAME: 110056-293-STRUCTURE_OPT2M DWG # 110056-293C

Technical Memorandum
Flagstone - New Beith Road Upgrade

TO:	Adam Dunn – PEET
FROM:	Troy Schultz – PEAKURBAN
SUBJECT:	New Beith Road Upgrade – High Level Costs
DATE:	22 February 2019
OUR REFERENCE:	18-0158TM - NEW BEITH ROAD.DOCX

1 INTRODUCTION

PEAKURBAN are currently assisting PEET in developing Whole of Site Infrastructure strategies for their landholdings and development at Greater Flagstone. As an additional task, PEET have requested high level costings for the External Upgrade of New Beith Road as an option to be considered for the second access point to the development. Note the assessment covers the section of New Beith Road outside of PEET's landholdings.

It is noted that these costings are very high level and are based purely on our experience with similar projects. Whilst the requirements of this particular upgrade have been given consideration, the investigation is not to a great level of detail and thus costs should be considered as a guide to the general quantum only.

The assessment has been undertaken with no engineering concept design and as such horizontal and vertical grading has been given minimal consideration. However, there are a number of areas where these aspects may cause challenges to the delivery of this infrastructure, both from a land tenure and cost perspective. We note that the existing road reserve geometry in some areas will not be satisfactory for the standard of this road (Arterial) in ultimate form. Thus, it is likely that infrastructure offsets for areas that do not meet ultimate geometry requirements may be difficult to secure.

The following sections describe each section of the road upgrade, key features and indicative per linear metre costs. Costs are then summarised with additional budget allowances for intersection, culverts and bridges.

Sunshine Coast Suite 4B, 1 Innovation Parkway, Birtinya Qld 4575
Brisbane Level 4, 196 Wharf Street, Spring Hill Qld 4000
Postal PO Box 1344, Buddina Qld 4575
P 07 5413 5300 E enquiries@peakurban.com.au

2 ROAD TYPOLOGY

This advice is provided on the basis that the interim 2 lane arterial road would be provided. This would consist of:

- 2 x 3.5m travel lanes
- 2 x 1.0m breakdown lanes
- Kerb and Channel
- Piped Stormwater Drainage
- 1.5m pathway and 3m cycleway on one side of the road

Section 4 is envisaged to remain as is, therefore the above has not been applied.

3 SECTION 1

Section 1 comprises 3,350m from the Northern boundary of PEET's holdings to the boundary of the PDA, as generally shown below.

The section comprises a formed gravel road in poor condition. As such, we have considered this section of the road upgrade to essentially be a new construction. Cost per linear metre is estimated to be as follows:

Section 1 - New Construction					
Item	**Description**	**Unit**	**Rate**	**Qty/m**	**Total/m**
1	Preliminaries/miscellaneous	%	5%	1	$147.87
2	Provision for Traffic	Item	$20.00	1	$20.00
3	QA	Item	$10.00	1	$10.00
4	Signs & Linemarking	Item	$5.00	1	$5.00
5	Strip, Stockpile, Respread Topsoil - 100mm	m^3	$13.00	2.3	$29.90
6	Earthworks - 0.5m cut to fill/m	m^3	$8.00	11.5	$92.00
7	AC - 50mm	m^2	$34.00	9	$306.00
8	Base - 300mm	m^3	$105.00	2.7	$283.50
9	Sub-base - 150mm	m^3	$95.00	1.5	$142.50
10	Lower Sub-base - 250mm	m^3	$80.00	2.5	$200.00
11	Trimming Subgrade	m^2	$2.50	10	$25.00
12	Trimming Road Reserve/Verges	m^2	$1.00	23	$23.00
13	Kerb and Channel	m	$42.00	2	$84.00
14	Sub-surface Drains	m	$27.00	2	$54.00
15	Stormwater Drainage	m	$750.00	1	$750.00
16	Road Lighting	m	$550.00	1	$550.00
17	Shared Cycleway	m	$270.00	1	$270.00
18	Concrete Footpaths	m^2	$75.00	1.5	$112.50
				TOTAL per M	**$3,105.27**

In addition to the general road construction, the following is also envisaged:

- Flagstone Creek Bridge
- 2 x Major Culvert Crossings – one North of Flagstone Creek and one towards the Northern end of the Section

These items have been given budget allocations only at this stage.

4 SECTION 2

Section 2 comprises 1,330m from the Northern boundary of the PDA to the point at which New Beith Road becomes a more formal sealed road way (intersection with Tall Timber Road).

The section comprises a formed gravel road in poor condition. As such, we have considered this section of the road upgrade to essentially be a new construction. Cost per linear metre is estimated to be as follows:

Section 2 - New Construction					
Item	**Description**	**Unit**	**Rate**	**Qty/m**	**Total/m**
1	Preliminaries/miscellaneous	%	5%	1	$147.87
2	Provision for Traffic	Item	$20.00	1	$20.00
3	QA	Item	$10.00	1	$10.00
4	Signs & Linemarking	Item	$5.00	1	$5.00
5	Strip, Stockpile, Respread Topsoil - 100mm	m^3	$13.00	2.3	$29.90
6	Earthworks - 0.5m cut to fill/m	m^3	$8.00	11.5	$92.00
7	AC - 50mm	m^2	$34.00	9	$306.00
8	Base - 300mm	m^3	$105.00	2.7	$283.50
9	Sub-base - 150mm	m^3	$95.00	1.5	$142.50
10	Lower Sub-base - 250mm	m^3	$80.00	2.5	$200.00
11	Trimming Subgrade	m^2	$2.50	10	$25.00
12	Trimming Road Reserve/Verges	m^2	$1.00	23	$23.00
13	Kerb and Channel	m	$42.00	2	$84.00
14	Sub-surface Drains	m	$27.00	2	$54.00
15	Stormwater Drainage	m	$750.00	1	$750.00
16	Road Lighting	m	$550.00	1	$550.00
17	Shared Cycleway	m	$270.00	1	$270.00
18	Concrete Footpaths	m^2	$75.00	1.5	$112.50
				TOTAL per M	**$3,105.27**

In addition to the general road construction, a single minor culvert crossing is envisaged which has been given a budget allocation only at this stage.

5 SECTION 3

Section 3 comprises 1,870m from Tall Timber Road to Pub Lane. This section is a more formal, sealed rural residential type road formation with a number of direct accesses to adjoining allotments.

Due to the nature of the road, we have considered this section of the road upgrade to be a brownfield type construction, with additional challenges associated with traffic management, existing driveways/properties and infrastructure. Cost per linear metre is estimated to be as follows:

Section 3 - Remove Existing and New Construction					
Item	**Description**	**Unit**	**Rate**	**Qty/m**	**Total/m**
1	Preliminaries/miscellaneous/driveways etc	%	20%	1	$608.46
2	Provision for Traffic	Item	$75.00	1	$75.00
3	QA	Item	$10.00	1	$10.00
4	Signs & Linemarking	Item	$5.00	1	$5.00
5	Remove existing infrastructure	m^3	$13.00	2.3	$29.90
6	Strip, Stockpile, Respread Topsoil - 100mm	m^3	$13.00	2.3	$29.90
7	Earthworks - 0.5m cut to fill/m	m^3	$8.00	11.5	$92.00
8	AC - 50mm	m^2	$34.00	9	$306.00
9	Base - 300mm	m^3	$105.00	2.7	$283.50
10	Sub-base - 150mm	m^3	$95.00	1.5	$142.50
11	Lower Sub-base - 250mm	m^3	$80.00	2.5	$200.00
12	Trimming Subgrade	m^2	$2.50	10	$25.00
13	Trimming Road Reserve/Verges	m^2	$1.00	23	$23.00
14	Kerb and Channel	m	$42.00	2	$84.00
15	Sub-surface Drains	m	$27.00	2	$54.00
15	Stormwater Drainage	m	$750.00	1	$750.00
16	Road Lighting	m	$550.00	1	$550.00
17	Shared Cycleway	m	$270.00	1	$270.00
18	Concrete Footpaths	m^2	$75.00	1.5	$112.50
				TOTAL per M	**$3,650.76**

In addition to the general road construction, the following is also envisaged:

- 1 x Major Intersection – Pub Lane and New Beith Road
- 3 x Minor Intersections with existing roads
- 2 x Minor Culvert Crossings

These items have been given budget allocations only at this stage.

6 SECTION 4

Section 4 comprises 4,250m from Pub Lane to Old Greenbank Road. This section is a formal rural arterial/subarterial type road formation, and appears to have been constructed recently.

Due to the nature of the road, we have assume that no upgrade of the roadway itself would be required at this stage, although it is likely to be triggered at some point in the future. As such, no cost per linear metre has been applied.

However, due to extra traffic loading it is envisaged that intersection upgrades will be required, generally as follows:

- 1 x Major Intersection – New Beith Road and Old Greenbank Road
- 4 x Minor Intersections upgrades with existing roads

These items have been given budget allocations only at this stage.

7 SUMMARY

In summary, the quantum of costs envisaged for these works are as follows:

New Beith Road Upgrade - Cost Summary				
Description	**Unit**	**Rate**	**Qty/m**	**Total/m**
Section 1 (Municipal)				
Road Construction	m	$ 3,105.27	3350	$ 10,402,654.50
Flagstone Creek Bridge	Item	$ 3,000,000.00	1	$ 3,000,000.00
Major Culvert Crossings	Item	$ 600,000.00	2	$ 1,200,000.00
Subtotal				**$ 14,602,654.50**
Section 2 (Sub Regional)				
Road Construction	m	$ 3,105.27	1330	$ 4,130,009.10
Minor Culvert Crossings	Item	$ 150,000.00	1	$ 150,000.00
Subtotal				**$ 4,280,009.10**
Section 3 (Sub Regional)				
Road Construction	m	$ 3,650.76	1870	$ 6,826,921.20
Minor Culvert Crossings	Item	$ 150,000.00	2	$ 300,000.00
Intersection - Tall Timber Road	Item	$ 250,000.00	1	$ 250,000.00
Intersection - Tully Road	Item	$ 150,000.00	1	$ 150,000.00
Intersection - Lyon Drive	Item	$ 250,000.00	1	$ 250,000.00
Intersection - Pub Lane	Item	$ 1,500,000.00	1	$ 1,500,000.00
Subtotal				**$ 9,276,921.20**
Section 4 (Sub Regional)				
Road Construction - No Allowance	m	$ -	4250	$ -
Intersections - General Allowance (Minor)	Item	$ 150,000.00	4	$ 600,000.00
Intersections - Old Greenbank Road	Item	$ 1,000,000.00	1	$ 1,000,000.00
Subtotal				**$ 1,600,000.00**
			TOTAL	**$ 29,759,584.80**

Note, the above costs are civil construction and road lighting costs only (excluding GST). No allowance has been made for landscaping, consultants, contingency, any other fees or major service relocations (including undergrounding of overhead power).

We trust the above assists PEET in forward planning of the project. We note that should this option be further considered as viable for the second access, then further, more rigorous investigation, concept design/function layouts, traffic assessment, hydraulic studies and costing should occur.

Appendix A4

EDQ Correspondence

From: Brandon Bouda
Sent: Tuesday, 14 February 2023 12:20 PM
To: Troy Thompson
Subject: New Beith Road

Hi Troy

In relation to New Beith Road, under EDQ planning this is identified as an 4 lane Urban Arterial road at its ultimate construction consisting of a 33m wide corridor. This road is a critical link from the PDA to the northern part of Logan via Pub Lane and Greenbank Arterial Road and onto other major nodal points including Springfield.

In the interim before the ultimate road is needed, New Beith Road will be a 2 lane urban Arterial road and will still provide that critical connection to the northern part of Logan and other major nodal points, but importantly it is also required for emergency access for both emergency services and the growing population given there is currently only one formal entry into PDA from Homestead Drive.

EDQ supports any necessary works, subject to appropriate approvals in place, to enable the construction of this road at the earliest possible timeframe.

I hope this assists and if there is anything more you need, please do not hesitate to contact me.

Regards

Queensland Government

Brandon Bouda
Manager
Economic Development Queensland
Department of State Development, Infrastructure, Local Government and Planning

*Microsoft teams – **meet now***

statedevelopment.qld.gov.au

Follow us

I acknowledge the traditional custodians of the lands and waters of Queensland. I offer my respect to elders past, present and emerging as we work towards a just, equitable and reconciled Australia.

Appendix A5

Economic Memorandum

FLAGSTONE NEW BEITH ROAD CONNECTION

ECONOMIC MEMORANDUM

07 MARCH 2019
P0008084
DRAFT
PREPARED FOR PEET FLAGSTONE CITY PTY LTD

URBIS

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Paul Riga
Associate Director	Kobus van der Vyver
Senior Consultant	Rene Tonna
Research Assistant	Liam Cassidy, Emmerson Dodds
Project Code	P0008084
Report Number	1

© Urbis Pty Ltd
ABN 50 105 256 228

All Rights Reserved. No material may be reproduced without prior permission.

You must read the important disclaimer appearing within the body of this report.

TABLE OF CONTENTS

Executive Summary i
1. Introduction 2
2. Flagstone overview 3
3. Opportunities 4
4. Economic Benefit Assessment 6
4.1. Land-Use Demand Employment Benefits 6
4.2. Economic Value Contribution 6
5. Barriers to market entry 8
5.1. SWOT Analysis 8
5.2. Agent Engagement 9
Disclaimer 10

Appendix A Road Upgrade Map
Appendix B Structure Plan
Appendix C Peak Urban Technical Memorandum

EXECUTIVE SUMMARY

Urbis was appointed by Peet Flagstone PTY LTD to undertake an independent high-level review of the direct and indirect opportunities linked to the upgrades and construction of a northern connection road for their landholdings in the Flagstone PDA. The proposed road upgrade will extend from the Northern Boundary of the Peet Landholdings in the Flagstone PDA connecting to the Springfield Greenbank Arterial road and provide ultimate accessibility to the Centenary Highway.

The development opportunity will consist of a mix of land-uses including residential of various typologies and densities including apartments. Provision is made for a town centre which will contain office and retail uses, other local centres, community services (including education and health care) and employment land (Light Industry and MIBA) in excess of 600,000 GFA. Accessibility is highlighted throughout the opportunity assessment as a key enabling factor and an access road would play a catalytic role in enabling opportunities to realise across all land-uses. The aspiration of heavy vehicle access is noted to allow for ultimate utilisation and broad market appeal to mixed business and industry occupiers. **Activation of business uses will serve an important employment driver and allow for improved self-containment**.

The road construction will deliver a direct benefit 83 FTE jobs and $10.6 million during construction. The catalytic benefit of the road has the potential to unlock in excess of $4,100 million expenditure impact and 37,000 jobs during the construction phase for ultimate development build out. Sustained operational benefits includes approximately $2,200 million GSP contribution and 27,000 permanent jobs, subject to accessibility constrains being resolved.

Flagstone has various strengths and opportunities, but most are tied to improving accessibility to realise these benefits. Weaknesses and threats including the mitigation of negative distance from main centres and the Brisbane CBD distance perceptions all relate to accessibility and the need for advantageous road connections. The proposed road connection as such has the ability to **address many of the negative factors and strengthen the positives**. Interaction with local agents confirmed the importance of accessibility to generate population growth momentum, drive amenity and improve the marketability of the precinct for employment land uses.

The infrastructure delivery of the entire section of road extending from the northern boundary of the Peet Land holdings to connect to the Springfield Greenbank arterial is key in the realisation of the development vision for Flagstone. The enabling infrastructure will serve an important purpose to drive employment, position the development as a key centre for Brisbane's South West Corridor and fostering a community of growth opportunities where businesses can grow and prosper

1. INTRODUCTION

Peet Flagstone PTY LTD appointed Urbis to undertake an independent high-level review of the direct and indirect opportunities linked to the construction upgrades of a northern connection road for the Peet landholdings in the Flagstone PDA.

The proposed road upgrade is noted as sections 208, 46 and 218 on the Greater Flagstone Subregional Road Upgrade Map and will extend from the Northern Boundary of the Peet Land Holdings in the Flagstone PDA through New Beith connecting to the Springfield Greenbank Arterial road and ultimately the Centenary Highway. The Road Upgrade map is attached as Appendix A.

Key direct benefits of the upgrade include, but is not limited to, providing a catalytic access to the Centenary Highway towards the greater SEQ destinations, an access alternate to the existing Homestead Drive and an effective link for the Flagstone PDA with northern destinations such as Springfield, New Beith, Spring Mountain and Greenbank.

The Logan Council has nominated the upgrade for the period of 2036-2056 as an anticipated external upgrade. Only the northern extent has been included within the 2018-2026 window. This report will provide economic evidence promoting the importance of escalating sections, 208, 46 and 218 to prior to 2026 to support development in Flagstone.

2. FLAGSTONE OVERVIEW

The Greater Flagstone PDA has three components consisting of Flagstone, Greenbank Central, and North Maclean. Flagstone is envisioned to become “a large integrated community of around 100,000 people living in attractive, compact neighbourhoods, and provided with a wide range of facilities and services located in a network of accessible activity centres and low impact business and industry areas”

Peet Flagstone PTY LTD has control of around 1,500 ha of land representing the largest single holding of the Flagstone component of the PDA. The envisioned development will consist of a mix of land-uses including residential of various typologies and densities including apartments. Provision is made for a town centre which will contain office and retail uses, other local centres, community services including education and health care and employment land (Light Industry and MIBA). See Appendix B for more details on the land use mix and layout in the updated structure plan.

3. OPPORTUNITIES

This section provides an overview of development opportunities identified for Flagstone in the Economic Development Strategy (undertaken for PEET in 2016). The opportunity assessment was guided by the following key visioning principles as summarised below:

- Driving employment generation (integrate timeliness if possible,
- Positioning Flagstone as the key centre for Brisbane's South West Corridor (note specifically for the Logan City Council and the importance of Flagstone as a contributor to jobs)
- Fostering a community of growth opportunities with Flagstone highlighted as a location where businesses can grow and prosper (self-containment potential)

The strategic direction, an output aligned to the visioning, for the Flagstone land is summarised in Table 1:

Table 1 – Flagstone Strategic Direction, Flagstone Economic Development Strategy (Urbis, 2016):

Strategic component	Peet land	Greater Flagstone UDA	Peet as % of Greater Flagstone
Population	33,625	110,000-120,000	28%-31%
Dwellings	12,225	50,000	24%
Major Regional Activity Centres	1	1	100%
District & Neighbourhood Centres	1 District 3 Neighbourhood	3 District 11 Neighbourhood	33% of District 27% of Neighbourhood
Employment	15,881	34,795	46%
Job Self Containment	80%-100%	60%	N/A
Land	1,496 ha	7,188 ha	21%
Interim Land Uses	Centre and Frame = Bulk landscape supplies; Warehouses Non-Centre = Industrial; Rural uses		
Industries	Retail; Professional Services; Community Services; Education; Service and Light Industry; Construction and Housing; Agriculture and Rural Based Activities; Knowledge Based Industries; Green Technologies		

Note: The above figures exclude the existing population and dwellings in the Flagstone area; and employment estimates are based on Urbis calculations and include North Maclean and other proposed projects within the PDA. Retirement Dwellings have not been included in the total dwellings figure. Please refer to EDS 2016 for more details.

The vision and strategic direction was translated into land use opportunities from, Urbis Benchmark calculations spanning a 30-year timeline:

Land Use	GFA
Retail	129,638
Commercial	78,766

Land Use	GFA
Entertainment	12,500
Community Services	29,700
Education	77,431
Attached Residential	65,120
Health	127,000
Light/Service Industry	146,520

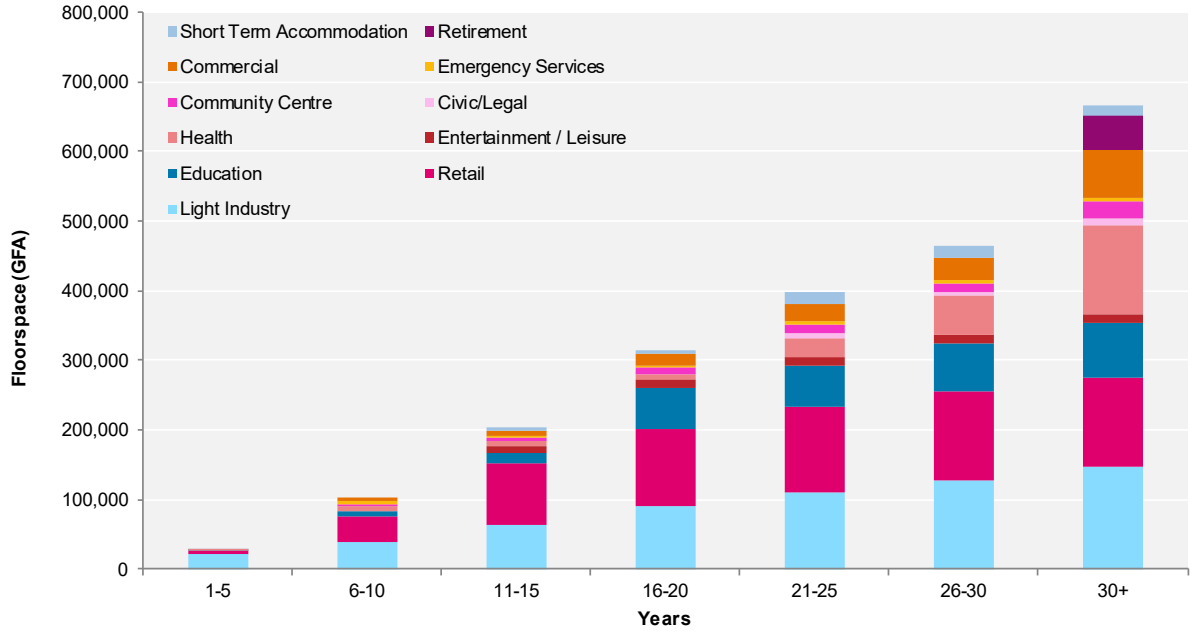
Source: Flagstone Economic Development Strategy, 2016

Accessibility is highlighted throughout the opportunity assessment as a key enabling factor and an access road would play a catalytic role in enabling opportunities across all land-uses. The client has the aspiration for the road to have sufficient load capacity to carry heavy vehicles including B-Doubles to allow for ultimate utilisation and broad market appeal, in particular to mixed business and industry occupiers. This will serve an important employment driver and allow for improved employment self-containment. Recent investigations by Urbis working with agents across the entire South West Corridor has confirmed that up to 95% of current prospective tenants taking up space, mostly in the logistics and warehousing sectors, would not consider a location if not accessible to frequent heavy vehicle trips and have at least two major road connection points. Interaction of the client with prospective tenants have provided similar outcomes with potential occupiers noting that regional accessibility will inhibit their operations prompting decision to consider areas alternate than Flagstone.

Catalytic projects identified as part of the Economic Development Strategy cover a variety of key industries. . Enabling these industries as catalysts would require positive location attributes and the resolution of current accessibility constraints.

The Town Centre fringe activation is expected to commence in 2020 consisting of approximately 10ha. Figure 1 illustrates the projected take up in 5-year increments from the report date. The take up was calculated under the base case growth scenario just over 460,000 sq.m of non-residential floorspace can be supported in the next 30 years, whilst from 30+ years approximately 670,000 sq.m is supportable. In order to achieve these growth targets, the road upgrade will require critical consideration.

Figure 1 – Non-Residential Land-Use Timeline



Source: Flagstone EDS (Urbis, 2016)

4. ECONOMIC BENEFIT ASSESSMENT

The road upgrade will deliver employment and value addition benefits during the construction period, with flow on effects by unlocking opportunity for further development. Urbis has calculated the economic benefit specific to the road construction assuming a 2-year construction timeframe and cost inputs from the PeakUrban Technical Memorandum (Annexure C).

Table 2 – Beith Road Connection Economic Benefit

Construction Phase	Direct Benefits	Indirect Benefits	Total
Employment[1]			
Logan LGA (FTE jobs – 2 year project duration)	38	45	**83**
Gross Value Added (GVA)[2]			
Logan LGA ($-millions over 2 year project duration)	$4.8	$5.8	**$10.6**

1. Full-time equivalent (FTE) jobs for the equivalent of one year of employment during construction.

2. Annual benefits measured in constant M$ 2019 dollar value including GST.

4.1. LAND-USE DEMAND EMPLOYMENT BENEFITS

When land use demand estimates for Flagstone is converted to employment estimates through industry employment benchmarks, it is estimated that Flagstone will hold 18,710 jobs at ultimate development. The employment can be broken down to 4,580 office workers, 3,470 jobs in retail services (including bulky goods) and 3,175 healthcare workers.

4.2. ECONOMIC VALUE CONTRIBUTION

Table 3 provides a summary of the potential economic value contribution[1] associated with the construction and operation of the proposed Flagstone Developments.

Table 3 – Flagstone Economic Value Contribution Summary

	Construction Phase	Operation Phase
Expenditure Impact	**$ millions**	**$ millions GSP Contribution**
Direct Expenditure	5,498.9	
Initial Impact Value Addition	2,196.4	
Industrial Support Value Addition'	1,970.3	
Total Value Addition	***4,166.7***	***2,205.2***
Employment Impact	**Number of Jobs**	
Initial Impact	20,933	18,710.0
Industrial Support	16,090	8,532.0

[1] The summary has not been updated to current figures and provides figures based on assumptions, inputs and information available at the time the 2016 Economic Development Strategy was compiled.

	Construction Phase	Operation Phase
Total	***37,023***	***27,242***

Source: Economic Development Strategy, Urbis, 2016

Benefits specific to the road construction efforts will deliver a benefit 83 FTE jobs and $10.6 million during construction, but with the potential to unlock in excess of $4,100 million expenditure impact and 37,000 jobs during the construction phase for the greater Peet Flagstone development.

Sustained operational benefits includes approximately 2,200 million GSP contribution and 27,000 permanent jobs. These benefits are subject to accessibility constrains being unlocked. The next section profiles the positioning of Flagstone by means of a SWOT summary with specific focus on transport and accessibility.

5. BARRIERS TO MARKET ENTRY

This section considers the SWOT analysis and profiles key insights from Sales Agent respondents Urbis has engaged with regarding the marketability of Flagstone and the ability to unlock opportunity.

5.1. SWOT ANALYSIS

Table 4 provides a brief summary of the main SWOT findings in the EDS with commentary on the relevance and importance of the proposed road upgrade to realise strengths and opportunities and mitigate weaknesses and threats.

Table 4 – SWOT Summary

SWOT	Key Factors and Implications	Road Connection Motivation
Strength	Key strengths identified includes proximity to future employment nodes such as North Maclean, good rail accessibility, designation as a major regional activity centre, existing infrastructure and planning advantages.	In the absence of the proposed road connection the potential link to employment nodes such as North Maclean, Springfield and other areas are constrained. Similarly, a great deal of advantage lies in multimodal transport infrastructure, availability of infrastructure and planning support, but the absence of accessibility as a catalytic factor the development will result in limited benefit from these strengths being derived.
Weakness	The main weakness themes in the Economic Development Strategy revolved around the accessibility constraints. The need for better roads and supporting infrastructure, particularly public transport is identified. Another key weakness is the distance from major centres, perception of distance from the Brisbane CBD and competitiveness to other centres such as Park Ridge, Yarrabilba, Jimboomba, Beaudesert, Kooralbyn. The lack of main road exposure is another key theme among the weaknesses.	Accessibility will greatly alleviate development constraints implicated by improving the positioning of Flagstone to attract businesses to take up space and create local jobs.
Opportunity	Potential for industry clustering and development of a regional activity centre and commercial hub.	All industries noted place high value on their location and accessibility. Opportunities will be hard realised without intervention to solve access constraints.
Threat	Key threats include the inability to attract major development drivers due to access, the absence of infrastructure and anchors as well as employment constraints A delay in Town Centre development timing holds a risk for competitors to build with first mover advantage.	To solve these development threats for Flagstone, investment in key infrastructure such as road access is required to improve its positioning to ensure resilience and long-term sustainability.

5.2. AGENT ENGAGEMENT

Urbis has engaged with Sales Agents actively working in the Greater Flagstone Area. Below is a combined summary of the key insights regarding the positioning of Flagstone and value attributed to the road upgrade from their individual perspectives:

- Flagstone's marketability is constrained by the lack of infrastructure and low population base.
- Addressing the accessibility aspect would greatly improve marketability.
- Commercial tenants currently have a preference towards competitors on the South West Corridor due to accessibility of labour and clientele and also the availability of amenity.
- Competitors of nearest proximity include Logan Village, Jimboomba and Springfield.
- Supporting infrastructure that will increase accessibility is viewed as a critical sales point across all non-residential land-uses, but also of some importance for households in location selection.
- Providing a direct connection road and alternate access is viewed as an important key to unlock opportunities to link with local and regional hubs.
- No direct connectivity is limiting commercial viability of the area.
- MIBA demand is driven by amenity and greater accessibility.
- Agents with active Light Industry and MIBA portfolios all noted that heavy vehicle access is a must for the area to be considered and to unlock opportunity.

5.3. CONCLUSION

The infrastructure delivery of the entire section of road extending from the northern boundary of the Peet Land holdings to connect to the Springfield Greenbank arterial is key to see the realisation of the development vision for Flagstone. The enabling infrastructure will serve an important purpose to drive employment, position the development as a key centre for Brisbane's South West Corridor and fostering a community of growth opportunities where businesses can grow and prosper.

DISCLAIMER

This report is dated 11 March 2019 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of PEET Flagstone City PTY LTD (**Instructing Party**) for the purpose of Economic Memorandum (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

In preparing this report, Urbis may rely on or refer to documents in a language other than English, which Urbis may arrange to be translated. Urbis is not responsible for the accuracy or completeness of such translations and disclaims any liability for any statement or opinion made in this report being inaccurate or incomplete arising from such translations.

Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

Appendix A ROAD UPGRADE MAP

Appendix B STRUCTURE PLAN

Appendix C PEAK URBAN TECHNICAL MEMORANDUM

BRISBANE
Level 7, 123 Albert Street
Brisbane QLD 4000
Australia
T +61 7 3007 3800

MELBOURNE
Level 12, 120 Collins Street
Melbourne VIC 3000
Australia
T +61 3 8663 4888

PERTH
Level 14, The Quadrant
1 William Street
Perth WA 6000
Australia
T +61 8 9346 0500

SYDNEY
Level 23, Darling Park Tower 2
201 Sussex Street
Sydney NSW 2000
Australia
T +61 2 8233 9900

URBIS.COM.AU

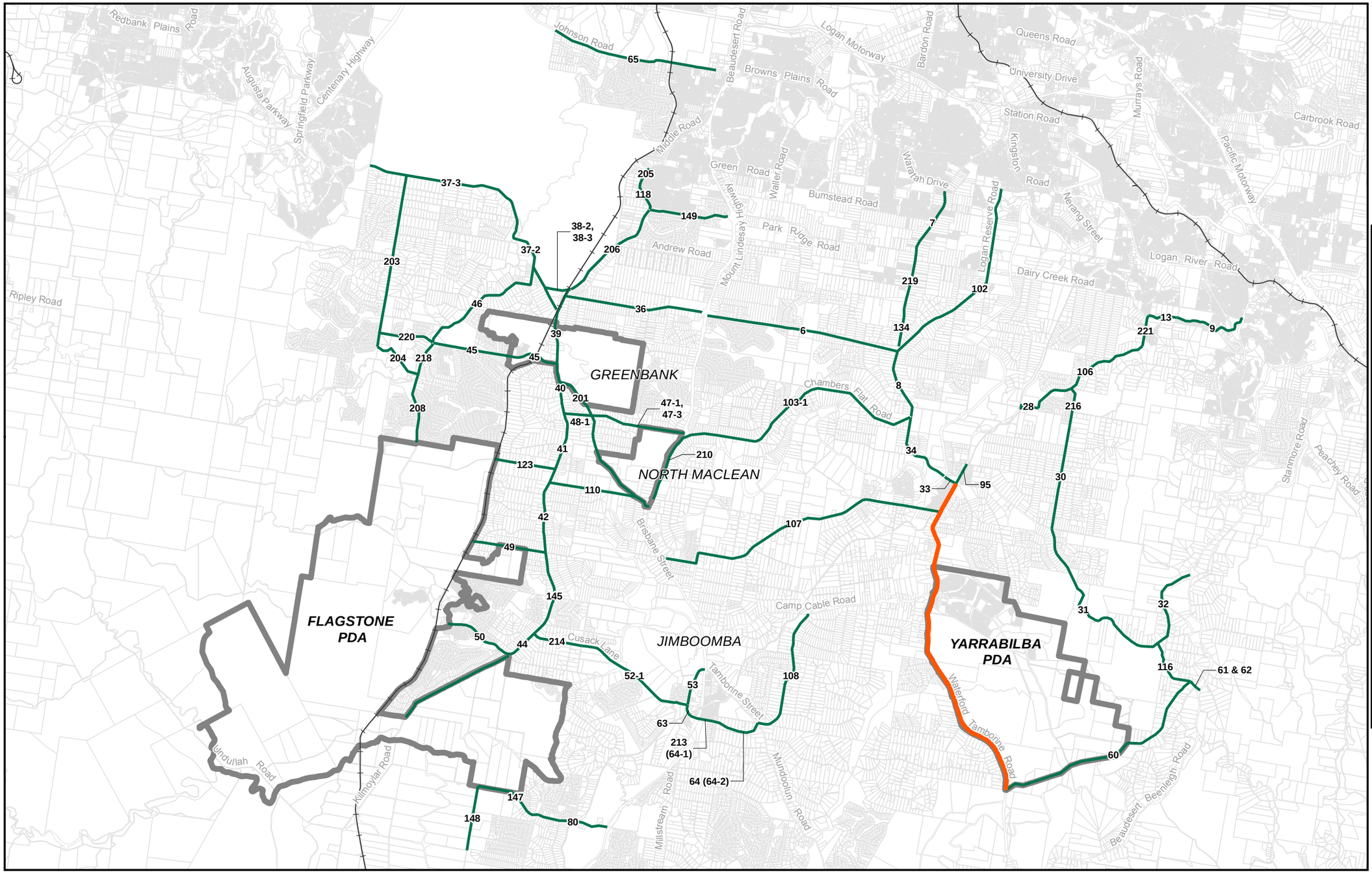


Figure 15
Sub-regional Road Upgrades

Legend

- Priority Development Area (PDA)
- Railway
- Land parcels, September 2018
- State road Project
- Local road Project

Key to Road Project IDs

Project ID	Description
6	Granger Rd (Mt Lindesay Hwy to Chambers Flat Rd / Logan Reserve Rd)
7	Chambers Flat Rd (Entrance St to Park Ridge Rd / School Rd)
8	Chambers Flat Rd (Logan Reserve Rd to Kenny Rd)
9	Wuraga Road (Prangley Road to Beaudesert Beenleigh Road)
13	Wuraga Rd (Menora Rd to Prangley Rd)
28	Stegemann Rd (Waterford-Tamborine Rd to Hein Rd)
30	Latimer Rd (Stegemann Rd to Quinzeh Creek Rd/Swanborough Rd)
31	Quinzeh Creek Rd (Latimer Road to Chardon Bridge Rd)
32	Veivers Rd (Chardon Bridge Rd to Beaudesert Beenleigh Rd)
33	Anzac Avenue (Waterford-Tamborine Rd to Logan River Bridge)
34	Anzac Avenue/Kird Rd/Kenny Rd (Logan River Bridge to Chambers Flat Rd)
36	Stoney Camp Rd (Brightwell Rd to Mt Lindesay Hwy)
37-2	Goodna Rd (Middle Rd to Thompson Road)
37-3	Goodna Rd (Thompson Road to Springfield)
38-2, 38-3	Middle / Stoney Camp / Teviot Interchange
39	Teviot Rd (Middle Rd to Greenbank Rd)
40	Teviot Rd (Greenbank Rd to Crowson Lane Extension)
41	Teviot Rd (Crowson Lane Extension to Scott Lane)
42	Teviot Rd (Scott Lane to Mountain Ridge Rd)
44	Teviot Rd (Cusack Lane to Homestead Drive)
45	Pub Lane (Teviot Rd to New Beith Road)
45	Pub Lane (Teviot Rd to New Beith Road)
46	New Beith Rd (Pub Lane to Goodna Rd)
47-1, 47-3	Crowson Lane (Mt Lindesay Hwy to Greenbank Rd)
48-1	Crowson Lane Extension (Greenbank Rd to Teviot Rd)
49	Mountain Ridge Rd (Paula Rd to Teviot Rd)
50	Homestead Drive (Teviot Rd to Wild Mint Dr)
52-1	Cusack Lane (Duncan Rd to Johanna St)
53	Johanna St (Cusack Lane to Mt Lindesay Hwy)
60	Plunkett Rd (Waterford-Tamborine Rd to Chardon Bridge Rd)
61 & 62	Chardon Bridge Rd (Plunkett Rd to Beaudesert-Beenleigh Rd)
63	New Rd (from South St to Cusack Lane)
64 (64-2)	New Rd (from South St to Edelsten Rd)
65	Johnson Rd (Staplyton Rd to Southlink St)
80	Cedar Grove Road (from Mt Lindesay Highway to Irwin Road)
95	Logan Village Main Street (Logan Street to North Street)
102	Logan Reserve Road (Chambers Flat Road to Beutel Street)
103-1	Chambers Flat Road (Kenny Road to Mt Lindesay Hwy)
106	Hein Road (Stegemann Road to Menora Road)
107	Stockleigh Road (from Mount Lindesay Hwy to Waterford-Tamborine Rd)
108	Edelsten Road (Mundoolun Road to Camp Cable Road)
110	Scott Lane (Teviot Road - Greenbank Road)
116	Chardon Bridge Rd (Veivers Road to Plunkett Road)
118	Middle Road (from Bass Street to Crest Road)
123	Olson Road (from Teviot Road to Railway Line)
134	Chambers Flat Road (from Derby Road to Sungold Road)
145	Teviot Rd (Mountain Ridge Road to Cusack Lane)
147	Cedar Grove Road (Irwin Road to Cedar Pocket Road)
148	Cedar Pocket Road (from Cedar Grove Road to Undullah Road)
149	Crest Road (from Middle Road to Mount Lindesay Highway)
201	Greenbank Road (from Crowson Lane to Teviot Road)
203	Lyndale Road (from McTaggart Road to Springfield_Greenbank Arterial)
204	McTaggart Road (from Lyndale Road to New Beith Road)
205	Middle Road (from Tovey Road to Bass Street)
206	Middle Road (from Crest Road to Teviot Road)
208	New Beith Road (from UDA Boundary to McTaggart Road)
210	New Road (from Chambers Flat Road to Wearing Road)
213 (64-1)	South St (Mount Lindesay Hwy to John East St)
214	Cusack Lane (Teviot Rd to Duncan Rd)
216	Latimer Rd (Stegemann Rd to Hein Rd)
218	New Beith Road (from McTaggart Rd to Pub Lane)
219	Chambers Flat Rd (Park Ridge Rd / School Rd to Derby Rd)
220	Spring Mountain Drive (from New Beith Road to Lyndale Road)
221	Menora Road (Heins Road to Wuraga Road)

0 1 2 3 4 5

Kilometres

Map created at: **A3**

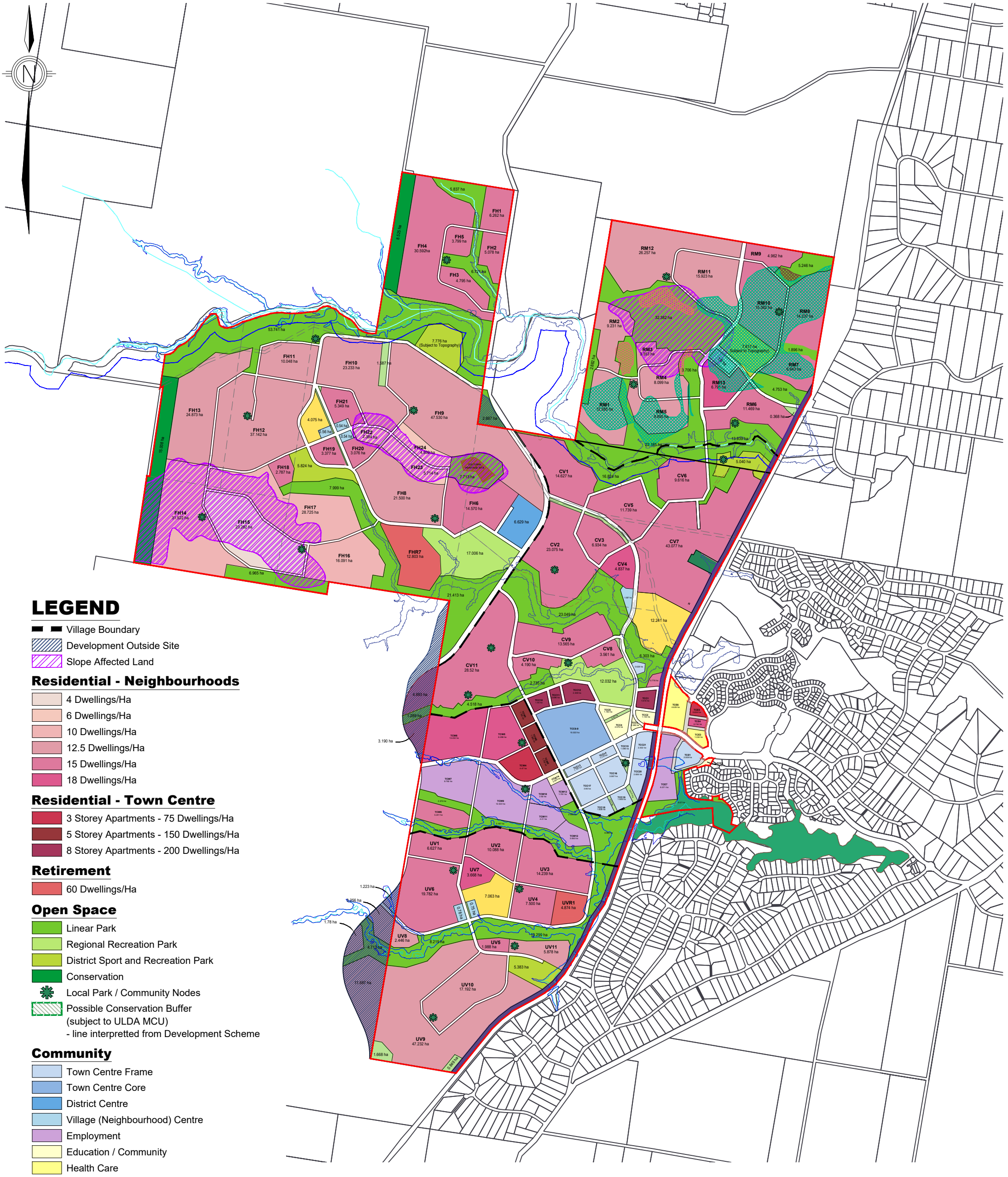
Coordinate System: GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994

Map produced by the Department of State Development, Manufacturing,Infrastructure and Planning
Spatial Services Unit, 23/10/2018

Queensland Government

© Copyright the State of Queensland (Department of State Development, Manufacturing, Infrastructure and Planning) 2018. To the extent permitted by law. The Department of State Development, Manufacturing, Infrastructure and Planning gives no warranty in relation to material or information contained in this data (including accuracy, reliability, completeness or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including indirect or consequential damage) relating to any use of the material or information contained in the Data; and responsibility or liability for any loss or damage arising from its use.

S:\Projects\Major Projects\20181019\Greater Flagstone ICOP – EDQ



LEGEND

- Village Boundary
- Development Outside Site
- Slope Affected Land

Residential - Neighbourhoods

- 4 Dwellings/Ha
- 6 Dwellings/Ha
- 10 Dwellings/Ha
- 12.5 Dwellings/Ha
- 15 Dwellings/Ha
- 18 Dwellings/Ha

Residential - Town Centre

- 3 Storey Apartments - 75 Dwellings/Ha
- 5 Storey Apartments - 150 Dwellings/Ha
- 8 Storey Apartments - 200 Dwellings/Ha

Retirement

- 60 Dwellings/Ha

Open Space

- Linear Park
- Regional Recreation Park
- District Sport and Recreation Park
- Conservation
- Local Park / Community Nodes
- Possible Conservation Buffer (subject to ULDA MCU) - line interpretted from Development Scheme

Community

- Town Centre Frame
- Town Centre Core
- District Centre
- Village (Neighbourhood) Centre
- Employment
- Education / Community
- Health Care

Heritage Sites

- Burial Site
- Test Pit Location
- Surface Collection Location
- Test Trench Location

Rail

- Potential Land Dedication – Salisbury to Beaudesert Rail Corridor
  Note: Refer condition 15 DEV2012/209

DRAFT

Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: Registered Survey Plans.
Adjoining information: DCDB.
Heritage information: Jagera Daran

RPS

SCALE 1 : 25,000 @ A3

0 400 800 1200 1600

STRUCTURE PLAN - OPTION 2M

FLAGSTONE

DATE: 13 DEC 2017 DWG NAME: 110056-293-STRUCTURE_OPT2M DWG # 110056-293C

Technical Memorandum
Flagstone - New Beith Road Upgrade

TO:	Adam Dunn – PEET
FROM:	Troy Schultz – PEAKURBAN
SUBJECT:	New Beith Road Upgrade – High Level Costs
DATE:	22 February 2019
OUR REFERENCE:	18-0158TM - NEW BEITH ROAD.DOCX

1 INTRODUCTION

PEAKURBAN are currently assisting PEET in developing Whole of Site Infrastructure strategies for their landholdings and development at Greater Flagstone. As an additional task, PEET have requested high level costings for the External Upgrade of New Beith Road as an option to be considered for the second access point to the development. Note the assessment covers the section of New Beith Road outside of PEET's landholdings.

It is noted that these costings are very high level and are based purely on our experience with similar projects. Whilst the requirements of this particular upgrade have been given consideration, the investigation is not to a great level of detail and thus costs should be considered as a guide to the general quantum only.

The assessment has been undertaken with no engineering concept design and as such horizontal and vertical grading has been given minimal consideration. However, there are a number of areas where these aspects may cause challenges to the delivery of this infrastructure, both from a land tenure and cost perspective. We note that the existing road reserve geometry in some areas will not be satisfactory for the standard of this road (Arterial) in ultimate form. Thus, it is likely that infrastructure offsets for areas that do not meet ultimate geometry requirements may be difficult to secure.

The following sections describe each section of the road upgrade, key features and indicative per linear metre costs. Costs are then summarised with additional budget allowances for intersection, culverts and bridges.

Sunshine Coast Suite 4B, 1 Innovation Parkway, Birtinya Qld 4575
Brisbane Level 4, 196 Wharf Street, Spring Hill Qld 4000
Postal PO Box 1344, Buddina Qld 4575
P 07 5413 5300 E enquiries@peakurban.com.au

2 ROAD TYPOLOGY

This advice is provided on the basis that the interim 2 lane arterial road would be provided. This would consist of:

- 2 x 3.5m travel lanes
- 2 x 1.0m breakdown lanes
- Kerb and Channel
- Piped Stormwater Drainage
- 1.5m pathway and 3m cycleway on one side of the road

Section 4 is envisaged to remain as is, therefore the above has not been applied.

3 SECTION 1

Section 1 comprises 3,350m from the Northern boundary of PEET's holdings to the boundary of the PDA, as generally shown below.

The section comprises a formed gravel road in poor condition. As such, we have considered this section of the road upgrade to essentially be a new construction. Cost per linear metre is estimated to be as follows:

Section 1 - New Construction					
Item	**Description**	**Unit**	**Rate**	**Qty/m**	**Total/m**
1	Preliminaries/miscellaneous	%	5%	1	$147.87
2	Provision for Traffic	Item	$20.00	1	$20.00
3	QA	Item	$10.00	1	$10.00
4	Signs & Linemarking	Item	$5.00	1	$5.00
5	Strip, Stockpile, Respread Topsoil - 100mm	m^3	$13.00	2.3	$29.90
6	Earthworks - 0.5m cut to fill/m	m^3	$8.00	11.5	$92.00
7	AC - 50mm	m^2	$34.00	9	$306.00
8	Base - 300mm	m^3	$105.00	2.7	$283.50
9	Sub-base - 150mm	m^3	$95.00	1.5	$142.50
10	Lower Sub-base - 250mm	m^3	$80.00	2.5	$200.00
11	Trimming Subgrade	m^2	$2.50	10	$25.00
12	Trimming Road Reserve/Verges	m^2	$1.00	23	$23.00
13	Kerb and Channel	m	$42.00	2	$84.00
14	Sub-surface Drains	m	$27.00	2	$54.00
15	Stormwater Drainage	m	$750.00	1	$750.00
16	Road Lighting	m	$550.00	1	$550.00
17	Shared Cycleway	m	$270.00	1	$270.00
18	Concrete Footpaths	m^2	$75.00	1.5	$112.50
				TOTAL per M	**$3,105.27**

In addition to the general road construction, the following is also envisaged:

- Flagstone Creek Bridge
- 2 x Major Culvert Crossings – one North of Flagstone Creek and one towards the Northern end of the Section

These items have been given budget allocations only at this stage.

4 SECTION 2

Section 2 comprises 1,330m from the Northern boundary of the PDA to the point at which New Beith Road becomes a more formal sealed road way (intersection with Tall Timber Road).

The section comprises a formed gravel road in poor condition. As such, we have considered this section of the road upgrade to essentially be a new construction. Cost per linear metre is estimated to be as follows:

Section 2 - New Construction					
Item	**Description**	**Unit**	**Rate**	**Qty/m**	**Total/m**
1	Preliminaries/miscellaneous	%	5%	1	$147.87
2	Provision for Traffic	Item	$20.00	1	$20.00
3	QA	Item	$10.00	1	$10.00
4	Signs & Linemarking	Item	$5.00	1	$5.00
5	Strip, Stockpile, Respread Topsoil - 100mm	m^3	$13.00	2.3	$29.90
6	Earthworks - 0.5m cut to fill/m	m^3	$8.00	11.5	$92.00
7	AC - 50mm	m^2	$34.00	9	$306.00
8	Base - 300mm	m^3	$105.00	2.7	$283.50
9	Sub-base - 150mm	m^3	$95.00	1.5	$142.50
10	Lower Sub-base - 250mm	m^3	$80.00	2.5	$200.00
11	Trimming Subgrade	m^2	$2.50	10	$25.00
12	Trimming Road Reserve/Verges	m^2	$1.00	23	$23.00
13	Kerb and Channel	m	$42.00	2	$84.00
14	Sub-surface Drains	m	$27.00	2	$54.00
15	Stormwater Drainage	m	$750.00	1	$750.00
16	Road Lighting	m	$550.00	1	$550.00
17	Shared Cycleway	m	$270.00	1	$270.00
18	Concrete Footpaths	m^2	$75.00	1.5	$112.50
				TOTAL per M	**$3,105.27**

In addition to the general road construction, a single minor culvert crossing is envisaged which has been given a budget allocation only at this stage.

5 SECTION 3

Section 3 comprises 1,870m from Tall Timber Road to Pub Lane. This section is a more formal, sealed rural residential type road formation with a number of direct accesses to adjoining allotments.

Due to the nature of the road, we have considered this section of the road upgrade to be a brownfield type construction, with additional challenges associated with traffic management, existing driveways/properties and infrastructure. Cost per linear metre is estimated to be as follows:

Section 3 - Remove Existing and New Construction					
Item	**Description**	**Unit**	**Rate**	**Qty/m**	**Total/m**
1	Preliminaries/miscellaneous/driveways etc	%	20%	1	$608.46
2	Provision for Traffic	Item	$75.00	1	$75.00
3	QA	Item	$10.00	1	$10.00
4	Signs & Linemarking	Item	$5.00	1	$5.00
5	Remove existing infrastructure	m^3	$13.00	2.3	$29.90
6	Strip, Stockpile, Respread Topsoil - 100mm	m^3	$13.00	2.3	$29.90
7	Earthworks - 0.5m cut to fill/m	m^3	$8.00	11.5	$92.00
8	AC - 50mm	m^2	$34.00	9	$306.00
9	Base - 300mm	m^3	$105.00	2.7	$283.50
10	Sub-base - 150mm	m^3	$95.00	1.5	$142.50
11	Lower Sub-base - 250mm	m^3	$80.00	2.5	$200.00
12	Trimming Subgrade	m^2	$2.50	10	$25.00
13	Trimming Road Reserve/Verges	m^2	$1.00	23	$23.00
14	Kerb and Channel	m	$42.00	2	$84.00
15	Sub-surface Drains	m	$27.00	2	$54.00
15	Stormwater Drainage	m	$750.00	1	$750.00
16	Road Lighting	m	$550.00	1	$550.00
17	Shared Cycleway	m	$270.00	1	$270.00
18	Concrete Footpaths	m^2	$75.00	1.5	$112.50
				TOTAL per M	**$3,650.76**

In addition to the general road construction, the following is also envisaged:

- 1 x Major Intersection – Pub Lane and New Beith Road
- 3 x Minor Intersections with existing roads
- 2 x Minor Culvert Crossings

These items have been given budget allocations only at this stage.

6 SECTION 4

Section 4 comprises 4,250m from Pub Lane to Old Greenbank Road. This section is a formal rural arterial/subarterial type road formation, and appears to have been constructed recently.

Due to the nature of the road, we have assume that no upgrade of the roadway itself would be required at this stage, although it is likely to be triggered at some point in the future. As such, no cost per linear metre has been applied.

However, due to extra traffic loading it is envisaged that intersection upgrades will be required, generally as follows:

- 1 x Major Intersection – New Beith Road and Old Greenbank Road
- 4 x Minor Intersections upgrades with existing roads

These items have been given budget allocations only at this stage.

7 SUMMARY

In summary, the quantum of costs envisaged for these works are as follows:

New Beith Road Upgrade - Cost Summary				
Description	**Unit**	**Rate**	**Qty/m**	**Total/m**
Section 1 (Municipal)				
Road Construction	m	$ 3,105.27	3350	$ 10,402,654.50
Flagstone Creek Bridge	Item	$ 3,000,000.00	1	$ 3,000,000.00
Major Culvert Crossings	Item	$ 600,000.00	2	$ 1,200,000.00
Subtotal				**$ 14,602,654.50**
Section 2 (Sub Regional)				
Road Construction	m	$ 3,105.27	1330	$ 4,130,009.10
Minor Culvert Crossings	Item	$ 150,000.00	1	$ 150,000.00
Subtotal				**$ 4,280,009.10**
Section 3 (Sub Regional)				
Road Construction	m	$ 3,650.76	1870	$ 6,826,921.20
Minor Culvert Crossings	Item	$ 150,000.00	2	$ 300,000.00
Intersection - Tall Timber Road	Item	$ 250,000.00	1	$ 250,000.00
Intersection - Tully Road	Item	$ 150,000.00	1	$ 150,000.00
Intersection - Lyon Drive	Item	$ 250,000.00	1	$ 250,000.00
Intersection - Pub Lane	Item	$ 1,500,000.00	1	$ 1,500,000.00
Subtotal				**$ 9,276,921.20**
Section 4 (Sub Regional)				
Road Construction - No Allowance	m	$ -	4250	$ -
Intersections - General Allowance (Minor)	Item	$ 150,000.00	4	$ 600,000.00
Intersections - Old Greenbank Road	Item	$ 1,000,000.00	1	$ 1,000,000.00
Subtotal				**$ 1,600,000.00**
			TOTAL	**$ 29,759,584.80**

Note, the above costs are civil construction and road lighting costs only (excluding GST). No allowance has been made for landscaping, consultants, contingency, any other fees or major service relocations (including undergrounding of overhead power).

We trust the above assists PEET in forward planning of the project. We note that should this option be further considered as viable for the second access, then further, more rigorous investigation, concept design/function layouts, traffic assessment, hydraulic studies and costing should occur.

Appendix A6

Likelihood of Occurrence Assessment

Appendix 6 - Likelihood of occurrence assessment – New Beith Road - EPBC 2023/09505

Likelihood of occurrence	Assessment criteria
Unlikely	No previous records of the species within the locality and one or more of the following criteria is met: • Not previously recorded on the referral area and surrounds and the referral area is beyond the current known geographic range; or • Dependent on specific habitat types or resources that are not present on the referral area; or • Considered extinct in the wild.
Low	No previous records of the species within the locality and one or more of the following criteria is met: • Site and local connectivity contains marginal habitat excluding suitable/critical habitat attributes; • Lack of recent records exist in a regional context (use 1980 as a delineation); or • Potential for vagrant or individual of the species to survive short-term;
Moderate	Species previously recorded within the locality and one or more of the following criteria is met: • Previously recorded in proximity to the referral area (*i.e.,* vagrant individuals); or • Potential habitat typologies or resources are present on the referral area.
High	Species previously recorded within the locality and one or more of the following criteria is met: • Previously recorded on the referral area; • Dependent on habitats or habitat resources that are available on the referral area; or • Suitable habitats are available on the referral area that are capable of supporting a resident population or individuals of the species.
Known	Flora species or ecological community positively identified during field surveys within the referral area. Fauna species positively recorded during field surveys within the referral area or adjacent habitats.

Listed Wetlands of International Importance and Threatened Ecological Communities

Matters of National Environmental Significance						
Name	**Status**	**Type of presence**	**Description of the community/preferred habitat**	**Likelihood of Occurrence Analysis**	**Desktop Likelihood of occurrence (on-site)**	**Field Survey Confirmed Likelihood of occurrence (on-site)**
Wetlands of International Importance (Ramsar)						
Moreton Bay			The site is located approximately 20 - 30 kilometres upstream from the RAMSAR site.	There will be no measurable affect to Moreton Bay.	Unlikely	Unlikely
Threatened Ecological Communities						
Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community	E	Community may occur within area	In Queensland, this ecological community coincides with two regional ecosystem communities including Of Concern RE12.1.1 (*Casuarina glauca* +/- mangroves woodland) as well as areas where the canopy is dominated by *Casuarina glauca* within 12.3.20 (*Melaleuca quinquenervia, Casuarina glauca +/- Eucalyptus tereticornis, Eucalyptus siderophloia* open forest on low coastal alluvial plains).	Desktop analysis and field surveys confirmed that regional ecosystem 12.1.1 and 12.3.20 do not occur on-site.	Unlikely	Unlikely
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	E	Community likely to occur within area	The Coastal Swamp Sclerophyll Forests of South-eastern Australia is a type of forest or scrub associated with freshwater (to brackish) wetlands on low-lying coastal areas. Several regional ecosystem communities coincide with this TEC, including Least Concern RE 12.2.7 (*Melaleuca quinquenervia* or rarely *M. dealbata* open forest on sand plains), Of Concern RE 12.3.4/12.3.4a (*Melaleuca quinquenervia*, *Eucalyptus robusta* woodland on coastal	Desktop analysis and field surveys confirmed that regional ecosystems 12.2.7, 12.3.4/12.3.4a, 12.3.5, 12.3.6 and 12.3.20 do not occur on-site.	Unlikely	Unlikely

			alluvium/*Eucalyptus bancroftii* open woodland often with *Melaleuca quinquenervia*), Least Concern RE 12.3.5 (*Melaleuca quinquenervia* open forest on coastal alluvium), Least Concern RE 12.3.6 (*Melaleuca quinquenervia +/- Eucalyptus tereticornis, Lophostemon suaveolens, Corymbia intermedia* open forest on coastal alluvial plain) and Endangered RE 12.3.20 (*Melaleuca quinquenervia, Casuarina glauca +/- Eucalyptus tereticornis, E. siderophloia* open forest on low coastal alluvial plain).			
Grey box-grey gum wet forest of subtropical eastern Australia	E	Community likely to occur within area	The ecological community is limited to the New South Wales north coast and south eastern Queensland IBRA Bioregions from near Coffs Harbour in NSW to the southern areas of south-east Queensland. Within these areas it occurs in the Moreton Basin, Scienic Rim, Woodenbong, Cataract, Rocky River Gorge, Washpool, Dalmorton, Clarence Sandstones and Chaelundi IBRA subregions. The ecological community typically occurs on escarpment slopes and foothills, on inland hills and ranges between 100m and 600m altitude. This ecological community coincides with regional ecosystems including Of Concern RE12.9-10.3 and Least Concern 12.8.14a.	Desktop analysis and field surveys confirmed that regional ecosystem 12.9-10.3 and 12.8.14a do not occur on-site or adjacent to the New Beith Road Reserve.	Unlikely	Unlikely
Lowland rainforest of subtropical Australia	CE	Community may occur within area	This TEC occurs mainly on basalt and alluvial soils and is characteristic of a low abundance of *Eucalyptus, Melaleuca* and *Casuarina* species. Specimens with buttress roots and a diversity of vines are common throughout this TEC. This community is usually associated Regional Ecosystems 12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.10, 12.12.1, and 12.12.1.	Desktop analysis and detailed field surveys confirmed that this TEC does not occur on-site or adjacent to the site. The Regional Ecosystems associated with this TEC were confirmed to be absent on-site.	Unlikely	Unlikely
Poplar Box Grassy Woodland on Alluvial Plains	E	Community may occur within area	The Poplar Box Grassy Woodland on Alluvial Plains ecological community is typically a grassy woodland with a canopy dominated by *Eucalyptus populnea* and understorey mostly of grasses and other herbs. The ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle	Desktop analysis and detailed field surveys confirmed that this TES does not occur on-site or adjacent to the site. Regional ecosystems	Unlikely	Unlikely

			slopes on a wide range of soil types of alluvial and depositional origin. In Queensland, this TEC corresponds with 11.3.2, 11.3.17, 11.3.7, 11.4.12 and 12.3.10.	11.3.2, 11.3.17, 11.3.7, 11.4.12 and 12.3.10 do not occur on-site.		
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland Bioregions	E	Community likely to occur within area	The structure of the ecological community, in its undisturbed state, varies from tall open forest to woodland, although partial clearing may have reduced the canopy to scattered trees in some areas. The tree canopy is dominated by eucalypts and/or other myrtaceous trees (specifically from the Angophora, Corymbia, *Lophostemon* and *Syncarpia* genera), often as a mixture of species. A mid-layer or sub-canopy of small trees may be present – with scattered to dense shrubs. For example, *Melaleuca*, *Leptospermum* and related genera may form dense thickets beneath the main canopy, or in gaps between canopy trees. The mid-layer may be sparser in lower rainfall areas, or where partially cleared, grazed or frequently burnt. The ecological community often has climbers extending into the mid-layer and canopy. The ecological community generally has a more diverse and abundant groundcover than ecological communities on locally adjoining slopes. Its groundcover typically includes grasses, forbs, ferns, sedges and scramblers. The ecological community typically forms 'mosaics' with other floodplain forest communities, lowland woodlands and treeless wetlands. The following Regional Ecosystems form part of or align with the TEC: 12.3.2, 12.3.2a, 12.3.3, 12.3.3a, 12.3.3b, 12.3.3d, 12.3.4a, 12.3.7, 12.3.7c, 12.3.7d 12.3.10, 12.3.11, 12.3.11a, 12.3.11b, 12.3.12, 12.3.14a, 12.3.15, 12.3.19.	Desktop analysis and field surveys confirm the Of Concern RE12.3.11 occurs onsite. This RE was found to be associated with a small creek crossing area within the New Beith Road reserve. The current road passes directly through the vegetation described as the RE 12.3.11.	Low	Moderate
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and	CE	Community likely to occur within area	Box – Gum Grassy Woodlands and Derived Grasslands are characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs, and the dominance, or prior dominance, of White Box, Yellow Box or Blakely's Red Gum trees. In Queensland the ecological community is a primary component	Desktop analysis and field surveys confirmed that regional ecosystems 11.8.2a, 11.8.8, 11.9.9a, 13.3.1, 13.11.8, 13.12.8 and 13.12.9, 11.3.23, 12.8.16,	Unlikely	Unlikely

Derived Native Grassland	of the following Regional Ecosystems: 11.8.2a, 11.8.8, 11.9.9a, 13.3.1, 13.11.8, 13.12.8 and 13.12.9. It can also be a smaller component of the following regional ecosystems: 11.3.23, 12.8.16 (only at the far western edge of the bioregion), 13.3.4, 13.11.3 and 13.11.4. These regional ecosystems range in conservation status from 'not of concern at present' to 'endangered'.	13.3.4, 13.11.3 and 13.11.4 do not occur on-site.

Listed Threatened Species

Scientific name	**Common name**	**Listing Status***		**EPBC code**	**Habitat and Distribution**	**Microhabitat keywords**	**Likelihood of Occurrence Analysis**	**Desktop Likelihood of occurrence (on-site)**	**Field Survey Confirmed Likelihood of occurrence (on-site)**
		EPBC Act	**NC Act**						
Birds									
Anthochaera phrygia	Regent Honeyeater	CE	E	82338	Regent Honeyeaters mostly occur in dry Box-Ironbark Eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites. These areas are generally associated with creek flats and river valleys and foothills. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. They are a generalist forager, which mainly feed on nectar from a wide range of eucalypts and mistletoes.	*Corymbia citriodora* forest	The site is not dominated by box and ironbark eucalypts, although *Eucalyptus siderophloia* (Grey Ironbark) was recorded during field surveys. Mistletoe species were observed within the referral area but predominately associated with *Alphitonia excelsa* (Soap Tree) and were sparse. Bushland west of the site shows a record of the Regent Honeyeater within 5 km south-west of the referral area according to Atlas of Living Australia (ALA).	Low	Low (potential poor quality foraging habitat)
Botaurus poiciloptilus	Australasian Bittern	E	-	1001	The Australasian Bittern occurs in terrestrial wetlands and, rarely, estuarine habitats, mainly in the temperate south-east and south-west. It favours wetlands with tall	Wetlands, permanent water,	The regional ecosystems associated with the New Beith Road reserve include Least Concern RE 12.9-10.2, Of Concern	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and / or reeds or cutting grass growing over muddy or peaty substrate. The Australasian Bittern occurs in the far south-east of Queensland; it has been reported North to Baralaba and West to Wyandra, although in most years it is probably confined to a few coastal swamps. It is rarely recorded in Queensland, and possibly survives only in protected areas such as the Cooloola and Fraser regions.	freshwater dam	composite RE 12.3.11 / 12.3.7 and Of Concern RE12.9-10.7. This site does not contain any terrestrial wetlands or swamps with tall dense vegetation. No recent records of the Australasian Bittern within 10 km of the referral area according to ALA and BioMaps.		
Calidris ferruginea	Curlew Sandpiper	CE	E	856	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often,		No suitable foraging or breeding habitat in the form of wetlands and mudflats occurs on-site.	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. In Queensland, scattered records occur in the Gulf of Carpentaria, with widespread records along the coast south of Cairns.				
Calyptorhynchus lathami lathami	South-eastern Glossy Black-cockatoo	V	V	67036	This species prefers woodland areas dominated by she-oak *Allocasuarina*, or open sclerophyll forests and woodlands with a stratum of *Allocasuarina* beneath Eucalyptus, Corymbia or Angophora. Glossy black-cockatoos have also been observed in mixed *Allocasaurina*, *Casuarina*, cypress *Callitris* and brigalow *Acacia harpophylla* woodland assemblages. In SEQ west of the Great Dividing Range, they have been observed feeding in remnant belah Casuarina cristata and bulloak *Allocasuarina luehmannii* forests. This species is also known to utilise appropriate remnant woodlands, and individual or small pockets	*Allocasuarina, Casuarina*	Field surveys located scattered isolated black sheoak (*A. littoralis*) in areas of the remnant vegetation adjacent to and within the New Beith Road reserve. Records of the species approximately 8 km west of the road reserve were recorded in 2021 on BioMaps. Poor quality foraging and breeding habitat for this species suggests a low likelihood of occurrence on site.	Medium	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					of *Allocasuarina* and *Casuarina* feed trees in urban areas				
Charadrius leschenaultii	Greater Sand Plover	V	V	877	In the non-breeding grounds in Australasia, the Greater Sand Plover is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons. They seldom occur at shallow freshwater wetlands.		No suitable foraging or breeding habitat occurs on-site.	Unlikely	Unlikely
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	V	-	67062	Brown treecreepers (south-eastern) occupy dry open eucalypt forests and woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species. They also occur in mallee, forests and woodlands subject to periodic inundation. The subspecies is not usually found in woodlands with a dense shrub layer.		The REs present onsite, confirmed by field surveys are predominately composed of smooth bark eucalypts. Buffer areas also includes areas characterised by a dense understory of Acacia regrowth and invasives. Given the preference of open stringy and rough-barked eucalypt forests the likelihood of occurrence is low.	Unlikely	Low
Cyclopsitta diophthalma coxeni	Coxen's Fig Parrot	E	E	59714	The Coxen's Fig Parrot occurs in rainforest habitats including subtropical rainforest, dry rainforest, littoral and developing littoral		Preferred foraging vegetation including figs and *Elaeocarpus grandis*, *Syzygium corynanthum*	Unlikely	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					rainforest, and vine forest. Food is mainly taken from figs however other species fruit have been recorded in their diet including *Elaeocarpus grandis, Syzygium corynanthum, Litsea reticulata* and *Grevillea robusta.*		and *Litsea reticulata* were not recorded within the referral area during field surveys, although isolated *Grevillea robusta* species were found within a creek crossing along the New Beith Road reserve. No rainforest habitat is present within the assessment area or adjacent vegetation therefore it is considered unlikely this species will occur within the proposed impact area.		
Erythrotriorchis radiatus	Red Goshawk	V	V	942	A wide ranging and highly mobile species generally observed over eucalypt habitats. This species prefers forest and woodland with a mosaic of vegetation types, large prey populations (birds) and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest and rainforest margins. Habitat has to be open enough for fast attack and manoeuvring in flight, but provide cover for ambushing of prey.		Eucalypt woodland and open forest vegetation types are present within the New Beith Road Reserve Area. However, there is no evidence of permanent residence, and due to the scarcity of this species and lack of local records, its occurrence is low.	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
Falco hypoleucos	Grey Falcon	V	V	929	The Grey Falcon is a medium-sized, compact, pale falcon with a heavy, thick-set, deep-chested appearance. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. Preys primarily on birds, especially parrots and pigeons, using high-speed chases and stoops; reptiles and mammals are also taken. Like other falcons it utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse; peak laying season is in late winter and early spring; two or three eggs are laid. The nests chosen are usually in the tallest trees along watercourses, particularly River Red Gum (*Eucalyptus camaldulensis*) and Coolibah (*E. coolabah*).		Scattered large trees and marginal open woodland are present within the site, however, the majority of the site is heavily disturbed from vehicle use and adjacent rural landscapes. Field surveys did not observe any large nests within the present tall trees which could indicate the presence of a large raptor bird such as the Grey Falcon. Furthermore, a review of ALA indicates no records of the species within the region. For these reasons it is unlikely that this species would occur.	Low	Low
Gallinago hardwickii	Latham's Snipe	V		863	Latham's Snipe occurs in permanent and ephemeral wetlands. They usually inhabit open, freshwater wetlands with low, dense vegetation.		This site does not contain suitable habitat, with the majority of the road reserve and adjacent land	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							largely modified with a limited native understorey.		
Geophaps scripta scripta	Squatter Pigeon (southern)	V	V	64440	This species inhabits open grasslands and woodlands typically with a native understorey although may occur in artificial pasture.		This site does not contain suitable habitat, with the majority of the road reserve and adjacent land largely modified with a limited native understorey. In addition, the species is very rarely observed in southern Queensland, and thus this species is not expected to occur onsite.	Low	Unlikely
Grantiella picta	Painted Honeyeater	V	V	470	The species inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes. It is more common in wider blocks of remnant woodland than in narrower strips.		Suitable habitat in the form of eucalypt forests/ woodlands, riparian woodlands and acacia-dominated woodlands were present within the New Beith Road reserve and within adjacent remnant bushland. Field surveys did not record this species. There are no recent records of the species within 10 km of the referral area on ALA and BioMaps.	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
Hirundapus caudacutus	White-throated Needletail	V	V	682	Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. They also commonly occur over heathland, but less often over treeless areas, such as grassland or swamps.		While some areas of remnant vegetation remain, large areas of the road reserve and adjacent rural and residential areas represent heavily modified open space with scattered larger trees. This environment is the less preferred of the White-throated Needletail and therefore it is unlikely the species would find the site as a suitable roosting area. The species was not observed onsite during survey works. The lack of recent local records suggests a low likelihood this species would occur onsite.	Low	Low
Lathamus discolor	Swift Parrot	CE	E	744	The Swift Parrot breeds in Tasmania during spring to early summer. During autumn and winter the species migrates to the mainland where it follows a nomadic existence linked to the availability and timing of flowering of trees in various locations.		Most of the referral area within the New Beith road reserve is mapped as non-remnant Category X vegetation under the Queensland *Vegetation Management Act 1999*. There are no records of the species within 5 km of the site on Atlas of Living Australia and the species	Low	Low (potential poor quality foraging habitat)

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							was not recorded during survey work. Overall, due to the highly disturbed state of the site, the limited area of foraging habitat, and presence of more suitable foraging habitat within the broader landscape, there is considered to be low potential that the Swift Parrot would utilize the vegetation on-site and in the adjoining vegetation. Any occurrence would be limited to opportunistic foraging and the vegetation would be unlikely to be critical foraging habitat.		
Ninox strenua	Powerful Owl	-	V	-	The Powerful Owl is found in open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. Will sometimes be found in open areas near forests such as farmland,		Habitat for this species is present within the referral area, however, has undergone and continues to undergo significant disturbance from rural and illegal uses of the site. Records of the species have been recorded within 10km,	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					parks and suburban areas, as well as in remnant bushland patches.		however these were recorded at least 5 years ago.		
Stagonpleura guttata	Diamond Firetail	V		59398	Diamond firetails occur in eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats, including farmland and grassland with scattered trees. They prefer areas with relatively low tree density, few large logs, and little litter cover but high grass cover. They feed predominantly at ground level, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects.		No sightings of the species have been recorded in site locality and field surveys confirmed that suitable foraging habitat was absent from the site.	Low	Low
Rostratula australis	Australian Painted-snipe	E	V	77037	The Australian Painted Snipe is usually found in shallow inland wetlands, either freshwater or brackish, that are either permanently or temporarily filled. The species has a scattered distribution throughout many parts of Australia, with a single record from Tasmania.		No suitable wetlands occur on-site. It is unlikely that this species will occur.	Unlikely	Unlikely
Tringa nebularia	Common Greenshank	E		832	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. The		No suitable wetlands occur on-site. It is unlikely that this species will occur.	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					species is known to forage at the edges of wetlands in soft mud or mudflats.				
Turnix melanogaster	Black-breasted Button Quail	V	V	923	Typical habitat occurs in dry rainforest and vegetation immediately adjacent to rainforest. However the species has also been recorded in a variety of low coastal heathlands around Fraser Island and nearby mainland. Deep leaf litter in which the species can forage appears to be particularly favoured.		The site does not contain dry rainforest or vegetation immediately adjacent to rainforest, and no heathlands are present. Deep leaf litter is also absent over the majority of the site. It is unlikely that this species will occur.	Unlikely	Unlikely
Amphibians									
Adelotus brevis	Tusked Frog	-	V	-	The Tusked Frog is distributed along the coastal plain and adjacent Great Dividing Range from central Queensland to southern New South Wales (Cogger 1994). It occurs in a wide range of habitats including rainforest, wet sclerophyll forest and flooded pasture.		Suitable wet sclerophyll and rainforest habitat for the Tusked Frog is not present onsite. Recent records of this species within or adjacent to the project area are absent from ALA and BioMaps (most recent record within 10 km recorded in 2011).	Low	Low
Fish									
Maccullochella mariensis	Mary River Cod	E	-	83806	Found in southeast Queensland in the Mary River system, their ideal habitat is described		No river system is present within the assessment area. Several	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					as deep, shaded, slow flowing pools with plenty of snags and log-piles.		waterways traverse the New Beith Road reserve, however these contain lower water levels, stagnant water and lack of significant habitat features able to support this species.		
Insects									
Argynnis hyperbius inconstans	Australian Fritillary	CE	E	88056	Most specimens have been collected from river estuaries or swampy coastal areas at or near sea level. The Australian fritillary butterfly is restricted to open, swampy, coastal areas where the larval food plant, *Viola betonicifolia*, grows as a small, insignificant ground herb in association with *Lomandra longifolia* (Long Leaved Matrush) and grasses, especially the grass *Imperata cylindrica* (Bladey Grass). This habitat is called *Melaleuca* wetlands, although the larval food plant does not occur in all sub-types of this plant community.		No suitable coastal habitat was observed throughout the assessment area.	Unlikely	Unlikely
Mammals									

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
Chalinolobus dwyeri	Large-eared Pied Bat	V	V	183	The Large-eared Pied Bat roosts on sandstone cliffs and fertile woodland valley habitat within close proximity of each other. However, in South East Queensland habitat includes rainforest and moist eucalypt forest habitats at high elevations.		No suitable high elevation habitat nor rainforest vegetation to support this species occurs on-site.	Low	Unlikely
Dasyurus maculatus maculatus	Spot-tailed Quoll	E	V	75184	The Spot-tailed Quoll has a preference for mature wet forest habitat. For Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. This predominantly nocturnal species rests during the day in dens. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage.		The road reserve has been subjected to high levels of disturbance with areas adjacent to the site historically cleared and continuously modified through the years. No suitable denning habitat was observed during field surveys. Due to the lack of suitable habitat, it is unlikely that this species would occur.	Low	Unlikely
Macroderma gigas	Ghost Bat	V	E	174	Ghost Bats have been recorded in both arid regions (Pilbara region) and rainforest areas (north Queensland). *Macroderma gigas* roost in caves, old mine tunnels and in deep cracks in rocks. This species is distributed		No suitable foraging or roosting habitat to support this species occurs on-site, or in the nearby vicinity.	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					widely however patchily across the northern half of Australia, being found in a variety of tropical habitats.				
Petauroides volans	Greater Glider	E	V	254	The Greater Glider is an arboreal nocturnal marsupial that is mostly restricted to eucalypt forests and woodlands, although it occurs in highest abundance in taller, montane, moist eucalypt forests with abundant (large) hollow-bearing trees for shelter and a variety of eucalypt species for feeding. Diet consists of eucalypt leaves, and occasionally flowers. Small home ranges and a poor ability to disperse make this species sensitive to clearing and fragmentation, with low persistence in small forest fragments.		A variety of eucalypt species occur within and adjacent to the New Beith Road reserve, however some areas of Category X vegetation are highly disturbed and represent historical clearing with only scattered mature trees remaining. Field surveys confirmed the presence of hollow bearing trees within the road reserve and scattered within adjacent remnant bushland. No individuals were recorded during field surveys. Records of this species have been recorded within 15 km of the site, in Flinders Peak Conservation Park. Due to the high disturbance with vehicle use and other illegal uses, and the modification of surrounding habitat it is	Moderate	low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							considered a low likelihood this species would occur onsite.		
Petaurus australis australis	Yellow-bellied Glider	V	V	87600	The Yellow-bellied Glider largely occurs in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Denning occurs within hollows of large trees, with the species preferring to live in family groups of two to six individuals. This species is very mobile and occupy large home ranges of 20 to 85 ha to encompass dispersed and seasonally available food resources.		Eucalypt forest was identified onsite, although the vegetation is not within a high rainfall area and the soils are considered nutrient poor. Large portions of adjacent vegetation have been modified or cleared for agricultural purposes. Hollows were identified during field surveys within scattered mature eucalypt species along the New Beith Road reserve. No individuals were observed during field surveys and no feeding marks typical of the species were recorded. Records of the species have been recorded within 15 km north-east of the site in 2015. Although the site comprises high levels of disturbance, due to presence of suitable habitat and recent local	Moderate	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							records, there is a low likelihood this species would occur onsite.		
Petrogale penicillata	Brush-tailed Rock Wallaby	V	V	225	This species prefers rocky habitats, including loose boulder-piles, rocky outcrops, steep rocky slopes, cliffs, gorges and isolated rock stacks. It also utilises tree limbs. While it appears that most Brush-tailed Rock-wallaby colonies are on north-facing slopes and cliff lines, colonies have been found on south-facing cliffs in Kangaroo Valley, in the Macleay River Gorge, in the Warrumbungles and at Mt Kaputar, although usually in lower densities.		Suitable habitat in the form of rocky habitats, rocky outcrops, steep rocky slopes, cliffs and gorges does not occur on-site. Recent, local records for this species are lacking.	Unlikely	Unlikely
Phascolarctos cinereus	Koala	V	V	85104	The Koala is found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland.		Portions of the New Beith Road reserve extent and surrounding vegetation are mapped as Category X (non-remnant) but it also contains vegetation mapped as Category B (remnant) under the *Vegetation Management Act 1999* (QLD). Desktop investigations found Koala Habitat Areas are mapped on-site however it does	Moderate	Moderate-Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							not fall within a Queensland Government mapped Koala Priority Area. Field surveys confirmed Koala habitat is present within the referral area in the form of *Corymbia citriodora* and *Angophora leicarpa* dominated woodland fringing the southern extent of the road reserve. Field surveys of the Eucalypt dominated areas found the northern and eastern patches to contain retained mature canopy trees with a fairly intact understorey. Vegetation in the south and southwest has been cleared, with very few mature canopy trees remaining and a modified ground and understorey layer of maintained grass. This area experiences high levels of		

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							disturbance from vehicle and motorbike uses. Vegetation in the south contains scattered mature canopy trees with a dense understorey of *Acacia sp*. reflecting historic fire disturbance. Connectivity to vegetation is limited with residential areas to the north and cleared modified areas in the south and southwest. Vegetation associated with Flagstone Creek remains a form of connectivity of Koala habitat from vegetation in the east to larger intact bushland in the west. Evidence of Koala in the form of scats was recorded during field surveys, suggesting Koalas are utilising the site.		
Potorous tridactylus tridactylus	Long-nosed Potoroo	V	V	66645	The Long-nosed Potoroo inhabits coastal heaths and dry and wet sclerophyll forests.		No suitable habitat in the form of coastal heath or wet sclerophyll	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath, or of low shrub of tea-trees or *Melaleucas*. A sandy loam soil is also a common feature.		forest is present on-site. Additionally, the wooded areas on-site were not reflective of the dense understory with occasional open areas this species requires for habitat.		
Pseudomys novaehollandiae	New Holland Mouse, Pookila	V	V	96	Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey and vegetated sand dunes. The New Holland Mouse is a social animal, living predominantly in burrows shared with other individuals. The home range of the New Holland Mouse ranges from 0.44 ha to 1.4 ha. The species peaks in abundance during early to mid stages of vegetation succession typically induced by fire.		No suitable habitat in the form of open heathlands or open woodlands with a heath understory and vegetated sand dunes is present on-site.	Unlikely	Unlikely
Pteropus poliocephalus	Grey-headed Flying-fox	V	-	186	Species generally roosts in camps in trees adjacent to larger permanent watercourse. The Grey-headed flying fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore,		Large areas of the road reserve are mapped as Category X (non-remnant) but it also contains vegetation mapped as Category B	Moderate	Low (potential poor quality

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feeds on commercial fruit crops. The primary food source is blossom from *Eucalyptus* and related genera.		(remnant) under the *Vegetation Management Act 1999* (Qld). Field surveys confirmed the presence of potential habitat for the GHFF on-site in the form of eucalypt woodland within the east and further west, with some fragmented eucalypt woodland present to the south. Species included *Eucalyptus tereticornis* (Forest Red Gum), *Corymbia intermedia* (Pink Bloodwood) and *Eucalyptus siderophloia (*Grey Ironbark). In addition, suitable foraging vegetation occurs on-site with scattered *Melaleuca quinquenervia* species throughout the waterways which adjoin the New Beith Road reserve extent, however the species the species was not seen utilising this vegetation during spotlighting surveys.		foraging habitat)

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							There are no observed roosts on-site, with the nearest roost located approximately 5 km south-east of the site at Homestead Drive (464), with the latest survey in August 2013. Flowering *Eucalypts* were present during spotlighting activities although the Grey-headed Flying-fox was not recorded. Foraging habitat for the species was recorded on the site although there is higher quality habitat adjacent to the site. There is a moderate likelihood that the species may opportunistically forage on-site.		
Plants									
Arthraxon hispidus	Hairy-joint Grass	V	V	9338	Hairy-joint grass is found in or on the edges of rainforest and in wet eucalypt forest,	rainforest; swamp	The vegetation within this area does not represent the habitat preferred by this species and is	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					often near creeks or swamps, as well as woodland.		heavily disturbed. As habitat to support this species does not occur on-site and there are no records of this species within the locality, it is unlikely that this species would occur on-site. The species was not recorded on site during survey works.		
Bosistoa transversa	Three-leaved Bosistoa	V	-	16091	The Three-leaved Bosistoa is conserved within Mt Warning National Park, Numbinbah Nature Reserve, Limpinwood Nature Reserve and Whian Whian State Forest. While population information is unavailable, it is thought to be common in its range. It generally grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 3oo metres in altitude. It is commonly associated with *Argyrodendron trifoliolatum, Syzygium hodgkinsoniae, Endiandra pubens, Dendrocnide photinophylla, Acmena ingens, Diploglottis australis and Diospyros mabacea*.		Rainforest/wet forest and the species that the Three-leaved Bosistoa is commonly associated with were not located on site. Unlikely to occur on-site due to lack of suitable habitat and local records. The species was not recorded on site during survey works.	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
Coleus habrophyllus	-	E	E	64589	Plants have been recorded growing on chert or sandstone outcrops, in open woodlands often in shaded situations near vine forest. Seven populations are known including: Oxley Creek, Greenbank; Opposum Creek, Springfield; Woogaroo Creek, Goodna; three populations within White Rock Conservation Park, incorporating Six Mile Creek and near Ormeau (south of Beenleigh).		Suitable habitat to support the growth and success of this species was not observed within the assessment area. The lack of associated species and heavy disturbance of the site suggests it's unlikely this species would be supported within the assessment area. The species was not recorded on site during survey works.	Unlikely	Unlikely
Cryptostylis hunteriana	Leafless Tongue-orchid	V	SL	3205	Leafless tongue-orchid habitats include wet heath, sedgeland, grasstree plains and in woodland with scribbly gum, silvertop ash, red bloodwood and black she-oak.		Suitable habitat to support the growth and success of this species was not observed within the assessment area. The lack of associated species and heavy disturbance of the site suggests it's unlikely this species would be supported within the assessment area. The species was not recorded on site during survey works.	Low	Unlikely
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	V	V	3205	The Wedge-leaf Tuckeroo occurs in a variety of dry rainforest vegetation types, including vine thicket communities on hillsides,		Preferred habitat in the form of dry rainforest is not present on-site. There are no local records within	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					stream beds and along riverbanks at altitudes up to 550 m above sea level. This species is also likely to occur on the margins of native vegetation in scrubby urbanised areas. Predominately found on dark brown sandy loams and sandy clay loams (pH 5-7.5) and rocky scree slopes. Generally, these soils have formed from volcanic parent materials (mainly granites and granodiorites, basalt and andesitic flows, and pyroclastics).		the ALA sightings data therefore it is unlikely that it would occur on-site. The species was not recorded on site during survey works.		
Cupaniopsis tomentella	Boonah Tuckeroo	V	V	3322	Boonah Tuckeroo is known only from an area between Boonah and Ipswich in south-eastern Queensland. It grows in vine thickets predominantly on fertile clay soils. These areas have been extensively cleared for agriculture and close settlement over the last 150 years, and the only seven known occurrences are confined to small, isolated remnants on scree slopes and roadsides.		Preferred habitat in the form of vine thickets is not present onsite. There are no recent records of the species within the vicinity of the site (last recorded in 1990).	Low	Unlikely
Dichanthium setosum	Bluegrass	V	-	14159	In Queensland, bluegrass has been reported from the Leichhardt, Morton, North		There are no local records of this species within the Queensland	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					Kennedy and Port Curtis regions. *Dichanthium setosum* is associated with heavy basaltic black soils and stony red-brown hardsetting loam with clay. It can be found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed land and highly disturbed pasture. The extent to which this species tolerates disturbance is unknown.		Wildlife Online sightings data, with the closest sighting in the Toowoomba and surrounds. This species is unlikely to occur on-site due to lack of suitable conditions.		
Fontainea venosa		V	V	24040	Occurs in notophyll vine forest and vine thicket with a mean annual rainfall of 1000-1100 mm on soils derived from and containing abundant andesitic rocks, often on rocky outcrops or along creeks.		No suitable habitat or associated species are present within the referral area.	Unlikely	Unlikely
Macadamia integrifolia	Macadamia Bush	V	V	7326	The Macadamia Nut grows in remnant rainforest. It prefers to grow in mild frost-free areas with reasonably high rainfall. Vegetation communities range from notophyll mixed forest, extremely tall closed forest, simple notophyll mixed very tall closed forest to simple microphyll-notophyll mixed mid-high closed forest		Preferred habitat in the form of dry rainforest is not present on-site. There are no local records within the BioMaps sightings data therefore it is unlikely that it would occur on-site. The species was not recorded on site during survey works.	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					with Araucaria and Argyrodendron emergents.				
Macadamia tetraphylla	Rough-shelled Bush Nut	V	V	6581	This species generally occurs in subtropical rainforest and complex notophyll vineforest, at the margins of the forests and mixed sclerophyll forest. It occurs in restricted habitat, growing on moderate to steep hillslopes on alluvial soils at well drained sites.		Preferred habitat in the form of dry rainforest is not present on-site. There are no local records within the BioMaps sightings data therefore it is unlikely that it would occur on-site. The species was not recorded on site during survey works.	Unlikely	Unlikely
Melaleuca irbyana	Swamp Tea-tree	-	E	-	*Melaleuca irbyana* grows in flat areas that are periodically waterlogged, in eucalypt forest, mixed forest and Melaleuca woodland with a sparse and grassy understorey. It grows on poorly draining, heavy clay soils.		Eucalypt forest and mixed forest vegetation . ALA shows records of the species within 10 km of the referral area.	Low	Low
Notelaea ipsviciensis	Cooneana Olive	CE	E	81858	The Cooneana Olive survives as an understorey plant in degraded, eucalypt dominated dry sclerophyll vegetation communities. Soils in the area are of low fertility, depauperate and sandstone-based. This species prefers open woodland communities with open canopies. The		Suitable eucalypt dominated dry sclerophyll vegetation communities are present within the road reserve and adjoining vegetation. There are no local records within the BioMaps sightings data therefore there is a	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					known population is adjacent to subdivided, modified and developed land.		low likelihood that it would occur on-site. The species was not recorded on site during survey works.		
Notelaea lloydii	Lloyd's Olive	V	V	15002	The species occurs on undulating to hilly terrain either in moist gullies or on gentle to steep dry slopes, but is rarely found on rocky outcrops. Soil types are mostly shallow, well drained and stony to very rocky in texture. Found in the ecotone between eucalypt open forests and vine thickets at 80-480 m above sea level (asl).		Suitable habitat in the form of moist gullies and gentle to steep dry slopes are present in adjoining remnant vegetation along the New Beith Road reserve. A recent record on BioMaps in 2020 shows the species observed approximately 13 km west of the site.	Low	Low
Picris evae	Hawkweed	V	V	10839	Hawkweed occurs in Eucalyptus open woodland with a grassy understorey composed of *Dichanthium spp.* Upper stratum species include *Eucalyptus melliodora*, *E. crebra*, *E. populnea*, *E. albens*, *Angophora subvelutina*, *Allocasuarina torulosa*, and *Casuarina cunninghamiana*.		Suitable Eucalypt woodland is present within the New Beith Road reserve, however the associated species did not occur onsite. The species was not recorded on site during survey works.	Low	Unlikely
Planchonella eerwah	Shiny-leaved Condoo	E	E		The species prefers subtropical rainforest, dry rainforest and *Araucaria cunninghamii* vine scrub.		Suitable habitat to support the growth and success of this species was not observed within the	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							assessment area. The lack of associated species and heavy disturbance of the site suggests it's unlikely this species would be supported within the assessment area. The species was not recorded on site during survey works.		
Rhaponticum austral	Austral Cornflower, Native Thistle	V	V	22647	Austral Cornflower is known from Mt Moffat to Gatton in Queensland, a distance of 600 km. Austral Cornflower grows in eucalypt open forest with grassy understory on roadsides and on road reserves with Chloris gayana, Cirsium vulgare, Eucalyptus tereticornis and Angophora floribunda on black clay soil.		Suitable habitat to support the growth and success of this species was not observed within the assessment area.	Low	Low
Rhodamnia maideniana	Smooth Scrub Turpentine	-	CE	-	Sub-tropical rainforest plant of eastern Australia. It occurs in coastal areas, north of the Richmond River, New South Wales and adjacent areas over the border into Queensland. A bushy shrub growing to 3 metres tall.		Suitable habitat to support the growth and success of this species was not observed within the assessment area. The lack of associated species and heavy disturbance of the site suggests it's unlikely this species would be supported within the assessment	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							area. The species was not recorded on site during survey works.		
Rhodamnia rubescens	Scrub Turpentine	CE	CE	15763	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils.		Preferred habitat in the form of rainforest is not present on-site. In addition, there are no records of this species within the locality, so it is unlikely that this species would occur on-site. The species was not recorded on site during survey works.	Unlikely	Unlikely
Rhodomyrtus psidioides	Native Guava	CE	CE	19162	Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines.		Preferred habitat in the form of rainforest and wet sclerophyll forest is not present on-site. Several waterways and drainage lines occur through the road reserve. There are no records on ALA of this species within 5 km of this site however further west, a record of the species occurs within the intact bushland associated with Flagstone Creek. The species was not recorded on site during survey works.	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
Samadera bidwillii	Quassia	V	V	29708	Quassia commonly occurs in lowland rainforest or on rainforest margins, but it can also be found in other forest types, such as open forest and woodland. Quassia is commonly found in areas adjacent to both temporary and permanent watercourses in locations up to 510 m altitude. The species occurs on lithosols, skeletal soils, loam soils, sands, silts and sands with clay subsoils.		This species favours lowland rainforest or rainforest margins which are absent from the site and the surrounding environment. Furthermore, no local records exist, therefore indicating it is unlikely the species would occur on-site. The species was not recorded on site during survey works.	Low	Unlikely
Thesium australe	Austral Toadflax	V	V		Austral Toadflax is semi-parasitic on the roots of a range of grass species, notably *Themeda triandra* (Kangaroo Grass). It occurs in shrubland, grassland or woodland, often on damp sites.		The open paddock environment towards the centre of the road reserve is heavily modified and dominated by invasive grass and forb species which have inhibited the growth of native flora. On-going disturbance has limited the potential for threatened species to reside within the area. Although the associated species *Themeda triandra* (Kangaroo Grass) was recorded on-site, there are no local records ALA sightings data therefore it is unlikely that it would	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
							occur on-site. The species was not recorded on site during survey works.		
Reptiles									
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	V	LC	59628	Three-toed Snake-tooth Skins have been found in loose, well mulched, friable soils, in and under rotting logs, in forest litter, under fallen hoop pine bark and under decomposing cane mulch. Projected foliage cover was estimated at 70-80% at two research sites.		Preferred habitat for this species is considered absent from the referral area. In addition, there are no records of this species within the locality, so it is unlikely that this species would occur on-site. The species was not recorded on site during survey works.	Low	Unlikely
Delma torquata	Collared Delma	V	V	1656	In general, the species occurs on rocky hillsides on basalt and lateritic soils supporting open eucalypt and Acacia woodland with a sparse understorey of shrubs and tussocks or semi-evergreen vine thicket.		Preferred habitat for this species is considered absent from the referral area. In addition, there are no records of this species within the locality, so it is unlikely that this species would occur on-site. The species was not recorded on site during survey works.	Low	Unlikely
Furina dunmalli	Dunmall's Snake	V	V	59254	Dunmall's Snake has been found in a broad range of habitats, including forests and		Preferred habitat for this species is considered absent from the	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					woodlands on black alluvial cracking clay and clay loams dominated by Brigalow other Wattles, native Cypress or Bull-oak, and various Blue Spotted Gum, Ironbark, White Cypress Pine and Bull oak open forest and woodland associations on sandstone derived soils. Dunmall's Snake occurs primarily in the Brigalow Belt region in the south-eastern interior of Queensland. Records indicate sites at elevations between 200–500 m above sea level. The snake is very rare or secretive with limited records existing. It has been recorded at Archokoora, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park.		referral area. In addition, there are no records of this species within the locality, so it is unlikely that this species would occur on-site. The species was not recorded on site during survey works.		
Hemiaspis damelii	Grey Snake	E	E	1179	Distributed throughout the eastern interior, from central inland New South Wales, north to coastal areas near Rockhampton in Queensland (Cogger 2000; Hobson 2003; Wilson and Swan 2010; Hobson 2012).		Preferred habitat for this species is considered absent from the referral area. In addition, there are no records of this species within the locality, so it is unlikely that	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence (on-site)	Field Survey Confirmed Likelihood of occurrence (on-site)
		EPBC Act	NC Act						
					Within Queensland, records are known from near Goondiwindi and the adjacent Darling-Riverine Plain, from the Darling Downs and from the Lockyer Valley. The core area for the grey snake in the Brigalow Belt is south of the Great Dividing Range between Dalby and Glenmorgan (Hobson 2003; 2012). Hemiaspis damelii favours woodlands (typically brigalow Acacia harpophylla and belah Casuarina cristata), usually on heavier, cracking clay soils, particularly in association with water bodies or in areas with small gullies and ditches (gilgais) (Wilson and Swan 2010; Hobson 2012).		this species would occur on-site. The species was not recorded on site during survey works.		

**Status abbreviations are as follows: CE = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, C = Least Concern, SL = Special Least Concern, - = Not Listed.*

Listed migratory species (not listed above)

Scientific name	**Common name**	**EPBC code**	**Habitat and Distribution**	**Microhabitat keywords**	**Likelihood of Occurrence Analysis**	**Desktop Likelihood of Occurrence (on-site)**	**Field Survey Confirmed Likelihood of Occurrence (on-site)**
Migratory marine birds							
Apus pacificus	Fork-tailed Swift	678	This species is almost exclusively aerial and mostly occur over inland plains but sometimes above foothills or in coastal areas.		No suitable habitat to support this species occurs on-site.	Low	Unlikely
Migratory terrestrial species							
Cuculus optatus	Oriental Cuckoo	86651	Non-breeding habitat only: monsoonal rainforest, vine thickets, wet sclerophyll forest or open Casuarina, Acacia or Eucalyptus woodlands. Frequently at edges or ecotones between habitat types		No suitable habitat to support this species occurs on-site.	Low	Unlikely
Monarcha melanopsis	Black-faced Monarch	609	The Black-faced Monarch mainly occurs in rainforest ecosystems, including semi-deciduous vine thickets, complex notophyll vine forests, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrubland, warm temperate rainforest, dry (monsoon) rainforest and occasionally cool temperate rainforest.		No suitable habitat to support this species occurs on-site.	Low	Unlikely
Monarcha trivirgatus	Spectacled Monarch	83946	The Spectacled Monarchs natural habitats are subtropical or tropical moist lowland forests, subtropical or tropical mangrove forests, and		No suitable habitat to support this species occurs on-site.	Low	Unlikely

Scientific name	Common name	EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
			subtropical or tropical moist montane forests. Its preference is for thick understorey areas.				
Motacilla flava	Yellow Wagtail	644	This species occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, sewage farms and bogs to damp steppe and grassy tundra.		No suitable habitat to support this species occurs on-site.	Low	Unlikely
Myiagra cyanoleuca	Satin Flycatcher	612	Satin Flycatchers inhabit heavily vegetated gullies in eucalypt dominated forests and taller woodlands, and on migration occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.		No suitable habitat to support this species occurs on-site. Records of the species do not occur within 5 km of the site. The species was not recorded on site during survey works.	Low	Unlikely
Rhipidura rufifrons	Rufous Fantail	592	The Rufous fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by Eucalypts such as *Eucalyptus microcorys*, *Eucalyptus pilularis*, *Eucalyptus resiniferia* and a number of other Eucalyptus species.		Records of the species do not occur within 5 km of the site. The species was not recorded on site during survey works.	Low	Low
Migratory wetland species							
Actitis hypoleucos	Common Sandpiper	59309	The Common Sandpiper utilises a wide range of coastal wetlands and some inland wetlands, including estuaries and deltas of streams, banks farther upstream; around lakes, pools, billabongs,		No suitable foraging or breeding habitat occurs on-site.	Unlikely	Unlikely

Scientific name	Common name	EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
			reservoirs, dams and clay pans, and occasionally piers and jetties. They are mostly found in shallow water, around muddy margins or rocky shores and sometimes in muddy areas littered with rocks or snags. The species commonly utilises mangroves for foraging and roosting but is rarely seen on mudflats.				
Calidris acuminata	Sharp-tailed Sandpiper	874	In Australia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh, and beach cast algae / seaweed or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland. They also occur in salt works and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and creeks lined with mangroves.		No suitable foraging or breeding habitat occurs on-site.	Unlikely	Unlikely
Calidris melanotos	Pectoral Sandpiper	858	The Pectoral Sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated		No suitable foraging or breeding habitat occurs on-site.	Unlikely	Unlikely

Scientific name	Common name	EPBC code	Habitat and Distribution	Microhabitat keywords	Likelihood of Occurrence Analysis	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
			grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands. Occasionally found further inland.				
Charadrius leschenaultii	Greater Sand Plover	877	In the non-breeding grounds in Australasia, the Greater Sand Plover is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons. They seldom occur at shallow freshwater wetlands.		No suitable foraging or breeding habitat occurs on-site.	Unlikely	Unlikely
Gallinago hardwickii	Latham's Snipe	863	Latham's Snipe occurs in permanent and ephemeral wetlands. They usually inhabit open, freshwater wetlands with low, dense vegetation.		No suitable foraging or breeding habitat occurs on-site.	Unlikely	Unlikely
Tringa nebularia	Common Greenshank	832	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. The species is known to forage at the edges of wetlands in soft mud or mudflats.		No suitable foraging or breeding habitat occurs on-site.	Unlikely	Unlikely

Appendix A7

PMST Results

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 20-Mar-2024

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	54
Listed Migratory Species:	15

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	22
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	2
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	25
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
Moreton bay	20 - 30km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In buffer area only
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Community likely to occur within area	In feature area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Geophaps scripta scripta			
Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
Grantiella picta			
Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
Hirundapus caudacutus			
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor			
Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rostratula australis			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata			
Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
Turnix melanogaster			
Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FISH			
Maccullochella mariensis			
Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In buffer area only
INSECT			
Argynnis hyperbius inconstans			
Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			
Chalinolobus dwyeri			
Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area
Macroderma gigas			
Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
Petrogale penicillata			
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus tridactylus			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pseudomys novaehollandiae			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Arthraxon hispidus			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Bosistoa transversa			
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Coleus habrophyllus listed as Plectranthus habrophyllus [91378]	Endangered	Species or species habitat known to occur within area	In feature area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis tomentella Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area	In feature area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Notelaea x ipsviciensis listed as Notelaea ipsviciensis Cooneana Olive [93460]	Critically Endangered	Species or species habitat may occur within area	In feature area
Picris evae Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Planchonella eerwah Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area	In feature area
Rhaponticum australe Austral Cornflower, Native Thistle [22647]	Vulnerable	Species or species habitat may occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
[Cuculus optatus](#) Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat likely to occur within area	In feature area
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos			
Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Charadrius leschenaultii			
Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Gallinago hardwickii			
Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata			
Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
[Pterodroma cervicalis](#) White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Rostratula australis as Rostratula benghalensis (sensu lato)](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
[Sterna striata](#) White-fronted Tern [799]		Migration route may occur within area	In buffer area only
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Koolena	Nature Refuge	QLD	In buffer area only
Undullah	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
[DT0018 Matt Court Wastewater Conveyance](#)	2023/09529		Assessment	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Kagaru to Acacia Ridge and Bromelton Inland Rail Project	2021/8927		Completed	In buffer area only
New Beith Road Upgrade	2023/09505		Assessment	In feature area
Controlled action				
130 Tully Road New Beith Residential Development v2	2021/8904	Controlled Action	Assessment Approach	In buffer area only
Bushman Drive Residential Development, Jimboomba, Qld	2018/8376	Controlled Action	Further Information Request	In buffer area only
Casino Ipswich Pipeline	2007/3877	Controlled Action	Completed	In buffer area only
Cedar Grove Connector Pipeline	2011/6013	Controlled Action	Completed	In buffer area only
Crowson Lane Road Upgrade	2021/9084	Controlled Action	Assessment Approach	In buffer area only
Flagstone West Urban Development Project, QLD	2014/7206	Controlled Action	Post-Approval	In feature area
Greater Flagstone master planned residential development, Undullah, Qld	2015/7530	Controlled Action	Post-Approval	In buffer area only
Residential Development, Lot 4 RP45728, New Beith, Qld	2019/8398	Controlled Action	Further Information Request	In buffer area only
Residential development, Lots 3, 200 and 1, approx 6.5km SW Undullah, Qld	2016/7772	Controlled Action	Further Information Request	In buffer area only
Residential development, Teviot Road, north Beaudesert, Qld	2016/7724	Controlled Action	Post-Approval	In buffer area only
Residential Development (Lot30, SP309195) Mountain Ridge Rd, South Maclean, Qld	2019/8408	Controlled Action	Post-Approval	In buffer area only
Southern Regional Water Pipeline	2006/2593	Controlled Action	Post-Approval	In buffer area only
Tarnbrae Greater Flagstone Residential Development, New Beith, QLD	2019/8412	Controlled Action	Further Information Request	In feature area
Teviot Downs Residential Estate, Greenbank	2011/6106	Controlled Action	Post-Approval	In buffer area only
Not controlled action				

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Construction and upgrade of approximately 7km of external road corridor, Flagstone, Qld	2014/7319	Not Controlled Action	Completed	In buffer area only
Flagstone Central to Cedar Grove WWTP Conveyance Pipeline	2018/8190	Not Controlled Action	Completed	In buffer area only
Greenbank to Flagstone Central Conveyance Pipeline Project, Qld	2018/8344	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
South West Pipeline and Wyaralong Tanks Project, Qld	2018/8320	Not Controlled Action	Completed	In buffer area only
Spring Mountain Park rural residential estate, stages 15-18, Greenbank/New Beith, Qld	2013/7030	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Construction & Operation 275/330kV Transmission Line	2006/2820	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
130 Tully Road, New Beith, Residential Development	2020/8848	Referral Decision	Referral Publication	In buffer area only

Bioregional Assessments			[Resource Information]
SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	BA website	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

© Commonwealth of Australia

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix A8

Wildlife Online Search Results

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Queensland status: Rare and threatened species
Records: Confirmed
Date: Since 1980
Latitude: -27.7778
Longitude: 152.9365
Distance: 5
Email: chelseamailer@saundershavill.com
Date submitted: Wednesday 20 Mar 2024 08:47:55
Date extracted: Wednesday 20 Mar 2024 08:50:03

The number of records retrieved = 10

Disclaimer
Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data, the State of Queensland makes no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product.
The State of Queensland disclaims all responsibility for information contained in this product and all liability (including liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.
Information about your Species lists request is logged for quality assurance, user support and product enhancement purposes only.
The information provided should be appropriately acknowledged as being derived from WildNet database when it is used. As the WildNet Program is still in a process of collating and vetting data, it is possible the information given is not complete. Go to the WildNet database webpage (https://www.qld.gov.au/environment/plants-animals/species-information/wildnet) to find out more about WildNet and where to access other WildNet information products approved for publication. Feedback about WildNet species lists should be emailed to wildlife.online@des.qld.gov.au.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Limnodynastidae	*Adelotus brevis*	tusked frog		V		1
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		V	V	1
animals	birds	Cacatuidae	*Calyptorhynchus lathami lathami*	glossy black-cockatoo (eastern)		V	V	1
animals	birds	Strigidae	*Ninox strenua*	powerful owl		V		2
animals	mammals	Macropodidae	*Petrogale penicillata*	brush-tailed rock-wallaby		V	V	2
animals	mammals	Petauridae	*Petaurus australis australis*	yellow-bellied glider (southern subspecies)		V	V	2
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	82
animals	mammals	Pseudocheiridae	*Petauroides volans volans*	southern greater glider		E	E	1/1
plants	land plants	Lamiaceae	*Coleus habrophyllus*			E	E	4/4
plants	land plants	Myrtaceae	*Melaleuca irbyana*			E		1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.*
The codes are Extinct (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.*
The values of EPBC are Extinct (EX), Extinct in the Wild (XW), Critically Endangered (CE), Endangered (E), Vulnerable (V) and Conservation Dependent (CD).

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).
This number is output as 99999 if it equals or exceeds this value. A second number located after a / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

Appendix A9

Flora and Fauna Lists

Fauna Species List Table

Species	Common name	Taxa	Native/Introduced	Observation Method
Limnodynastes peronii	Striped Marsh Frog	Amphibian	Native	Spotlighting
Litoria latopalmata	Broad-palmed Rocketfrog	Amphibian	Native	Spotlighting
Litoria nasuta	Striped Rocket Frog	Amphibian	Native	Spotlighting
Mixophyes fasciolatus	Great Barred Frog	Amphibian	Native	Spotlighting
Pseudophryne raveni	Copper-backed Brood Frog	Amphibian	Native	Spotlighting
Rhinella marina	Cane Toad	Amphibian	Introduced	Spotlighting
Alectura lathami	Australian Brush-turkey	Bird	Native	Camera Trap
Anthochaera chrysoptera	Little Wattlebird	Bird	Native	Incidental
Centropus phasianinus	Pheasant Coucal	Bird	Native	Incidental
Climacteris picumnus	Brown Treecreeper	Bird	Native	Incidental
Coracina novaehollandiae	Black-faced Cuckoo-shrike	Bird	Native	Incidental
Corvus orru	Torresian Crow	Bird	Native	Incidental
Coturnix ypsilophora	Brown Quail	Bird	Native	Incidental
Dacelo novaeguineae	Laughing Kookaburra	Bird	Native	Spotlighting
Dicrurus bracteatus	Spangled Drongo	Bird	Native	Incidental
Eopsaltria australis	Eastern Yellow Robin	Bird	Native	Incidental, Camera Trap
Geopelia humeralis	Bar-shouldered Dove	Bird	Native	Incidental
Geopelia striata	Peaceful Dove	Bird	Native	Incidental
Gymnorhina tibicen	Australian Magpie	Bird	Native	Camera Trap
Malurus cyaneus	Superb Fairy Wren	Bird	Native	Incidental
Malurus melanocephalus	Red-backed Fairy Wren	Bird	Native	Incidental
Manorina melanocephala	Noisy Miner	Bird	Native	Incidental
Ninox boobook	Southern Boobook	Bird	Native	Spotlighting
Ocyphaps lophotes	Crested Pigeon	Bird	Native	Incidental
Pachycephala pectoralis	Golden Whistler	Bird	Native	Incidental
Philemon corniculatus	Noisy Friarbird	Bird	Native	Incidental
Podargus strigoides	Tawny Frogmouth	Bird	Native	Spotlighting
Psophodes olivaceus	Eastern Whipbird	Bird	Native	Incidental
Rhipidura albiscapa	Grey Fantail	Bird	Native	Incidental
Rhipidura leucophrys	Willie Wagtail	Bird	Native	Incidental
Sphecotheres vieilloti	Australasian Fig Bird	Bird	Native	Incidental

Strepera graculina	Pied Currawong	Bird	Native	Incidental
Streptopelia chinensis	Spotted Turtle Dove	Bird	Native	Incidental
Trichoglossus haematodus moluccanus	Rainbow Lorikeet	Bird	Native	Incidental
Macropus rufogriseus	Red-necked Wallaby	Mammal	Native	Camera Trap
Mus musculus	House mouse	Mammal	Introduced	Camera Trap
N/A	Micro Bat sp.	Mammal	Native	Spotlighting
Phascogale tapoatafa tapoatafa	Brush-tailed phascogale	Mammal	Native	Camera Trap
Pseudocheirus peregrinus	Common Ringtail Possum	Mammal	Native	Spotlighting
Rattus fuscipes	Bush rat	Mammal	Native	Camera Trap
Rattus rattus	Black rat	Mammal	Introduced	Camera Trap
Trichosurus vulpecula	Common Brushtail Possum	Mammal	Native	Spotlighting, Camera Trap
Wallabia bicolor	Swamp Wallaby	Mammal	Native	Camera Trap
Varanus varius	Lace Monitor	Reptile	Native	Incidental, Camera Trap

Flora Species List

Scientific Name	Common Name	Native / Introduced
Acacia concurrens	Black Wattle	Native
Acacia disparrima	Hickory Wattle	Native
Acacia fimbriata	Fringed Wattle	Native
Acacia leiocalyx	Early-flowering Black Wattle	Native
Acacia maidenii	Maiden's Wattle	Native
Alchornea ilicifolia	Native Holly	Native
Allocasuarina littoralis	Black She-oak	Native
Alphitonia excelsa	Soap Tree	Native
Angophora leiocarpa	Smooth-barked Apple	Native
Angophora subvelutina	Broad-leaved Apple	Native
Angophora woodsiana	Smudgee Apple	Native
Aristida purpurea	Threeawn aristida	Native
Aristida vagans	Threeawn Speargrass	Native
Bidens pilosa	Cobbler's Pegs	Native
Brachychiton acerifolius	Illawara Flame Tree	Native
Breynia oblongifolia	Coffee Bush	Native
Cassytha glabella	Dodder Laurel	Native
Cheilanthes distans	Bristle Cloak Fern	Native
Chrysocephalum apiculatum	Yellow Buttons	Native
Commelina benghalensis	Wandering Jew	Native
Commelina diffusa	Native Wandering Jew	Native
Corymbia citriodora	Spotted Gum	Native
Corymbia intermedia	Pink Bloodwood	Native
Corymbia tesselaris	Moreton-Bay Ash	Native
Corymbia trachyphloia	Brown Bloodwood	Native
Cymbopogon refractus	Barbed Wire Grass	Native
Cynodon dactylon	Green Couch	Native
Cyperus gracilis	Slender Sedge	Native
Desmodium heterocarpon	A Trefoil	Native
Desmodium rhytidophyllum	Hairy Trefoil	Native
Dianella caerulea	Blue Flax-lily	Native
Dockrillia linguiformis	Tick Bush	Native
Entholasia stricta	Wiry Panic	Native
Eragrostis brownii	Brown's Lovegrass	Native
Eucalyptus crebra	Narrow-leaf Ironbark	Native
Eucalyptus tereticornis	Forest Red Gum	Native
Eustrephus latifolius	Wombat Berry	Native
Eustrephus latifolius	Wombat Berry	Native
Fimbrostylis ferruginea	Fringe Rush	Native
Gahnia aspera	Saw Sedge	Native
Geitonoplesium cymosum	Scrambling Lily	Native
Glycine clandestina	Twining Glycine	Native
Glycine microphylla	Small-leaf Glycine	Native
Goodenia rotundifolia	Star Goodenia	Native
Grevillea robusta	Silky Oak	Native
Hybanthus stellarioides	Spade Flower	Native
Imperata cylindrica	Blady Grass	Native
Jacksonia scoparia	Dogwood	Native
Juncus usitatus	Common Rush	Native

Laxmannia gracilis	Slender Wire Lily	Native
Lepidosperma gladiatum	Sword Sedge	Native
Leptospermum polygalifolium	Wild May	Native
Lobelia purpurescens	White Root	Native
Lomandra hystrix	Creek Mat-rush	Native
Lomandra longifolia	Long-leaved Matrush	Native
Lomandra multiflora	Many-flowered Mat Rush	Native
Lophostemon sauveolens	Swamp Box	Native
Maclura cochinchinensis	Cockspur Vine	Native
Melaleuca quinquenervia	Broad-Leaved Paperbark	Native
Melaleuca viminalis	Weeping Bottlebrush	Native
Microleana stipoides	Weeping Grass	Native
Murdannia graminea	Slug Herb	Native
Opilsmenus aemulus	Creeping Beard Grass	Native
Oplismenus sp.	Basketgrass	Native
Ottochloa gracillima	Graceful Grass	Native
Panicum decompositum	Native Millet	Native
Panicum effusum	Hairy Panic	Native
Parsonsia straminea	Monkey Rope Vine	Native
Pellaea nana	Sickle Fern	Native
Petalostigma pubescens	Quinine Bush	Native
Philydrum lanuginosum	Woolly Frogmouth	Native
Pimelea linifolia	Rice Flower	Native
Pteridium esculentum	Bracken Fern	Native
Smilax australis	Smilax Vine	Native
Stephania joponica	Tape Vine	Native
Syzygium smithii	Lilly Pilly	Native
Themeda triandra	Kangaroo Grass	Native
Trema tomentosa	Passion Peach	Native
Trema tomentosum	Poison Peach	Native
Velleia spathulata	Wild Pansies	Native
Agave americana	Century Plant	Introduced
Ageratum houstonianum	Blue Billygoat weed	Introduced
Ambrosia artemisiifolia	Annual Ragweed	Introduced
Asparagus aethiopicus	Asparagus Fern	Introduced
Asparagus africanus	Climbing Asparagus	Introduced
Celtis sinensis	Chinese Celtis	Introduced
Chloris gayana	Rhodes Gras	Introduced
Cyperus rotundus	Nutgrass	Introduced
Desmodium intortum	Greenleaf Desmodium	Introduced
Digitaria ciliaris	Summer Grass	Introduced
Emilia sonchifolia	Emilia	Introduced
Florida trema	Nettletree	Introduced
Gomphocarpus physocarpus	Ballon Cotton Bush	Introduced
Heteropanax fragrans	Fragrant aralia	Introduced
Lanatana camara	Lantana	Introduced
Lantana montevidensis	Creeping Lantana	Introduced
Megathyrsus maximus	Guniea grass	Introduced
Melinis repens	Red Natal Grass	Introduced
Murraya paniculata	Mock Orange	Introduced
Oxalis corniculata	Creeping Oxalis	Introduced
Paspalum dilatatum	Paspalum	Introduced

Passifloa suberosa	Corky Passion Vine	Introduced
Phyllanthus urinaria	Chamber Bitter	Introduced
Premna integrifolia	Indian Privet	Introduced
Rubus anglocandicans	Blackberry	Introduced
Senecio madagascariensis	Fireweed	Introduced
Sida rhombifolia	Common Sida	Introduced
Silybum marianum	Milk Thistle	Introduced
Solanum chrysotrichum	Giant Devils Fig	Introduced
Solanum mauritianum	Wild Tobacco	Introduced
Solanum nigrum	Blackberry nightshade	Introduced
Typha latifolia	Cumbungi	Introduced
Urochloa decumbens	Signal Grass	Introduced

Appendix A10

MHQA Transect Data

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	T1	Job Number / Property	8418

Part B - Site Data

Recorders	HM + XGJ	Date	26/02/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU2		12.9-10.2	12

Site description and Location (including details of discrete polygons within the assessment unit)
New Beith Rd, Greenbank / Silverbark Ridge. Highly disturbed mapped remnant RE12.9-10.2. Scattered eucalypts with mid-dense understorey of natives. Groundcover containing high weed intrusion.

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	5			EDL / Dom / R
Scientific Name	*Corymbia intermedia*	Common Name	Pink Bloodwood	
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree	D / R
Scientific Name	*Corymbia citriodora*	Common Name	Spotted Gum	EDL / Dom / R
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle	R
Scientific Name	*Allocasuarina littoralis*	Common Name	Black She-oak	R
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		

Shrub species richness:			
Total number of species	5		
Scientific Name	*Allocasuarina littoralis*	Common Name	Black She-oak
Scientific Name	*Corymbia intermedia*	Common Name	Pink Bloodwood
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree
Scientific Name	*Corymbia citriodora*	Common Name	Spotted Gum
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	6		
Scientific Name	*Imperata cylindrica*	Common Name	Blady Grass
Scientific Name	*Panicum effusum*	Common Name	Hairy Panic
Scientific Name	*Themeda triandra*	Common Name	Kangaroo Grass
Scientific Name	*Aristida vagans*	Common Name	Threeawn Speargrass
Scientific Name	*Eragrostis brownii*	Common Name	Brown's Lovegrass
Scientific Name	*Cymbopogon refractus*	Common Name	Barbed Wire Grass
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	9		
Scientific Name	*Lobelia purpurascens*	Common Name	White Root
Scientific Name	*Glycine clandestina*	Common Name	Twining Glycine
Scientific Name	*Glycine microphylla*	Common Name	Small-leaf Glycine
Scientific Name	*Murdannia graminea*	Common Name	Slug Herb
Scientific Name	*Desmodium rhytidophyllum*	Common Name	Hairy Trefoil
Scientific Name	*Commelina diffusa*	Common Name	Native Wandering Jew
Scientific Name	*Cassytha glabella*	Common Name	Dodder Laurel
Scientific Name	*Chrysocephalum apiculatum*	Common Name	Yellow Buttons
Scientific Name	*Goodenia rotundifolia*	Common Name	Star Goodenia
Scientific Name		Common Name	
Scientific Name		Common Name	

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	35.00%		
Scientific Name	*Passiflora suberosa*	Common Name	Corky Passion Vine
Scientific Name	*Lantana camara*	Common Name	Lantana
Scientific Name	*Lantana montevidensis*	Common Name	Creeping Lantana
Scientific Name	*Digitaria ciliaris*	Common Name	Summer Grass
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billygoat weed
Scientific Name	*Oxalis corniculata*	Common Name	Creeping Oxalis
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	446.00

1	15.00	**26**	
2	1.40	**27**	
3	2.10	**28**	
4	1.20	**29**	
5	0.90	**30**	
6	12.00	**31**	
7	2.90	**32**	
8	1.20	**33**	
9	1.50	**34**	
10	3.20	**35**	
11	1.00	**36**	
12	0.80	**37**	
13	0.60	**38**	
14	0.80	**39**	
15		**40**	
16		**41**	
17		**42**	
18		**43**	
19		**44**	
20		**45**	
21		**46**	
22		**47**	
23		**48**	
24		**49**	
25		**50**	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	10%	0%	10%	5%	5%	6%
Native other grass						
Native forbs and other species	15%	10%	25%	60%	10%	24%
Native shrubs						
Non-native grass						
Non native forbs and shrubs	0%	20%	35%	15%	25%	19%
Litter	75%	70%	30%	20%	60%	51%
Rock						
Bare Ground						
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	380	**Number of large eucalypt trees:**	19
Non- Eucalypt Large tree DBH benchmark used:	N/A	**Number of large non eucalypt trees:**	N/A
Total number of large trees recorded:	19		
Total Number Large Trees per ha:	38		

Median Tree Canopy Height Measurements	**Canopy:**	21	**Sub-canopy:**	12	**Emergent:**	NA

Percentage of ecologically dominant layer species regenerating:	**100%**

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	**Canopy:**	77.3%	**Sub-canopy:**	50.90%	**Emergent:**	
Shrub canopy cover %	1.10%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1- *Corymbia citriodora*	0.0	13.5	13.5	**T2-** *Alphitonia excelsa*	0.9	3.5	2.6
T1- *Eucalyptus crebra*	14.0	21.4	7.4	**T2-** *Alphitonia excelsa*	3.9	5.9	2.0
T1- *Corymbia citriodora*	30.3	36.2	5.9	**T2-** *Acacia disparrima*	10.5	11.8	1.3
T1- *Eucalyptus tereticornis*	38.2	57.1	18.9	**T2-** *Alphitonia excelsa*	16.8	21.6	4.8
T1- *Eucalyptus tereticornis*	59.2	63.7	4.5	**T2-** *Alphitonia excelsa*	23.7	29.4	5.7
T1- *Acacia disparrima*	67.2	70.7	3.5	**T2-** *Alphitonia excelsa*	34.9	37.9	3.0
T1- *Eucalyptus crebra*	74.3	77.5	3.2	**T2-** *Allocasuarina littoralis*	40.3	48.0	7.7
T1- *Corymbia citriodora*	79.3	84.8	5.5	**T2-** *Alphitonia excelsa*	51.5	62.0	10.5
T1- *Corymbia citriodora*	85.1	100.0	14.9	**T2-** *Acacia disparrima*	62.7	74.1	11.4
T1			0.0	**T2-** *Acacia disparrima*	82.6	84.5	1.9
T1			0.0	**T2**			0.0
T1			0.0	**T2**			0.0
T1			0.0	**T2**			0.0
T1			0.0	**T2**			0.0
T1			0.0	**T2**			0.0

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub- *Lantana camara*	21.1	22.0	0.9	**Shrub-** *Lantana camara*	88.8	97.4	8.6
Shrub- *Lantana camara*	79.3	80.9	1.6	**Shrub**			0.0
Shrub- *Acacia disparrima*	81.2	82.3	1.1	**Shrub**			0.0
Shrub- *Lantana camara*	82.4	84.9	2.5	**Shrub**			0.0

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
Corymbia citriodora	17
Eucalyptus crebra	6
Corymbia intermedia	3
Eucalyptus tereticornis	5

Part J: SAT Survey Results

SAT Survey ID	SAT 1			
Tree Number	**Scientific Name**	**Common Name**	**DBH**	**Scat (Y/N)**
1	*Eucalyptus tereticornis*	Forest Red Gum	280	N
2	*Corymbia citriodora*	Spotted Gum	170	N
3	*Eucalyptus tereticornis*	Forest Red Gum	130	N
4	*Corymbia citriodora*	Spotted Gum	140	N
5	*Corymbia intermedia*	Pink Bloodwood	170	N
6	*Corymbia citriodora*	Spotted Gum	380	N
7	*Corymbia citriodora*	Spotted Gum	310	N
8	*Corymbia citriodora*	Spotted Gum	110	N
9	*Corymbia citriodora*	Spotted Gum	210	Y
10	*Corymbia intermedia*	Pink Bloodwood	140	Y
11	*Allocasuarina littoralis*	Black She-oak	190	N
12	*Corymbia citriodora*	Spotted Gum	435	N
13	*Corymbia intermedia*	Pink Bloodwood	220	N
14	*Corymbia citriodora*	Spotted Gum	490	N
15	*Corymbia intermedia*	Pink Bloodwood	210	N
16	*Corymbia citriodora*	Spotted Gum	440	N
17	*Corymbia citriodora*	Spotted Gum	400	N
18	*Corymbia citriodora*	Spotted Gum	600	N
19	*Corymbia citriodora*	Spotted Gum	440	N
20	*Eucalyptus crebra*	Narrow-leaved Ironbark	180	N
21	*Corymbia citriodora*	Spotted Gum	320	N
22	*Eucalyptus crebra*	Narrow-leaved Ironbark	180	N
23	*Corymbia citriodora*	Spotted Gum	380	N
24	*Corymbia intermedia*	Pink Bloodwood	410	N
25	*Corymbia citriodora*	Spotted Gum	470	N
26	*Corymbia citriodora*	Spotted Gum	500	N
27	*Corymbia intermedia*	Pink Bloodwood	210	N
28	*Corymbia citriodora*	Spotted Gum	350	N
29	*Corymbia citriodora*	Spotted Gum	360	N
30	*Eucalyptus tereticornis*	Forest Red Gum	230	N
Total				2/30

Attach Landscape Photos Here

North

South

East

West

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	Transect 2	Job Number / Property	8418

Part B - Site Data

Recorders	HM & JP	Date	1/03/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU1		Preclear 12.9-10.19a	

Site description and Location (including details of discrete polygons within the assessment unit)
Non-remnant historically cleared regrowth. Scattered Eucs with high amount of Acacia regrowth. Large Lantana intrusion.

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	10			EDL / Dom / R
Scientific Name	*Corymbia intermedia*	Common Name	Pink Bloodwood	
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle	Dom / R
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree	R
Scientific Name	*Eucalyptus tereticornis*	Common Name	Forest Red Gum	
Scientific Name	*Allocasuarina littoralis*	Common Name	Black She-oak	
Scientific Name	*Corymbia tessellaris*	Common Name	Moreton Bay Ash	
Scientific Name	*Lophostemon suaveolens*	Common Name	Swamp Box	
Scientific Name	*Melaleuca quinquenervia*	Common Name	Broad-leaf Paperbark	
Scientific Name	*Corymbia trachyphloia*	Common Name	Brown Bloodwood	Dom / R
Scientific Name	*Eucalyptus crebra*	Common Name	Narrow-leaf Ironbark	R
Scientific Name		Common Name		

Shrub species richness:			
Total number of species	1		
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	6		
Scientific Name	*Cymbopogon refractus*	Common Name	Barbed Wire Grass
Scientific Name	*Aristida vagans*	Common Name	Threeawn Speargrass
Scientific Name	*Erapostis brownii*	Common Name	Eragrostis brownii
Scientific Name	*Microleana stipoides*	Common Name	Weeping Grass
Scientific Name	*Oplismenus sp.*	Common Name	Basketgrass
Scientific Name	*Entholasia stricta*	Common Name	Wiry Panic
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	7		
Scientific Name	*Chrysocephalum apiculatum*	Common Name	Yellow Buttons
Scientific Name	*Fimbrostylis ferruginea*	Common Name	Fringe Rush
Scientific Name	*Gahnia aspera*	Common Name	Saw Sedge
Scientific Name	*Lobelia purpurescens*	Common Name	White Root
Scientific Name	*Murdannia graminea*	Common Name	Slug Herb
Scientific Name	*Lomandra multiflora*	Common Name	Many-flowered Mat Rush
Scientific Name	*Breynia oblongifolia*	Common Name	Coffee Bush
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	20.00%		
Scientific Name	*Lantana camara*	Common Name	Lantana
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billy Goat Weed
Scientific Name	*Emilia sonchifolia*	Common Name	Emilia
Scientific Name	*Megathyrsus maximus*	Common Name	Guniea grass
Scientific Name	*Melinis repens*	Common Name	Red Natal Grass
Scientific Name	*Passiflora suberosa*	Common Name	Corky Passion Vine
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	136.00		
1	0.70	26	
2	3.50	27	
3	0.70	28	
4	5.50	29	
5	3.20	30	
6		31	
7		32	
8		33	
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	10%	20%	30%	3%	10%	15%
Native other grass						
Native forbs and other species	20%	10%	0%	0%	0%	6%
Native shrubs	5%	5%	0%	0%	0%	2%
Non-native grass						
Non native forbs and shrubs	0%	0%	45%	0%	5%	10%
Litter	65%	65%	25%	97%	85%	67%
Rock						
Bare Ground						
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	N/a	Number of large eucalypt trees:	0
Non- Eucalypt Large tree DBH benchmark used:	N/A	Number of large non eucalypt trees:	0
Total number of large trees recorded:			
Total Number Large Trees per ha:	0		

Median Tree Canopy Height Measurements	Canopy:	22	Sub-canopy:	15	Emergent:	NA

Percentage of ecologically dominant layer species regenerating:	100

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	Canopy:	95.4%	Sub-canopy:	58.10%	Emergent:	
Shrub canopy cover %	16.90%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1	2.1	12.1	10.0	T2	0.0	2.3	2.3
T1	14.2	15.0	0.8	T2	2.5	9.8	7.3
T1	26.4	31.0	4.6	T2	15.0	21.0	6.0
T1	31.3	33.9	2.6	T2	26.4	28.2	1.8
T1	65.0	39.9	-25.1	T2	29.2	31.2	2.0
T1	42.4	56.0	13.6	T2	35.9	39.6	3.7
T1	56.5	62.2	5.7	T2	41.7	45.6	3.9
T1	2.4	68.9	66.5	T2	51.8	55.9	4.1
T1	70.0	79.9	9.9	T2	56.0	56.5	0.5
T1	90.5	85.4	-5.1	T2	61.1	63.1	2.0
T1	86.5	87.9	1.4	T2	64.3	64.9	0.6
T1	89.5	100.0	10.5	T2	69.2	70.2	1.0
T1			0.0	T2	73.1	83.7	10.6
T1			0.0	T2	84.0	92.5	8.5
T1			0.0	T2	93.0	95.4	2.4
T1			0.0	T2	98.2	99.6	1.4

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub	7.3	8.8	1.5	Shrub	33.5	33.8	0.3
Shrub	9.3	11.2	1.9	Shrub	38.9	39.6	0.7
Shrub	13.5	14.5	1.0	Shrub	51.9	52.4	0.5
Shrub	15.8	16.0	0.2	Shrub	55.0	62.2	7.2
Shrub	16.2	19.8	3.6	Shrub			0.0

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
Corymbia intermedia	22
Corymbia trachyphloia	10
Eucalyptus tereticornis	10

L.ophostemon suaveolens	8
Corymbia tesselaris	5
Melaleuca quinquenervia	14
Eucalyptus siderophloia	1

Part J: SAT Survey Results

SAT Survey ID	SAT 2			
Tree Number	**Scientific Name**	**Common Name**	**DBH**	**Scat (Y/N)**
1	*Corymbia trachyphloia*	Brown Bloodwood	120	N
2	*Eucalyptus tereticornis*	Forest Red Gum	130	N
3	*L.ophostemon suaveolens*	Swamp Box	230	N
4	*Alphitonia excelsa*	Soap Tree	100	N
5	*Corymbia trachyphloia*	Brown Bloodwood	340	N
6	*Eucalyptus tereticornis*	Forest Red Gum	210	N
7	*Eucalyptus tereticornis*	Forest Red Gum	170	N
8	*Eucalyptus tereticornis*	Forest Red Gum	230	N
9	*Acacia disparrima*	Hickory Wattle	230	N
10	*Eucalyptus tereticornis*	Forest Red Gum	140	N
11	*Corymbia trachyphloia*	Brown Bloodwood	190	N
12	*Eucalyptus tereticornis*	Forest Red Gum	170	N
13	*Corymbia intermedia*	Pink Bloodowood	230	N
14	*Corymbia tessellaris*	Moreton Bay Ash	120	N
15	*Eucalyptus tereticornis*	Forest Red Gum	150	N
16	*Corymbia trachyphloia*	Brown Bloodwood	240	N
17	*Eucalyptus tereticornis*	Forest Red Gum	170	N
18	*Corymbia trachyphloia*	Brown Bloodwood	150	N
19	*Corymbia intermedia*	Pink Bloodowood	160	N
20	*Corymbia tessellaris*	Moreton Bay Ash	140	N
21	*Melaleuca quinquenervia*	Broad-leaved Paperbark	170	N
22	*Corymbia trachyphloia*	Brown Bloodwood	160	N
23	*Corymbia trachyphloia*	Brown Bloodwood	140	N
24	*Melaleuca quinquenervia*	Broad-leaved Paperbark	160	N
25	*Melaleuca quinquenervia*	Broad-leaved Paperbark	120	N
26	*Melaleuca quinquenervia*	Broad-leaved Paperbark	120	N
27	*Corymbia trachyphloia*	Brown Bloodwood	120	Y
28	*Melaleuca quinquenervia*	Broad-leaved Paperbark	120	Y
29	*Corymbia trachyphloia*	Brown Bloodwood	160	Y
30	*L.ophostemon suaveolens*	Swamp Box	150	N
Total				3/30

Attach Landscape Photos Here

North

South

East

West

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	Transect 3	Job Number / Property	8418

Part B - Site Data

Recorders	HM & JP	Date	1/03/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU1		Preclear 12.9-10.19a	

Site description and Location (including details of discrete polygons within the assessment unit)
Non-remnant historically cleared regrowth. Dense and diverse Eucalyptusd individuals with scattered acacia regrowth. Dense Lantana patches

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	11			EDL / Dom / R
Scientific Name	*Corymbia citriodora*	Common Name	Spotted Gum	
Scientific Name	*Corymbia intermedia*	Common Name	Pink Bloodwood	
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle	R
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree	R
Scientific Name	*Eucalyptus tereticornis*	Common Name	Forest Red Gum	Dom / R
Scientific Name	*Allocasuarina littoralis*	Common Name	Black She-oak	R
Scientific Name	*Corymbia tessellaris*	Common Name	Moreton Bay Ash	
Scientific Name	*Lophostemon suaveolens*	Common Name	Swamp Box	Dom / R
Scientific Name	*Melaleuca quinquenervia*	Common Name	Broad-leaf Paperbark	
Scientific Name	*Corymbia trachyphloia*	Common Name	Brown Bloodwood	
Scientific Name	*Eucalyptus crebra*	Common Name	Narrow-leaf Ironbark	R

Shrub species richness:			
Total number of species	3		
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle
Scientific Name	*Allocasuarina littoralis*	Common Name	Black She-oak
Scientific Name	*Dockrillia linguiformis*	Common Name	Tick Bush
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	5		
Scientific Name	*Cymbopogon refractus*	Common Name	Barbed Wire Grass
Scientific Name	*Imperata cylindrica*	Common Name	Bladey Grass
Scientific Name	*Aristida vagans*	Common Name	Threeawn Speargrass
Scientific Name	*Cynodon dactylon*	Common Name	Green Couch
Scientific Name	*Oplismenus sp.*	Common Name	Basketgrass
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	12		
Scientific Name	*Chrysocephalum apiculatum*	Common Name	Yellow Buttons
Scientific Name	*Fimbrostylis ferruginea*	Common Name	Fringe Rush
Scientific Name	*Gahnia aspera*	Common Name	Saw Sedge
Scientific Name	*Desmodium heterocarpon*	Common Name	A Trefoil
Scientific Name	*Lobelia purpurescens*	Common Name	White Root
Scientific Name	*Cyperus gracilis*	Common Name	Slender Sedge
Scientific Name	*Commelina benghalensis*	Common Name	Wandering Jew
Scientific Name	*Glycine clandestina*	Common Name	Twining Glycine
Scientific Name	*Pteridium esculentum*	Common Name	Bracken Fern
Scientific Name	*Murdannia graminea*	Common Name	Slug herb
Scientific Name	*Stephonia japonia*	Common Name	Snake Vine
Scientific Name	*Lomandra longifolia*	Common Name	Many-flowered Mat Rush

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	20.00%		
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billy Goat Weed
Scientific Name	*Lantana camara*	Common Name	Lantana
Scientific Name	*Melinis repens*	Common Name	Red Natal Grass
Scientific Name	*Megathyrsus maximus*	Common Name	Guinea Grass
Scientific Name	*Lantana montevidensis*	Common Name	Creeping Lantana
Scientific Name	*Passiflora suberosa*	Common Name	Corcky Passion Vine
Scientific Name	*Asparagus africanus*	Common Name	Climbing Asparagus
Scientific Name	*Celtis sinensis*	Common Name	Chinese Celtis
Scientific Name		Common Name	
Scientific Name		Common Name	

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	70.00		
1	0.00	26	
2	7.00	27	
3		28	
4		29	
5		30	
6		31	
7		32	
8		33	
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	30%	5%	20%	50%	30%	27%
Native other grass						
Native forbs and other species	5%	0%	10%	10%	0%	5%
Native shrubs						
Non-native grass						
Non native forbs and shrubs	10%	30%	20%	0%	40%	20%
Litter	55%	65%	50%	40%	30%	48%
Rock						
Bare Ground						
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	N/A	Number of large eucalypt trees:	0
Non- Eucalypt Large tree DBH benchmark used:	N/A	Number of large non eucalypt trees:	0
Total number of large trees recorded:	0		
Total Number Large Trees per ha:	0		

Median Tree Canopy Height Measurements	Canopy:	21	Sub-canopy:	16	Emergent:	NA

Percentage of ecologically dominant layer species regenerating:	100%

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	Canopy:	53.1%	Sub-canopy:	71.20%	Emergent:	
Shrub canopy cover %	0.70%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1	0.0	2.1	2.1	T2	0.0	0.0	0.0
T1	8.1	17.9	9.8	T2	8.4	12.7	4.3
T1	20.1	21.0	0.9	T2	12.9	17.0	4.1
T1	21.9	23.3	1.4	T2	18.1	23.6	5.5
T1	23.8	39.4	15.6	T2	23.7	25.3	1.6
T1	40.1	43.1	3.0	T2	29.2	35.5	6.3
T1	45.1	50.1	5.0	T2	36.9	45.3	8.4
T1	56.7	57.3	0.6	T2	48.1	51.0	2.9
T1	59.2	62.3	3.1	T2	51.7	52.1	0.4
T1	66.8	67.0	0.2	T2	53.4	59.1	5.7
T1	79.8	83.4	3.6	T2	62.1	62.4	0.3
T1	92.2	100.0	7.8	T2	64.6	66.1	1.5
T1			0.0	T2	67.3	81.5	14.2
T1			0.0	T2	83.1	86.1	3.0
T1			0.0	T2	87.0	100.0	13.0

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub	46.9	47.1	0.2	Shrub			0.0
Shrub	35.0	35.5	0.5	Shrub			0.0
Shrub			0.0	Shrub			0.0
Shrub			0.0	Shrub			0.0

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
E. tereticornis	21
M. Quinquenervia	5
L. suaveolens	20
E. crebra	4

E. siderphloia	14
C. intermedia	13
C. citriodora	1
C. trachyphloia	13
C. tessellaris	6

Part J: SAT Survey Results

SAT Survey ID	SAT 3			
Tree Number	**Scientific Name**	**Common Name**	**DBH**	**Scat (Y/N)**
1	*Corymbia trachyphloia*	Brown Bloodwood	240	N
2	*Lophostemon suaveolens*	Swamp Box	210	N
3	*Eucalyptus crebra*	Narrow-leaved Ironbark	230	N
4	*Eucalyptus tereticornis*	Forest Red Gum	260	N
5	*Corymbia trachyphloia*	Brown Bloodwood	190	N
6	*Lophostemon suaveolens*	Swamp Box	140	N
7	*Eucalyptus tereticornis*	Forest Red Gum	300	N
8	*Lophostemon suaveolens*	Swamp Box	200	N
9	*Eucalyptus crebra*	Narrow-leaved Ironbark	140	N
10	*Corymbia trachyphloia*	Brown Bloodwood	310	N
11	*Eucalyptus crebra*	Narrow-leaved Ironbark	270	N
12	*Corymbia trachyphloia*	Brown Bloodwood	130	N
13	*Lophostemon suaveolens*	Swamp Box	140	N
14	*Corymbia trachyphloia*	Brown Bloodwood	220	N
15	*Corymbia trachyphloia*	Brown Bloodwood	250	N
16	*Eucalyptus tereticornis*	Forest Red Gum	140	N
17	*Eucalyptus crebra*	Narrow-leaved Ironbark	120	N
18	*Corymbia trachyphloia*	Brown Bloodwood	140	N
19	*Eucalyptus crebra*	Narrow-leaved Ironbark	130	N
20	*Corymbia trachyphloia*	Brown Bloodwood	130	N
21	*Melaleuca quinquenervia*	Broad-leaved Paperbark	120	N
22	*Lophostemon suaveolens*	Swamp Box	120	N
23	*Corymbia tessellaris*	Moreton Bay Ash	120	N
24	*Eucalyptus crebra*	Narrow-leaved Ironbark	160	N
25	*Eucalyptus crebra*	Narrow-leaved Ironbark	150	N
26	*Melaleuca quinquenervia*	Broad-leaved Paperbark	100	N
27	*Eucalytus siderphloia*	Grey Ironbark	250	N
28	*Eucalyptus crebra*	Narrow-leaved Ironbark	220	N
29	*Lophostemon suaveolens*	Swamp Box	140	N
30	*Eucalyptus tereticornis*	Forest Red Gum	110	N
Total				0/30

Attach Landscape Photos Here

North

South

East

West

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	Transect 4	Job Number / Property	

Part B - Site Data

Recorders	CM & JP	Date	4/03/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU3		12.3.11/12.3.7	

Site description and Location (including details of discrete polygons within the assessment unit)
Dense Acacia rerowth in emergent & subcanop layers. Large nativy canopy species E. tereticornis and L. suaveolens near creek waterway.

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	4			EDL / Dom / R
Scientific Name	*Corymbia intermedia*	Common Name	Pink Bloodwood	R
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Trees	R
Scientific Name	*Lophostemon sauveolens*	Common Name	Swamp Box	D/R
Scientific Name	*Melaleuca quinquenervia*	Common Name	Broad-Leaved Paperbark	
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		

Shrub species richness:			
Total number of species	3		
Scientific Name	*Lophostemon sauveolens*	Common Name	Swamp Box
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Trees
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	2		
Scientific Name	*Aristida purpurea*	Common Name	Threeawn aristida
Scientific Name	*Imperata cylindrica*	Common Name	Bladey Grass
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	6		
Scientific Name	*Parsonsia straminea*	Common Name	Monkey Rope Vine
Scientific Name	*Lomandra multiflora*	Common Name	Many Flowered Mat Rush
Scientific Name	*Pteridium esculentum*	Common Name	Bracken Fern
Scientific Name	*Hybanthus stellarioides*	Common Name	Spade Flower
Scientific Name	*Lobelia purpurascens*	Common Name	White Root
Scientific Name	*Gahnia aspera*	Common Name	Saw Sedge
Scientific Name		Common Name	
Scientific Name		Common Name	

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	30.00%		
Scientific Name	*Passiflora suberosa*	Common Name	Corky Passion Vine
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billy Goat Weed
Scientific Name	*Lantana montevidensis*	Common Name	Crawling Lantana
Scientific Name	*Lanatana camara*	Common Name	Lantana
Scientific Name	*Chloris gayana*	Common Name	Rhodes Gras
Scientific Name		Common Name	
Scientific Name		Common Name	

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	289.00		
1	4.50	26	
2	4.00	27	
3	5.20	28	
4	3.50	29	
5	5.20	30	
6	2.50	31	
7	4.00	32	
8		33	
9		34	
10		35	
11		36	
12		37	

13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	30%	0%	0%	8%	0%	8%
Native other grass						
Native forbs and other species	0%	0%	5%	2%	0%	1%
Native shrubs	5%	0%	0%	0%	3%	2%
Non-native grass						
Non native forbs and shrubs	10%	35%	70%	0%	0%	23%
Litter	50%	30%	20%	90%	97%	57%
Rock						
Bare Ground	5%	35%	5%	0%	0%	9%
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	490	Number of large eucalypt trees:	E. tereticornis (680, 540, 580, 910, 700), M. quinquenervia (550), L. suaveolens (720)
Non- Eucalypt Large tree DBH benchmark used:	350	Number of large non eucalypt trees:	0
Total number of large trees recorded:	7		
Total Number Large Trees per ha:	14		

Median Tree Canopy Height Measurements	Canopy:	23	Sub-canopy:	8	Emergent:	4.00

Percentage of ecologically dominant layer species regenerating:	100

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	Canopy:	63.7%	Sub-canopy:	52.30%	Emergent:	
Shrub canopy cover %	21.40%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1	0.0	7.8	7.8	T2	25.6	28.0	2.4
T1	8.6	17.0	8.4	T2	28.0	33.4	5.4
T1	17.0	24.8	7.8	T2	33.6	35.5	1.9
T1	28.6	45.4	16.8	T2	36.6	40.9	4.3
T1	65.2	77.7	12.5	T2	41.1	43.1	2.0
T1	82.7	84.2	1.5	T2	43.6	43.9	0.3
T1	91.1	100.0	8.9	T2	44.1	47.3	3.2
T1			0.0	T2	48.2	54.0	5.8
T1			0.0	T2	55.3	57.5	2.2
T1			0.0	T2	59.0	66.9	7.9
T1			0.0	T2	68.0	70.9	2.9
T1			0.0	T2	76.5	83.1	6.6
T1			0.0	T2	84.0	86.0	2.0
T1			0.0	T2	89.1	91.6	2.5
T1			0.0	T2	92.9	94.8	1.9
T1			0.0	T2	98.6	99.2	0.6
T1			0.0	T2	99.6	100.0	0.4

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub	0.0	0.8	0.8	Shrub	70.2	71.8	1.6
Shrub	1.8	2.0	0.2	Shrub	72.4	73.3	0.9
Shrub	21.8	22.8	1.0	Shrub	73.6	74.2	0.6
Shrub	38.2	38.4	0.2	Shrub	74.5	74.6	0.1
Shrub	45.4	45.7	0.3	Shrub	76.6	76.9	0.3
Shrub	46.0	47.1	1.1	Shrub	78.3	78.8	0.5
Shrub	50.9	51.5	0.6	Shrub	80.0	80.4	0.4
Shrub	52.8	53.3	0.5	Shrub	81.2	82.2	1.0
Shrub	54.4	54.6	0.2	Shrub	87.1	87.4	0.3
Shrub	57.2	57.4	0.2	Shrub	90.7	91.7	1.0
Shrub	57.6	61.7	4.1	Shrub	93.3	93.7	0.4
Shrub	63.7	64.5	0.8	Shrub	94.1	94.4	0.3
Shrub	66.9	69.8	2.9	Shrub	95.2	96.3	1.1

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
L. suaveolens	26
E. tereticornis	13
A. disparrima	1
C. citriodora	3

Part J: SAT Survey Results

SAT Survey ID	NA - SAT Meander Completed (Not enough large trees for SAT)			
Tree Number	Scientific Name	Common Name	DBH	Scat (Y/N)
1				

2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
Total				

Attach Landscape Photos Here

North

South

East

West

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	Transect 5	Job Number / Property	8418

Part B - Site Data

Recorders	CM & JP	Date	4/03/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU4		12.9-10.7	

Site description and Location (including details of discrete polygons within the assessment unit)
Dense acacia regrowth species and Alphitonia excelsa, sacttered canopy trees E. tereticornis dominating. Mostly native ground layer with lots of leaf litter.

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	4			EDL / Dom / R
Scientific Name	*Corymbia citriodora*	Common Name	Spotted Gum	
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle	R
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree	R
Scientific Name	*Eucalyptus tereticornis*	Common Name	Forest Red Gum	D, R
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		

Shrub species richness:			
Total number of species	3		
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree
Scientific Name	*Eucalyptus tereticornis*	Common Name	Forest Red Gum
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	3		
Scientific Name	*Cynodon dactylon*	Common Name	Green Couch
Scientific Name	*Aristida purpurea*	Common Name	Threeawn aristida
Scientific Name	*Imperata cylindrica*	Common Name	Bladey Grass
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	6		
Scientific Name	*Glycine clandestina*	Common Name	Twining glycine
Scientific Name	*Lomandra multiflora*	Common Name	Many-Flowered Mat Rush
Scientific Name	*Gahnia aspera*	Common Name	Saw Sedge
Scientific Name	*Lobelia purpurascens*	Common Name	White Root
Scientific Name	*Chrysocephalum apiculatum*	Common Name	Yellow Buttons
Scientific Name	*Murdannia graminea*	Common Name	Slug Herb
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	5.00%		
Scientific Name	*Cyperus rotundus*	Common Name	Nutgrass
Scientific Name	*Cyperus rotundus*	Common Name	Blackberry nightshade
Scientific Name	*Sida rhombifolia*	Common Name	Common Sida
Scientific Name	*Solanum chrysotrichum*	Common Name	Giant Devils Fig
Scientific Name	*Passiflora suberosa*	Common Name	Corky Passion Vine
Scientific Name	*Asparagus aethiopicus*	Common Name	Asparagus Fern
Scientific Name	*Lantana camara*	Common Name	Lantana
Scientific Name	*Urochloa decumbens*	Common Name	Signal Grass
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billy Goat
Scientific Name	*Lantana montevidensis*	Common Name	Crawling Lantana

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	604.00		
1	6.00	26	
2	4.50	27	
3	6.20	28	
4	5.40	29	
5	7.50	30	
6	5.00	31	
7	4.00	32	
8	5.00	33	
9	3.00	34	
10	2.80	35	
11	3.00	36	
12	2.30	37	
13	2.20	38	
14	3.50	39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	0%	0%	2%	10%	0%	2%
Native other grass						
Native forbs and other species	0%	5%	3%	5%	0%	3%
Native shrubs	5%	15%	0%	0%	0%	4%
Non-native grass						
Non native forbs and shrubs						
Litter	95%	80%	95%	85%	100%	91%
Rock						
Bare Ground						
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	390	Number of large eucalypt trees:	E. tereticornis (370, 510, 430, 680, 460, 410, 440, 410), C. intermedia (400)
Non- Eucalypt Large tree DBH benchmark used:	N/A	Number of large non eucalypt trees:	0
Total number of large trees recorded:	9		
Total Number Large Trees per ha:	18		

Median Tree Canopy Height Measurements	Canopy:	16	Sub-canopy:	8	Emergent:	NA

Percentage of ecologically dominant layer species regenerating:	100

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	Canopy:	18.6%	Sub-canopy:	78.90%	Emergent:	
Shrub canopy cover %	12.20%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1	1.9	7.3	5.4	T2	0.0	4.1	4.1
T1	70.8	80.0	9.2	T2	4.7	5.9	1.2
T1	95.6	97.6	2.0	T2	5.9	19.7	13.8
T1	98.0	100.0	2.0	T2	20.5	23.8	3.3
T1			0.0	T2	25.3	29.2	3.9
T1			0.0	T2	30.4	47.6	17.2
T1			0.0	T2	49.2	56.2	7.0
T1			0.0	T2	57.0	61.5	4.5
T1			0.0	T2	61.7	62.9	1.2
T1			0.0	T2	69.2	70.6	1.4
T1			0.0	T2	72.5	79.0	6.5
T1			0.0	T2	85.2	100.0	14.8
T1			0.0	T2			0.0
T1			0.0	T2			0.0
T1			0.0	T2			0.0

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub	8.5	9.8	1.3	Shrub	34.9	35.8	0.9
Shrub	10.9	11.3	0.4	Shrub	37.4	38.2	0.8
Shrub	12.4	12.7	0.3	Shrub	39.2	40.0	0.8
Shrub	14.1	14.3	0.2	Shrub	46.8	49.6	2.8
Shrub	21.4	21.7	0.3	Shrub	47.6	47.8	0.2
Shrub	26.0	26.2	0.2	Shrub	71.9	72.5	0.6
Shrub	30.8	31.8	1.0	Shrub	79.9	80.5	0.6
Shrub	32.2	32.5	0.3	Shrub	82.6	83.6	1.0
Shrub	34.2	34.4	0.2	Shrub	87.2	87.5	0.3

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
E. tereticornis	12

A. disparrima	3
C. citriodora	3

Part J: SAT Survey Results

SAT Survey ID	SAT 4 @ T5- Completed 05/03/2024			
Tree Number	**Scientific Name**	**Common Name**	**DBH**	**Scat (Y/N)**
1	*Lophostemon sauveolens*	Brush Box	330	N
2	*Lophostemon sauveolens*	Brush Box	350	N
3	*Lophostemon sauveolens*	Brush Box	100	N
4	*Melaleuca quinquenervia*	Broad-leaved Paperbark	520	N
5	*Eucalyptus tereticornis*	Forest Red Gum	290	N
6	*Lophostemon sauveolens*	Brush Box	360	N
7	*Lophostemon sauveolens*	Brush Box	330	N
8	*Angophora leiocarpa*	Smooth-barked Apple	240	N
9	*Lophostemon sauveolens*	Brush Box	120	N
10	*Lophostemon sauveolens*	Brush Box	350	N
11	*Eucalyptus tereticornis*	Forest Red Gum	240	N
12	*Lophostemon sauveolens*	Brush Box	280	N
13	*Lophostemon sauveolens*	Brush Box	140	N
14	*Lophostemon sauveolens*	Brush Box	880	N
15	*Lophostemon sauveolens*	Brush Box	250	N
16	*Lophostemon sauveolens*	Brush Box	520	N
17	*Lophostemon sauveolens*	Brush Box	400	N
18	*Lophostemon sauveolens*	Brush Box	280	N
19	*Lophostemon sauveolens*	Brush Box	310	N
20	*Lophostemon sauveolens*	Brush Box	270	N
21	*Lophostemon sauveolens*	Brush Box	250	N
22	*Lophostemon sauveolens*	Brush Box	130	N
23	*Lophostemon sauveolens*	Brush Box	430	N
24	*Lophostemon sauveolens*	Brush Box	220	N
25	*Lophostemon sauveolens*	Brush Box	290	N
26	*Lophostemon sauveolens*	Brush Box	350	N
27	*Melaleuca quinquenervia*	Broad-leaved Paperbark	460	N
28	*Melaleuca quinquenervia*	Broad-leaved Paperbark	460	N
29	*Melaleuca quinquenervia*	Broad-leaved Paperbark	360	N
30	*Eucalyptus tereticornis*	Forest Red Gum	790	N
Total				0/30

Attach Landscape Photos Here

North

South

East

West

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	Transect 6	Job Number / Property	8418

Part B - Site Data

Recorders	MD & JP	Date	4/03/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU4		12.9-10.7	12

Site description and Location (including details of discrete polygons within the assessment unit)
Acacia dominated regrowth with scattered large trees.

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	8			EDL / Dom / R
Scientific Name	*Corymbia intermedia*	Common Name	Pink Bloodwood	EDL / Dom
Scientific Name	*Eucalyptus tereticornis*	Common Name	Forest Red Gum	EDL / Dom
Scientific Name	*Lophostemon sauveolens*	Common Name	Swamp Box	
Scientific Name	*Angophora leiocarpa*	Common Name	Smooth-barked Apple	EDL
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle	
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree	
Scientific Name	*Acacia maideni*	Common Name	Maiden's Wattle	
Scientific Name	*Acacia fimbriata*	Common Name	Fringed Wattle	
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		

Shrub species richness:			
Total number of species	6		
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree
Scientific Name	*Acacia leiocalyx*	Common Name	Early-flowering Black Wattle
Scientific Name	*Trema tomentosum*	Common Name	Poison Peach
Scientific Name	*Acacia fimbriata*	Common Name	Fringed Wattle
Scientific Name	*Acacia maidenii*	Common Name	Mainden's Wattle
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	4		
Scientific Name	*Cynodon dactylon*	Common Name	Green Couch
Scientific Name	*Ottochloa gracillima*	Common Name	Graceful Grass
Scientific Name	*Imperata cylindrica*	Common Name	Bladey Grass
Scientific Name	*Opilsmenus aemulus*	Common Name	Creeping Beard Grass
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	10		
Scientific Name	*Gahnia aspera*	Common Name	Saw Sedge
Scientific Name	*Eragrostis brownii*	Common Name	Brown's Lovegrass
Scientific Name	*Chrysocephalum apiculatum*	Common Name	Yellow Buttons
Scientific Name	*Lobelia purpurascens*	Common Name	White Root
Scientific Name	*Cyperus gracilis*	Common Name	Slender Sedge
Scientific Name	*Glycine clandestina*	Common Name	Twining Glycine
Scientific Name	*Cheilanthes distans*	Common Name	Bristle Cloak Fern
Scientific Name	*Lomandra multiflora*	Common Name	Many-flowered Mat Rush
Scientific Name	*Geitonoplesium cymosum*	Common Name	Scrambling Lily
Scientific Name	*Laxmannia gracilis*	Common Name	Slender Wire Lily
Scientific Name		Common Name	

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	10.00%		
Scientific Name	*Passifloa suberosa*	Common Name	Corky Passion Vine
Scientific Name	*Lantana camara*	Common Name	Lantana
Scientific Name	*Lantana montevidensis*	Common Name	Creeping Lantana
Scientific Name	*Oxalis corniculata*	Common Name	Creeping Woodsorrel
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billy-goat Weed
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	232.00		
1	2.00	26	
2	2.30	27	
3	2.00	28	
4	2.20	29	

5	1.50	30	
6	1.00	31	
7	1.20	32	
8	2.30	33	
9	3.20	34	
10	3.50	35	
11	2.00	36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	75%	20%	10%	40%	30%	35%
Native other grass						
Native forbs and other species	0%	0%	15%	8%	30%	11%
Native shrubs	5%	60%	0%	5%	0%	14%
Non-native grass						
Non native forbs and shrubs	0%	0%	0%	2%	20%	4%
Litter	20%	20%	75%	45%	20%	36%
Rock						
Bare Ground						
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	390	Number of large eucalypt trees:	*Corymbia intermedia* - 385, 400; *Eucalyptus tereticornis* - 400, 710, 460
Non- Eucalypt Large tree DBH benchmark used:	N/A	Number of large non eucalypt trees:	0
Total number of large trees recorded:	5		
Total Number Large Trees per ha:	10		

Median Tree Canopy Height Measurements	Canopy:	17	Sub-canopy:	5	Emergent:	NA

Percentage of ecologically dominant layer species regenerating:	100%

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	Canopy:	51.9%	Sub-canopy:	89.80%	Emergent:	
Shrub canopy cover %	1.30%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1	2.0	4.0	2.0	T2	0.0	1.3	1.3
T1	17.5	28.0	10.5	T2	4.0	29.3	25.3
T1	34.0	54.1	20.1	T2	29.3	30.1	0.8
T1	68.1	80.7	12.6	T2	30.1	49.0	18.9
T1	86.6	93.3	6.7	T2	51.5	58.6	7.1
T1			0.0	T2	60.6	66.6	6.0
T1			0.0	T2	67.6	77.4	9.8
T1			0.0	T2	79.4	100.0	20.6
T1			0.0	T2			0.0
T1			0.0	T2			0.0
T1			0.0	T2			0.0
T1			0.0	T2			0.0
T1			0.0	T2			0.0
T1			0.0	T2			0.0

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub	0.0	1.3	1.3	Shrub			0.0
Shrub			0.0	Shrub			0.0
Shrub			0.0	Shrub			0.0
Shrub			0.0	Shrub			0.0

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
Eucalyptus tereticornis	6
Corymbia intermedia	15
Angophora leiocarpa	1
Acacia disparrima	7

Part J: SAT Survey Results

SAT Survey ID	NA - SAT Meander Completed (Not enough large trees for SAT)			
Tree Number	Scientific Name	Common Name	DBH	Scat (Y/N)
1				
2				

3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
Total				

Attach Landscape Photos Here

North

South

East

West

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	Transect 7	Job Number / Property	8418

Part B - Site Data

Recorders	MD & JP	Date	5/03/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU3		12.3.11	12

Site description and Location (including details of discrete polygons within the assessment unit)
Adjacent to creek, *E. tereticornis* with *Grevillea robusta, Lophostemon sauveolens* and *Angophora woodsiana* .

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	8			EDL / Dom / R
Scientific Name	*Eucalyptus tereticornis*	Common Name	Forest Red Gum	EDL
Scientific Name	*Lophostemon sauveolens*	Common Name	Swamp Box	EDL
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree	
Scientific Name	*Acacia fimbriata*	Common Name	Fringed Wattle	
Scientific Name	*Grevillea robusta*	Common Name	Silky Oak	EDL
Scientific Name	*Angophora woodsiana*	Common Name	Smudgee Apple	
Scientific Name	*Allocasuarina littoralis*	Common Name	Black She-oak	
Scientific Name	*Acacia leiocalyx*	Common Name	Early-flowering Black Wattle	
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		

Shrub species richness:			
Total number of species	4		
Scientific Name	*Trema tomentosum*	Common Name	Poison Peach
Scientific Name	*Acacia fimbriata*	Common Name	Fringed Wattle
Scientific Name	*Acacia maidenii*	Common Name	Mainden's Wattle
Scientific Name	*Acacia leiocalyx*	Common Name	Early-flowering Black Wattle
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	2		
Scientific Name	*Opilsmenus aemulus*	Common Name	Creeping Beard Grass
Scientific Name	*Ottochloa gracillima*	Common Name	Graceful Grass
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	11		
Scientific Name	*Pteridium esculentum*	Common Name	Braken Fern
Scientific Name	*Dianella caerulea*	Common Name	Blue Flax-lily
Scientific Name	*Stephania joponica*	Common Name	Tape Vine
Scientific Name	*Eustrephus latifolius*	Common Name	Wombat Berry
Scientific Name	*Lomandra longifolia*	Common Name	Long-leaved Matrush
Scientific Name	*Smilax australis*	Common Name	Smilax Vine
Scientific Name	*Lomandra hystrix*	Common Name	Creek Mat-rush
Scientific Name	*Geitonoplesium cymosum*	Common Name	Scrambling Lily
Scientific Name	*Lobelia purpurascens*	Common Name	White Root
Scientific Name	*Pellaea nana*	Common Name	Sickle Fern
Scientific Name	*Maclura cochinchinensis*	Common Name	Cockspur Vine

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	25.00%		
Scientific Name	*Phyllanthus urinaria*	Common Name	Chamber Bitter
Scientific Name	*Megathyrsus maximus*	Common Name	Guinea Grass
Scientific Name	*Lantana camara*	Common Name	Lantana
Scientific Name	*Urochloa decumbens*	Common Name	Signal Grass
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billy-goat Weed
Scientific Name	*Oxalis corniculata*	Common Name	Creeping Woodsorrel
Scientific Name	*Solanum mauritianum*	Common Name	Wild Tobacco
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	178.00		
1	3.00	26	
2	0.50	27	
3	3.50	28	
4	1.30	29	
5	1.00	30	
6	2.50	31	
7	6.00	32	
8		33	
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	40%	80%	92%	87%	37%	67%
Native other grass						
Native forbs and other species	10%	0%	0%	3%	0%	3%
Native shrubs						
Non-native grass						
Non native forbs and shrubs	10%	0%	0%	10%	3%	5%
Litter	20%	5%	5%	0%	0%	6%
Rock						
Bare Ground	20%	15%	3%	0%	60%	20%
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	490	Number of large eucalypt trees:	*Eucalyptus tereticornis* - 600, 620, 500; *Corymbia intermedia* - 530
Non- Eucalypt Large tree DBH benchmark used:	360	Number of large non eucalypt trees:	0
Total number of large trees recorded:	4		
Total Number Large Trees per ha:	8		

Median Tree Canopy Height Measurements	Canopy:	19	Sub-canopy:	14	Emergent:	NA

Percentage of ecologically dominant layer species regenerating:	0%

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	Canopy:	28.2%	Sub-canopy:	79.50%	Emergent:	
Shrub canopy cover %	16.50%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1	14.0	19.2	5.2	T2	0.0	2.9	2.9
T1	20.1	23.6	3.5	T2	10.3	13.1	2.8
T1	54.4	66.8	12.4	T2	13.1	15.1	2.0
T1	88.3	93.3	5.0	T2	15.1	17.4	2.3
T1	97.9	100.0	2.1	T2	18.1	20.1	2.0
T1			0.0	T2	20.1	22.0	1.9
T1			0.0	T2	23.6	55.5	31.9
T1			0.0	T2	58.2	65.8	7.6
T1			0.0	T2	60.7	76.6	15.9
T1			0.0	T2	79.9	85.9	6.0
T1			0.0	T2	97.7	100.0	2.3
T1			0.0	T2	90.3	92.2	1.9
T1			0.0	T2			0.0
T1			0.0	T2			0.0
T1			0.0	T2			0.0

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub	0.0	3.0	3.0	Shrub	83.0	89.0	6.0
Shrub	6.6	8.7	2.1	Shrub	95.4	96.4	1.0
Shrub	13.1	14.7	1.6	Shrub			0.0
Shrub	16.9	18.0	1.1	Shrub			0.0
Shrub	20.7	21.0	0.3	Shrub			0.0
Shrub	47.3	48.0	0.7	Shrub			0.0
Shrub	48.7	49.4	0.7	Shrub			0.0

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
Lophostemon sauveolens	6
Corymbia intermedia	5
Eucalyptus tereticornis	4

Part J: SAT Survey Results

SAT Survey ID	SAT 5 @ T7			
Tree Number	**Scientific Name**	**Common Name**	**DBH**	**Scat (Y/N)**
1	*Angophora subvelutina*	Broad-leaved Apple	980	N
2	*Angophora subvelutina*	Broad-leaved Apple	470	N
3	*Angophora subvelutina*	Broad-leaved Apple	230	N
4	*Eucalyptus tereticornis*	Forest Red Gum	490	N
5	*Corymbia intermedia*	Pink Bloodwood	440	N
6	*Eucalyptus tereticornis*	Forest Red Gum	420	N
7	*Angophora subvelutina*	Broad-leaved Apple	230	N
8	*Eucalyptus tereticornis*	Forest Red Gum	660	N
9	*Grevillea robusta*	Silky Oak	530	N
10	*Corymbia tesselaris*	Moreton-Bay Ash	210	N
11	*Lophostemon sauveolens*	Swamp Box	170	N
12	*Angophora subvelutina*	Broad-leaved Apple	720	N
13	*Angophora leiocarpa*	Smooth-barked Apple	410	N
14	*Angophora leiocarpa*	Smooth-barked Apple	460	N
15	*Angophora leiocarpa*	Smooth-barked Apple	400	N
16	*Eucalyptus tereticornis*	Forest Red Gum	460	N
17	*Corymbia tesselaris*	Moreton-Bay Ash	210	N
18	*Eucalyptus tereticornis*	Forest Red Gum	370	N
19	*Eucalyptus tereticornis*	Forest Red Gum	570	N
20	*Eucalyptus tereticornis*	Forest Red Gum	660	N
21	*Corymbia intermedia*	Pink Bloodwood	260	N
22	*Corymbia intermedia*	Pink Bloodwood	370	N
23	*Corymbia intermedia*	Pink Bloodwood	580	N
24	*Corymbia intermedia*	Pink Bloodwood	560	N
25	*Lophostemon sauveolens*	Swamp Box	310	N
26	*Lophostemon sauveolens*	Swamp Box	470	N
27	*Lophostemon sauveolens*	Swamp Box	360	N
28	*Lophostemon sauveolens*	Swamp Box	330	N
29	*Angophora subvelutina*	Broad-leaved Apple	370	N
30	*Lophostemon sauveolens*	Swamp Box	200	N
Total				0/30

Attach Landscape Photos Here

North

South

East

West

Habitat Quality Assessment Unit Score Sheet

Part A - Administrative

Transect ID	Transect 8	Job Number / Property	8418

Part B - Site Data

Recorders	MD & JP	Date	5/03/2024

Assessment Unit:	Assessment Unit Area (ha)	RE	Bioregion Number
AU2		12.9-10.2	12

Site description and Location (including details of discrete polygons within the assessment unit)
Dominated by Acacia sp. regrowth, dead stag trees and scattered large trees.

Part C - Native Species Richness: (*list species below)

Tree species richness:				
Total number of species	7			EDL / Dom / R
Scientific Name	*Eucalyptus tereticornis*	Common Name	Forest Red Gum	EDL / Dom / R
Scientific Name	*Corymbia intermedia*	Common Name	Pink Bloodwood	
Scientific Name	*Acacia leiocalyx*	Common Name	Early-flowering Black Wattle	EDL / Dom / R
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle	EDL / Dom / R
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree	
Scientific Name	*Corymbia tesselaris*	Common Name	Moreton-Bay Ash	
Scientific Name	*Corymbia citriodora*	Common Name	Spotted Gum	
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		
Scientific Name		Common Name		

Shrub species richness:			
Total number of species	5		
Scientific Name	*Acacia disparrima*	Common Name	Hickory Wattle
Scientific Name	*Alphitonia excelsa*	Common Name	Soap Tree
Scientific Name	*Acacia leiocalyx*	Common Name	Early-flowering Black Wattle
Scientific Name	*Trema tomentosum*	Common Name	Poison Peach
Scientific Name	*Jacksonia scoparia*	Common Name	Dogwood
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Grass species richness:			
Total number of species	5		
Scientific Name	*Aristida purpurea*	Common Name	Threeawn Aristida
Scientific Name	*Ottochloa gracillima*	Common Name	Graceful Grass
Scientific Name	*Imperata cylindrica*	Common Name	Bladey Grass
Scientific Name	*Panicum decompositum*	Common Name	Native Millet
Scientific Name	*Themeda triandra*	Common Name	Kangaroo Grass
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Forbs and others (non grass ground) species richness:			
Total number of species	13		
Scientific Name	*Murdannia graminea*	Common Name	Slug Herb
Scientific Name	*Dianella caerulea*	Common Name	Blue Flax-lily
Scientific Name	*Cheilanthes distans*	Common Name	Bristle Cloak Fern
Scientific Name	*Laxmannia gracilis*	Common Name	Slender Wire Lily
Scientific Name	*Chrysocephalum apiculatum*	Common Name	Yellow Buttons
Scientific Name	*Lomandra multiflora*	Common Name	Many-flowered Mat Rush
Scientific Name	*Velleia spathulata*	Common Name	Wild Pansies
Scientific Name	*Cyperus gracilis*	Common Name	Slender Sedge
Scientific Name	*Glycine clandestina*	Common Name	Twining Glycine
Scientific Name	*Gahnia aspera*	Common Name	Saw Sedge
Scientific Name	*Lobelia purpurascens*	Common Name	White Root
Scientific Name	*Desmodium rhytidophyllum*	Common Name	Hairy Trefoil
Scientific Name	*Goodenia rotundifolia*	Common Name	Star Goodenia
Scientific Name		Common Name	

Part D - Non-Native Plant Cover: (*list species below)

Total percentage cover within plot	10.00%		
Scientific Name	*Lantana camara*	Common Name	Lantana
Scientific Name	*Desmodium intortum*	Common Name	Greenleaf Desmodium
Scientific Name	*Ageratum houstonianum*	Common Name	Blue Billy-goat Weed
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	
Scientific Name		Common Name	

Scientific Name		Common Name	

Part E - Coarse Woody Debris: (*list lengths of individual logs in meters)

Total Length of Course Woody Debris (Meters per hectare)	92.00		
1	2.00	26	
2	3.20	27	
3	2.50	28	
4	1.50	29	
5		30	
6		31	
7		32	
8		33	
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

Part F - Native perennial grass cover, organic litter: (*provide percentage cover within each quadrat, and provide average cover)

Ground Cover	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Average
Native perennial grass cover	5%	0%	0%	0%	5%	2%
Native other grass						
Native forbs and other species	15%	5%	80%	30%	10%	28%
Native shrubs	3%	20%	15%	30%	5%	15%
Non-native grass						
Non native forbs and shrubs						
Litter	77%	75%	5%	40%	80%	55%
Rock						
Bare Ground						
Cryptogram						
Total	100%	100%	100%	100%	100%	100%

Part G- Number of large trees , tree canopy height, recruitment of woody perennial species:

Eucalypt Large tree DBH benchmark used :	380	Number of large eucalypt trees:	*Corymbia intermedia* - 400, 520
Non- Eucalypt Large tree DBH benchmark used:	N/A	Number of large non eucalypt trees:	
Total number of large trees recorded:	2		
Total Number Large Trees per ha:	4		

Median Tree Canopy Height Measurements	Canopy:	17	Sub-canopy:	12	Emergent:	NA

Percentage of ecologically dominant layer species regenerating:	50%

Part H - Tree canopy cover, Shrub canopy cover

Tree canopy cover %	Canopy:	44.6%	Sub-canopy:	67.30%	Emergent:	
Shrub canopy cover %	18.60%					

Layer	Start	End	Interval	Layer	Start	End	Interval
T1	0.0	2.3	2.3	T2	0.0	3.6	3.6
T1	33.4	41.8	8.4	T2	5.3	6.6	1.3
T1	46.9	50.0	3.1	T2	7.2	8.6	1.4
T1	50.3	66.0	15.7	T2	9.0	13.2	4.2
T1	70.0	77.4	7.4	T2	14.7	18.0	3.3
T1	86.0	88.4	2.4	T2	21.2	24.2	3.0
T1	94.7	100.0	5.3	T2	26.3	27.1	0.8
T1			0.0	T2	29.2	38.5	9.3
T1			0.0	T2	39.0	39.7	0.7
T1			0.0	T2	40.6	43.5	2.9
T1			0.0	T2	45.4	57.3	11.9
T1			0.0	T2	59.0	61.5	2.5
T1			0.0	T2	63.0	72.0	9.0
T1			0.0	T2	73.0	74.4	1.4
T1			0.0	T2	76.5	79.0	2.5
T1			0.0	T2	80.5	81.1	0.6
T1			0.0	T2	83.0	86.5	3.5
T1			0.0	T2	88.4	89.0	0.6
T1			0.0	T2	90.4	93.0	2.6
T1			0.0	T2	95.3	96.5	1.2
T1			0.0	T2	98.0	99.0	1.0

Layer	Start	End	Interval	Layer	Start	End	Interval
Shrub	3.7	4.4	0.7	Shrub	42.9	43.4	0.5
Shrub	5.8	6.6	0.8	Shrub	48.4	49.1	0.7
Shrub	8.1	8.6	0.5	Shrub	52.4	53.0	0.6
Shrub	9.0	9.2	0.2	Shrub	54.8	55.7	0.9
Shrub	12.2	13.0	0.8	Shrub	58.6	60.0	1.4

Shrub	16.5	17.0	0.5	**Shrub**	63.0	64.0	1.0
Shrub	20.9	21.6	0.7	**Shrub**	65.0	66.7	1.7
Shrub	22.8	23.5	0.7	**Shrub**	73.6	74.4	0.8
Shrub	30.1	30.6	0.5	**Shrub**	80.5	81.1	0.6
Shrub	32.8	33.6	0.7	**Shrub**	84.0	85.0	1.0
Shrub	33.7	34.1	0.7	**Shrub**	92.0	92.4	0.4
Shrub	37.0	37.7	0.5	**Shrub**	98.3	100.0	1.7

Note: Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them

Part I: GHFF Stem Count

Species Name	Stem Count
Corymbia intermedia	11
Lophostemon sauveolens	1
Eucalyptus tereticornis	1

Part J: SAT Survey Results

SAT Survey ID	SAT 6 @ T8			
Tree Number	**Scientific Name**	**Common Name**	**DBH**	**Scat (Y/N)**
1	*Angophora leiocarpa*	Smooth-barked Apple	280	N
2	*Angophora leiocarpa*	Smooth-barked Apple	140	N
3	*Corymbia intermedia*	Pink Bloodwood	430	N
4	*Corymbia intermedia*	Pink Bloodwood	560	N
5	*Corymbia intermedia*	Pink Bloodwood	180	N
6	*Lophostemon sauveolens*	Swamp Box	130	N
7	*Corymbia intermedia*	Pink Bloodwood	410	N
8	*Acacia disparrima*	Hickory Wattle	180	N
9	*Acacia leiocarpa*	Early-flowering Black Wattle	120	N
10	*Acacia leiocarpa*	Early-flowering Black Wattle	100	N
11	*Acacia leiocarpa*	Early-flowering Black Wattle	110	N
12	*Acacia leiocarpa*	Early-flowering Black Wattle	170	N
13	*Corymbia citriodora*	Spotted Gum	210	N
14	*Corymbia citriodora*	Spotted Gum	180	N
15	*Corymbia citriodora*	Spotted Gum	250	N
16	*Corymbia citriodora*	Spotted Gum	140	N
17	*Corymbia citriodora*	Spotted Gum	150	N
18	*Corymbia citriodora*	Spotted Gum	230	N
19	*Corymbia citriodora*	Spotted Gum	260	N
20	*Corymbia citriodora*	Spotted Gum	110	N
21	*Corymbia intermedia*	Pink Bloodwood	380	N
22	*Corymbia intermedia*	Pink Bloodwood	220	N
23	*Corymbia intermedia*	Pink Bloodwood	140	N
24	*Corymbia intermedia*	Pink Bloodwood	230	N
25	*Corymbia intermedia*	Pink Bloodwood	140	N
26	*Corymbia intermedia*	Pink Bloodwood	110	N
27	*Corymbia intermedia*	Pink Bloodwood	430	N
28	*Eucalyptus tereticornis*	Forest-red Gum	220	N
29	*Eucalyptus tereticornis*	Forest-red Gum	130	N
30	*Lophostemon sauveolens*	Swamp Box	130	N
Total				0/30

Attach Landscape Photos Here

North

South

East

West

Appendix A11

SAT Results

Spot Assessment Technique (SAT)				
Date:	26/02/2024	**Site:** 8418 (Assessment Unit 2)	**SAT ID: 1**	
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	*Eucalyptus tereticornis*	Forest Red Gum	280	N
2	*Corymbia citriodora*	Spotted Gum	170	N
3	*Eucalyptus tereticornis*	Forest Red Gum	130	N
4	*Corymbia citriodora*	Spotted Gum	140	N
5	*Corymbia intermedia*	Pink Bloodwood	170	N
6	*Corymbia citriodora*	Spotted Gum	380	N
7	*Corymbia citriodora*	Spotted Gum	310	N
8	*Corymbia citriodora*	Spotted Gum	110	N
9	*Corymbia citriodora*	Spotted Gum	210	Y
10	*Corymbia intermedia*	Pink Bloodwood	140	Y
11	*Allocasuarina littoralis*	Black She-oak	190	N
12	*Corymbia citriodora*	Spotted Gum	435	N
13	*Corymbia intermedia*	Pink Bloodwood	220	N
14	*Corymbia citriodora*	Spotted Gum	490	N
15	*Corymbia intermedia*	Pink Bloodwood	210	N
16	*Corymbia citriodora*	Spotted Gum	440	N
17	*Corymbia citriodora*	Spotted Gum	400	N
18	*Corymbia citriodora*	Spotted Gum	600	N
19	*Corymbia citriodora*	Spotted Gum	440	N
20	*Eucalyptus crebra*	Narrow-leaved Ironbark	180	N
21	*Corymbia citriodora*	Spotted Gum	320	N
22	*Eucalyptus crebra*	Narrow-leaved Ironbark	180	N
23	*Corymbia citriodora*	Spotted Gum	380	N
24	*Corymbia intermedia*	Pink Bloodwood	410	N
25	*Corymbia citriodora*	Spotted Gum	470	N
26	*Corymbia citriodora*	Spotted Gum	500	N
27	*Corymbia intermedia*	Pink Bloodwood	210	N
28	*Corymbia citriodora*	Spotted Gum	350	N
29	*Corymbia citriodora*	Spotted Gum	360	N
30	*Eucalyptus tereticornis*	Forest Red Gum	230	N
		Total Scats	2	
		Percentage	6.67	
		East Coast (med-high) Activity Category	Low	

Spot Assessment Technique (SAT)				
Date:	1/03/2024	**Site: 8418** (Assessment Unit 1)	**SAT ID: 2**	
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	Corymbia trachyphloia	Brown Bloodwood	120	N
2	Eucalyptus tereticornis	Forest Red Gum	130	N
3	L.ophostemon suaveolens	Swamp Box	230	N
4	Alphitonia excelsa	Soap Tree	100	N
5	Corymbia trachyphloia	Brown Bloodwood	340	N
6	Eucalyptus tereticornis	Forest Red Gum	210	N
7	Eucalyptus tereticornis	Forest Red Gum	170	N
8	Eucalyptus tereticornis	Forest Red Gum	230	N
9	Acacia disparrima	Hickory Wattle	230	N
10	Eucalyptus tereticornis	Forest Red Gum	140	N
11	Corymbia trachyphloia	Brown Bloodwood	190	N
12	Eucalyptus tereticornis	Forest Red Gum	170	N
13	Corymbia intermedia	Pink Bloodowood	230	N
14	Corymbia tessellaris	Moreton Bay Ash	120	N
15	Eucalyptus tereticornis	Forest Red Gum	150	N
16	Corymbia trachyphloia	Brown Bloodwood	240	N
17	Eucalyptus tereticornis	Forest Red Gum	170	N
18	Corymbia trachyphloia	Brown Bloodwood	150	N
19	Corymbia intermedia	Pink Bloodowood	160	N
20	Corymbia tessellaris	Moreton Bay Ash	140	N
21	Melaleuca quinquenervia	Broad-leaved Paperbark	170	N
22	Corymbia trachyphloia	Brown Bloodwood	160	N
23	Corymbia trachyphloia	Brown Bloodwood	140	N
24	Melaleuca quinquenervia	Broad-leaved Paperbark	160	N
25	Melaleuca quinquenervia	Broad-leaved Paperbark	120	N
26	Melaleuca quinquenervia	Broad-leaved Paperbark	120	N
27	Corymbia trachyphloia	Brown Bloodwood	120	Y
28	Melaleuca quinquenervia	Broad-leaved Paperbark	120	Y
29	Corymbia trachyphloia	Brown Bloodwood	160	Y
30	L.ophostemon suaveolens	Swamp Box	150	N
		Total Scats	3	
		Percentage	10.00	
		East Coast (med-high) Activity Category	Low	

Spot Assessment Technique (SAT)				
Date:	01/03/02024	**Site: 8418** (Assessment Unit 1)	**SAT ID: 3**	
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	Corymbia trachyphloia	Brown Bloodwood	240	N
2	Lophostemon suaveolens	Swamp Box	210	N
3	Eucalyptus crebra	Narrow-leaved Ironbark	230	N
4	Eucalyptus tereticornis	Forest Red Gum	260	N
5	Corymbia trachyphloia	Brown Bloodwood	190	N
6	Lophostemon suaveolens	Swamp Box	140	N
7	Eucalyptus tereticornis	Forest Red Gum	300	N
8	Lophostemon suaveolens	Swamp Box	200	N
9	Eucalyptus crebra	Narrow-leaved Ironbark	140	N
10	Corymbia trachyphloia	Brown Bloodwood	310	N
11	Eucalyptus crebra	Narrow-leaved Ironbark	270	N
12	Corymbia trachyphloia	Brown Bloodwood	130	N
13	Lophostemon suaveolens	Swamp Box	140	N
14	Corymbia trachyphloia	Brown Bloodwood	220	N
15	Corymbia trachyphloia	Brown Bloodwood	250	N
16	Eucalyptus tereticornis	Forest Red Gum	140	N
17	Eucalyptus crebra	Narrow-leaved Ironbark	120	N
18	Corymbia trachyphloia	Brown Bloodwood	140	N
19	Eucalyptus crebra	Narrow-leaved Ironbark	130	N
20	Corymbia trachyphloia	Brown Bloodwood	130	N
21	Melaleuca quinquenervia	Broad-leaved Paperbark	120	N
22	Lophostemon suaveolens	Swamp Box	120	N
23	Corymbia tessellaris	Moreton Bay Ash	120	N
24	Eucalyptus crebra	Narrow-leaved Ironbark	160	N
25	Eucalyptus crebra	Narrow-leaved Ironbark	150	N
26	Melaleuca quinquenervia	Broad-leaved Paperbark	100	N
27	Eucalytus siderphloia	Grey Ironbark	250	N
28	Eucalyptus crebra	Narrow-leaved Ironbark	220	N
29	Lophostemon suaveolens	Swamp Box	140	N
30	Eucalyptus tereticornis	Forest Red Gum	110	N
		Total Scats	0	
		Percentage	0.00	
		East Coast (med-high) Activity Category	No	

Spot Assessment Technique (SAT)				
Date:	5/03/2024	**Site: 8418** (Assessment Unit 3)		**SAT ID: 4**
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	*Meander - no large trees or scats*			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
			Total Scats	0
			Percentage	0.00
			East Coast (med-high) Activity Category	No

Spot Assessment Technique (SAT)				
Date:	5/03/2024	**Site: 8418** (Assessment Unit 4)	**SAT ID: 5**	
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	*Lophostemon sauveolens*	Brush Box	330	N
2	*Lophostemon sauveolens*	Brush Box	350	N
3	*Lophostemon sauveolens*	Brush Box	100	N
4	*Melaleuca quinquenervia*	Broad-leaved Paperbark	520	N
5	*Eucalyptus tereticornis*	Forest Red Gum	290	N
6	*Lophostemon sauveolens*	Brush Box	360	N
7	*Lophostemon sauveolens*	Brush Box	330	N
8	*Angophora leiocarpa*	Smooth-barked Apple	240	N
9	*Lophostemon sauveolens*	Brush Box	120	N
10	*Lophostemon sauveolens*	Brush Box	350	N
11	*Eucalyptus tereticornis*	Forest Red Gum	240	N
12	*Lophostemon sauveolens*	Brush Box	280	N
13	*Lophostemon sauveolens*	Brush Box	140	N
14	*Lophostemon sauveolens*	Brush Box	880	N
15	*Lophostemon sauveolens*	Brush Box	250	N
16	*Lophostemon sauveolens*	Brush Box	520	N
17	*Lophostemon sauveolens*	Brush Box	400	N
18	*Lophostemon sauveolens*	Brush Box	280	N
19	*Lophostemon sauveolens*	Brush Box	310	N
20	*Lophostemon sauveolens*	Brush Box	270	N
21	*Lophostemon sauveolens*	Brush Box	250	N
22	*Lophostemon sauveolens*	Brush Box	130	N
23	*Lophostemon sauveolens*	Brush Box	430	N
24	*Lophostemon sauveolens*	Brush Box	220	N
25	*Lophostemon sauveolens*	Brush Box	290	N
26	*Lophostemon sauveolens*	Brush Box	350	N
27	*Melaleuca quinquenervia*	Broad-leaved Paperbark	460	N
28	*Melaleuca quinquenervia*	Broad-leaved Paperbark	460	N
29	*Melaleuca quinquenervia*	Broad-leaved Paperbark	360	N
30	*Eucalyptus tereticornis*	Forest Red Gum	790	N
		Total Scats	0	
		Percentage	0.00	
		East Coast (med-high) Activity Category	No	

Spot Assessment Technique (SAT)				
Date:	5/03/2024	**Site: 8418** (Assessment Unit 4)		**SAT ID: 6**
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	*Meander - no large trees or scats*			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
			Total Scats	0
			Percentage	0.00
			East Coast (med-high) Activity Category	No

Spot Assessment Technique (SAT)				
Date:	5/03/2024	**Site: 8418** (Assessment Unit 3)	**SAT ID: 7**	
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	*Angophora subvelutina*	Broad-leaved Apple	980	N
2	*Angophora subvelutina*	Broad-leaved Apple	470	N
3	*Angophora subvelutina*	Broad-leaved Apple	230	N
4	*Eucalyptus tereticornis*	Forest Red Gum	490	N
5	*Corymbia intermedia*	Pink Bloodwood	440	N
6	*Eucalyptus tereticornis*	Forest Red Gum	420	N
7	*Angophora subvelutina*	Broad-leaved Apple	230	N
8	*Eucalyptus tereticornis*	Forest Red Gum	660	N
9	*Grevillea robusta*	Silky Oak	530	N
10	*Corymbia tesselaris*	Moreton-Bay Ash	210	N
11	*Lophostemon sauveolens*	Swamp Box	170	N
12	*Angophora subvelutina*	Broad-leaved Apple	720	N
13	*Angophora leiocarpa*	Smooth-barked Apple	410	N
14	*Angophora leiocarpa*	Smooth-barked Apple	460	N
15	*Angophora leiocarpa*	Smooth-barked Apple	400	N
16	*Eucalyptus tereticornis*	Forest Red Gum	460	N
17	*Corymbia tesselaris*	Moreton-Bay Ash	210	N
18	*Eucalyptus tereticornis*	Forest Red Gum	370	N
19	*Eucalyptus tereticornis*	Forest Red Gum	570	N
20	*Eucalyptus tereticornis*	Forest Red Gum	660	N
21	*Corymbia intermedia*	Pink Bloodwood	260	N
22	*Corymbia intermedia*	Pink Bloodwood	370	N
23	*Corymbia intermedia*	Pink Bloodwood	580	N
24	*Corymbia intermedia*	Pink Bloodwood	560	N
25	*Lophostemon sauveolens*	Swamp Box	310	N
26	*Lophostemon sauveolens*	Swamp Box	470	N
27	*Lophostemon sauveolens*	Swamp Box	360	N
28	*Lophostemon sauveolens*	Swamp Box	330	N
29	*Angophora subvelutina*	Broad-leaved Apple	370	N
30	*Lophostemon sauveolens*	Swamp Box	200	N
		Total Scats	0	
		Percentage	0.00	
		East Coast (med-high) Activity Category	Low	

Spot Assessment Technique (SAT)				
Date:	5/03/2024	**Site: 8418** (Assessment Unit 2)	**SAT ID: 8**	
Tree No.	**Scientific Name**	**Common Name**	**DBH**	**Scats**
1	*Angophora leiocarpa*	Smooth-barked Apple	280	N
2	*Angophora leiocarpa*	Smooth-barked Apple	140	N
3	*Corymbia intermedia*	Pink Bloodwood	430	N
4	*Corymbia intermedia*	Pink Bloodwood	560	N
5	*Corymbia intermedia*	Pink Bloodwood	180	N
6	*Lophostemon sauveolens*	Swamp Box	130	N
7	*Corymbia intermedia*	Pink Bloodwood	410	N
8	*Acacia disparrima*	Hickory Wattle	180	N
9	*Acacia leiocarpa*	Early-flowering Black Wattle	120	N
10	*Acacia leiocarpa*	Early-flowering Black Wattle	100	N
11	*Acacia leiocarpa*	Early-flowering Black Wattle	110	N
12	*Acacia leiocarpa*	Early-flowering Black Wattle	170	N
13	*Corymbia citriodora*	Spotted Gum	210	N
14	*Corymbia citriodora*	Spotted Gum	180	N
15	*Corymbia citriodora*	Spotted Gum	250	N
16	*Corymbia citriodora*	Spotted Gum	140	N
17	*Corymbia citriodora*	Spotted Gum	150	N
18	*Corymbia citriodora*	Spotted Gum	230	N
19	*Corymbia citriodora*	Spotted Gum	260	N
20	*Corymbia citriodora*	Spotted Gum	110	N
21	*Corymbia intermedia*	Pink Bloodwood	380	N
22	*Corymbia intermedia*	Pink Bloodwood	220	N
23	*Corymbia intermedia*	Pink Bloodwood	140	N
24	*Corymbia intermedia*	Pink Bloodwood	230	N
25	*Corymbia intermedia*	Pink Bloodwood	140	N
26	*Corymbia intermedia*	Pink Bloodwood	110	N
27	*Corymbia intermedia*	Pink Bloodwood	430	N
28	*Eucalyptus tereticornis*	Forest-red Gum	220	N
29	*Eucalyptus tereticornis*	Forest-red Gum	130	N
30	*Lophostemon sauveolens*	Swamp Box	130	N
		Total Scats	0	
		Percentage	0.00	
		East Coast (med-high) Activity Category	No	

Appendix A12

Spotlighting Data

Spotlighting Survey			
Date:	13.4.23	**Site:**	8418
Time Start:	7:00pm	**Time End:**	9:30pm
Weather Conditions:	Cloud cover, no breeze, 25°c		
Other Notes:			

Scientific Name	Common Name	Time Observed
	Common brush tailed possum	7:40pm
	Southern Boobook owl	7:46pm
	Striped rocket frog	7:47pm
	Laughing kookaburra	7:48pm
	Copper-backed brood frog	7:50pm
	Great barred frog	7:59pm
	Striped Marsh frog	8:28pm
	Common brush tailed possum	9:23pm

Spotlighting Survey			
Date:	15.4.23	**Site:**	8418
Time Start:	7:00pm	**Time End:**	9:20pm
Weather Conditions:	Some cloud cover, no breeze		
Other Notes:			

Scientific Name	Common Name	Time Observed
	Great barred frog	7:00pm
	Tawny frogmouth	7:03pm
	Micro bat sp.	7:06pm
	Laughing kookaburra	7:06pm
	Common Ringtail possum	7:13pm
	Cane toad	7:14pm
	Southern Boobook owl	7:14pm
	Copper-headed tree frog	7:40pm
	Broad-palmed rocket frog	7:44pm

Appendix A13

MHQA Calculation Sheets

Assessment Unit - Regional Ecosystem - TEC	AU 3 - Cat B - Remnant vegetation associated with Flagstone Creek (RE12.3.11/12.3.7)						
	RE12.3.11 Benchmark	Transect 4	Transect 7	Average of Transect(s)	% Benchmark	Score	
SITE CONDITION							
Recruitment of woody perennial species in EDL	100	100	0	50	50	3	3
Native plant species richness - trees	7	4	8	6	85.71	2.5	2.5
Native plant species richness - shrubs	7	3	4	3.5	50.00	2.5	2.5
Native plant species richness - grasses	12	2	2	2	16.67	0	0
Native plant species richness - forbs	25	6	11	8.5	34.00	2.5	2.5
Tree canopy height (Canopy)*	23	23	19	21	91.30	5	
Tree canopy height (Sub-canopy)*	8	8	14	11	137.50	5	
					*Average tree canopy height	5	5
Tree canopy cover (Canopy)**	56	63.7	28.2	45.95	82.05	5	
Tree canopy cover (Sub-canopy)**	33	52.3	79.5	65.9	199.70	5	
					**Average tree canopy cover	5	5
Shrub canopy cover	20	21.4	16.5	18.95	94.75	5	5
Native grass cover*	44	8	67	37.5	85.23	3	3
Organic litter*	37	57	6	31.5	85.14	5	5
Large trees (euc plus non-euc) (per ha)	30	14	8	11	36.67	5	5
Coarse woody debris (per ha)	555	289	178	233.5	42.07	2	2
Non-native plant cover	0	30	25	27.5	27.50	3	3
					Site Condition Score (/100)	43.5	
					Overall Site Condition Score - out of 7	3.81	
SITE CONTEXT							
Size of patch	10	5	5	5		5	
Connectedness	5	0	0	0		0	
Context	5	0	0	0		0	
Ecological Corridors	6	0	0	0		0	
Role of site location to species overall population in the state	5	5	5	5		5	
Threats to the species	15	7	7	7		7	
					Site Context Score (/46)	17	
					Overall Site Context Score - out of 3	1.11	
Overall Assessment Unit Score						4.91	

Assessment Unit - Regional Ecosystem - Koala	AU 1 - Cat X - cleared with scattered regrowth (Preclear RE12.9-10.19a)							
	RE12.9-10.19a Benchmark	Transect 2	Transect 3	Average of Transect(s)	% Benchmark	Score		
SITE CONDITION								
Recruitment of woody perennial species in EDL	100	100	100	100	100	5	5	
Native plant species richness - trees	4	10	11	10.5	262.50	5	5	
Native plant species richness - shrubs	6	1	3	2	33.33	2.5	2.5	
Native plant species richness - grasses	7	6	5	5.5	78.57	2.5	2.5	
Native plant species richness - forbs	14	7	12	9.5	67.86	2.5	2.5	
Tree canopy height (Canopy)*	24	22	21	21.5	89.58	5		
Tree canopy height (Sub-canopy)*	10	15	16	15.5	155.00	5		
					*Average tree canopy height	5	5	
Tree canopy cover (Canopy)**	59	95.4	53.1	74.25	125.85	5		
Tree canopy cover (Sub-canopy)**	22	58.1	71.2	64.65	293.86	3		
					**Average tree canopy cover	4	4	
Shrub canopy cover	11	16.9	0.7	8.8	80.00	5	5	
Native grass cover*	16	15	27	21	131.25	5	5	
Organic litter*	53	67	48	57.5	108.49	5	5	
Large trees (euc plus non-euc) (per ha)	24	0	0	0	0.00	0	0	
Coarse woody debris (per ha)	285	136	70	103	36.14	2	2	
Non-native plant cover	0	20	20	20	20.00	5	5	0.60625
Quality and availability of food and foraging habitat	NA	5	5	5	-	5	5	
Quality and availability of shelter	NA	5	5	5	-	5	5	
					Site Condition Score (/100)		58.5	
					Overall Site Condition Score - out of 3		1.76	
SITE CONTEXT								
Size of patch	10	10	10	10		10		
Connectedness	5	5	5	5		5		
Context	5	4	4	4		4		
Ecological Corridors	6	0	0	0		0		
Role of site location to species overall population in the state	5	5	5	5		5		
Threats to the species	15	1	1	1		1		
Species mobility capacity	10	10	10	10		10		
					Site Context Score (/56)		35	
					Overall Site Context Score - out of 3		1.88	
SPECIES STOCKING RATE								
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	40	40	40		40		
					Species Stocking Rate Score (/70)		40.00	
					Overall Species Stocking Rate Score - out of 4		2.29	
Overall Assessment Unit Score							5.92	

Species Stocking Rate (SSR)						
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	
		0%	low	med	high	
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15
		0	5 - 15	20 - 35		40 - 45
Total SRR score (out of 70)		40				
SRR Score (out of 4)	**2.285714286**					

*SSR Supplementary Table			
*Key source population for breeding	Score	0	10
		No	Yes/ Possibly
*Key source population for dispersal	Score	0	5
		No	Yes/ Possibly
*Necessary for maintaining genetic diversity	Score	0	15
		No	Yes/ Possibly
*Near the limit of the species range	Score	0	15
		No	Yes

10 SAT surveys detected koala use in Transect 2

15 Breeding

10 SAT surveys showed low presence using the east coast (med-high) category

5 See below

0 Given the low usage and lack of evidence of breeding occurring on site it is not considered to

5 Unknown but using the cautionary principle it is considered possible.

0 The site is highly unlikely to be necessary for maintaining genetic diversity given the low density

0 The site is not near the limit of koalas range

Assessment Unit - Regional Ecosystem - Koala	AU 2 - Cat B - highly disturbed mapped remnant veg with scattered mature Eucalypt species (RE12.9-10.2)							
	RE12.9-10.2 Benchmark	Transect 1	Transect 8	Average of Transect(s)	% Benchmark	Score		
SITE CONDITION								
Recruitment of woody perennial species in EDL	100	100	50	75	75	3	3	
Native plant species richness - trees	6	5	7	6	100.00	5	5	
Native plant species richness - shrubs	7	5	5	5	71.43	2.5	2.5	
Native plant species richness - grasses	7	6	5	5.5	78.57	2.5	2.5	
Native plant species richness - forbs	13	9	13	11	84.62	2.5	2.5	
Tree canopy height (Canopy)*	21	21	17	19	90.48	5		
Tree canopy height (Sub-canopy)*	12	12	12	12	100.00	5		
					*Average tree canopy height	5	5	
Tree canopy cover (Canopy)**	64	77.3	44.6	60.95	95.23	5		
Tree canopy cover (Sub-canopy)**	20	50.9	67.3	59.1	295.50	3		
					**Average tree canopy cover	4	4	
Shrub canopy cover	6	1.1	18.6	9.85	164.17	5	5	
Native grass cover*	21	6	2	4	19.05	1	1	
Organic litter*	48	51	55	53	110.42	5	5	
Large trees (euc plus non-euc) (per ha)	38	38	4	21	55.26	10	10	
Coarse woody debris (per ha)	506	446	92	269	53.16	5	5	
Non-native plant cover	0	35	10	22.5	22.50	5	5	0.69375
Quality and availability of food and foraging habitat	NA	10	10	10	-	10	10	
Quality and availability of shelter	NA	10	10	10	-	10	10	
					Site Condition Score (/100)		75.5	
					Overall Site Condition Score - out of 3		2.27	
SITE CONTEXT								
Size of patch	10	10	10	10			10	
Connectedness	5	5	5	5			5	
Context	5	4	4	4			4	
Ecological Corridors	6	0	0	0			0	
Role of site location to species overall population in the state	5	5	5	5			5	
Threats to the species	15	1	1	1			1	
Species mobility capacity	10	10	10	10			10	
					Site Context Score (/56)		35	
					Overall Site Context Score - out of 3		1.88	
SPECIES STOCKING RATE								
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	40	40	40			40	
					Species Stocking Rate Score (/70)		40.00	
					Overall Species Stocking Rate Score - out of 4		2.29	
Overall Assessment Unit Score							6.43	

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		10 SAT surveys detected koala use in Transect 1
		No	Yes - adjacent		Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		15 Breeding
		Not habitat	Dispersal	Foraging	Breeding		
Approximate density (per ha)	Score	0	10	20	30		10 SAT surveys showed low presence using the east coast (med-high) category
		0%	low	med	high		
Role/importance of species population on site*	Score (*Total from supplementary table below)*	0	5	10		15	5 See below
		0	5 - 15	20 - 35		40 - 45	
Total SRR score (out of 70)		40					
SRR Score (out of 4)	**2.285714286**						

*SSR Supplementary Table				
*Key source population for breeding	Score	0	10	0 Given the low usage and lack of evidence of breeding occurring on site it is not
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5 Unknown but using the cautionary principle it is considered possible.
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0 The site is highly unlikely to be necessary for maintaining genetic diversity given the low
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0 The site is not near the limit of koalas range
		No	Yes	

Assessment Unit - Regional Ecosystem - Koala	AU 3 - Cat B - Remnant vegetation associated with Flagstone Creek (RE12.3.11/12.3.7)							
	RE12.3.11 Benchmark	Transect 4	Transect 7	Average of Transect(s)	% Benchmark	Score		
SITE CONDITION								
Recruitment of woody perennial species in EDL	100	100	0	50	50	3	3	
Native plant species richness - trees	7	4	8	6	85.71	2.5	2.5	
Native plant species richness - shrubs	7	3	4	3.5	50.00	2.5	2.5	
Native plant species richness - grasses	12	2	2	2	16.67	0	0	
Native plant species richness - forbs	25	6	11	8.5	34.00	2.5	2.5	
Tree canopy height (Canopy)*	23	23	19	21	91.30	5		
Tree canopy height (Sub-canopy)*	8	8	14	11	137.50	5		
					*Average tree canopy height	5	5	
Tree canopy cover (Canopy)**	56	63.7	28.2	45.95	82.05	5		
Tree canopy cover (Sub-canopy)**	33	52.3	79.5	65.9	199.70	5		
					**Average tree canopy cover	5	5	
Shrub canopy cover	20	21.4	16.5	18.95	94.75	5	5	
Native grass cover*	44	8	67	37.5	85.23	3	3	
Organic litter*	37	57	6	31.5	85.14	5	5	
Large trees (euc plus non-euc) (per ha)	30	14	8	11	36.67	5	5	
Coarse woody debris (per ha)	555	289	178	233.5	42.07	2	2	
Non-native plant cover	0	30	25	27.5	27.50	3	3	0.54375
Quality and availability of food and foraging habitat	NA	5	5	5	-	5	5	
Quality and availability of shelter	NA	5	5	5	-	5	5	
					Site Condition Score (/100)		53.5	
					Overall Site Condition Score - out of 3		1.61	
SITE CONTEXT								
Size of patch	10	10	10	10			10	
Connectedness	5	5	5	5			5	
Context	5	4	4	4			4	
Ecological Corridors	6	0	0	0			0	
Role of site location to species overall population in the state	5	5	5	5			5	
Threats to the species	15	1	1	1			1	
Species mobility capacity	10	10	10	10			10	
					Site Context Score (/56)		35	
					Overall Site Context Score - out of 3		1.88	
SPECIES STOCKING RATE								
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	40	40	40			40	
					Species Stocking Rate Score (/70)		40.00	
					Overall Species Stocking Rate Score - out of 4		2.29	
Overall Assessment Unit Score							5.77	

Species Stocking Rate (SSR)						
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	
		0%	low	med	high	
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15
		0	5 - 15	20 - 35		40 - 45
Total SRR score (out of 70)		40				
SRR Score (out of 4)	**2.285714286**					

*SSR Supplementary Table			
*Key source population for breeding	Score	0	10
		No	Yes/ Possibly
*Key source population for dispersal	Score	0	5
		No	Yes/ Possibly
*Necessary for maintaining genetic diversity	Score	0	15
		No	Yes/ Possibly
*Near the limit of the species range	Score	0	15
		No	Yes

10	SAT surveys detected koala use within site. No scats found in T4
15	Breeding
10	SAT surveys showed no presence within AU3
5	See below

0	Given the low usage and lack of evidence of breeding occurring on site it is not considered to be a key populaiton for breeding
5	Unknown but using the cautionary principle it is considered possible.
0	The site is highly unlikely to be necessary for maintaining genetic diversity given the low density
0	The site is not near the limit of koalas range

Assessment Unit - Regional Ecosystem - Koala	AU 4 - Cat B - Eucalypt dominated remnant veg. (RE12.9-10.7)							
	RE12.9-10.7 Benchmark	Transect 5	Transect 6	Average of Transect(s)	% Benchmark	Score		
SITE CONDITION								
Recruitment of woody perennial species in EDL	100	100	100	100	100	5	5	
Native plant species richness - trees	3	4	8	6	200.00	5	5	
Native plant species richness - shrubs	5	3	6	4.5	90.00	2.5	2.5	
Native plant species richness - grasses	8	3	4	3.5	43.75	2.5	2.5	
Native plant species richness - forbs	26	6	10	8	30.77	2.5	2.5	
Tree canopy height (Canopy)*	21	16	17	16.5	78.57	5		
Tree canopy height (Sub-canopy)*	10	8	5	6.5	65.00	3		
					*Average tree canopy height	4	4	
Tree canopy cover (Canopy)**	40	18.6	51.9	35.25	88.13	5		
Tree canopy cover (Sub-canopy)**	8	78.9	89.8	84.35	1054.38	3		
					**Average tree canopy cover	4	4	
Shrub canopy cover	3	12.2	1.3	6.75	225.00	3	3	
Native grass cover*	61	2	35	18.5	30.33	1	1	
Organic litter*	20	91	36	63.5	317.50	3	3	
Large trees (euc plus non-euc) (per ha)	18	18	10	14	77.78	10	10	
Coarse woody debris (per ha)	272	604	232	418	153.68	5	5	
Non-native plant cover	0	5	10	7.5	7.50	5	5	0.65625
Quality and availability of food and foraging habitat	NA	5	5	5	-	5	5	
Quality and availability of shelter	NA	5	5	5	-	5	5	
					Site Condition Score (/100)		62.5	
					Overall Site Condition Score - out of 3		1.88	
SITE CONTEXT								
Size of patch	10	10	10	10		10		
Connectedness	5	5	5	5		5		
Context	5	4	4	4		4		
Ecological Corridors	6	0	0	0		0		
Role of site location to species overall population in the state	5	5	5	5		5		
Threats to the species	15	1	1	1		1		
Species mobility capacity	10	10	10	10		10		
					Site Context Score (/56)		35	
					Overall Site Context Score - out of 3		1.88	
SPECIES STOCKING RATE								
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	40	40	40		40		
					Species Stocking Rate Score (/70)		40.00	
					Overall Species Stocking Rate Score - out of 4		2.29	
Overall Assessment Unit Score							6.04	

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		
		No	Yes - adjacent		Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		
		Not habitat	Dispersal	Foraging	Breeding		
Approximate density (per ha)	Score	0	10	20	30		
		0%	low	med	high		
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15	
		0	5 - 15	20 - 35		40 - 45	
Total SRR score (out of 70)		40					
SRR Score (out of 4)	**2.285714286**						

*SSR Supplementary Table			
*Key source population for breeding	Score	0	10
		No	Yes/ Possibly
*Key source population for dispersal	Score	0	5
		No	Yes/ Possibly
*Necessary for maintaining genetic diversity	Score	0	15
		No	Yes/ Possibly
*Near the limit of the species range	Score	0	15
		No	Yes

10 SAT surveys detected koala use within site
15 Breeding

10 SAT surveys showed no presence within AU4

5 See below

0 Given the low usage and lack of evidence of breeding occurring on site it is not considered to be a key populaiton for breeding

5 Unknown but using the cautionary principle it is considered possible.

0 The site is highly unlikely to be necessary for maintaining genetic diversity given the low density

0 The site is not near the limit of koalas range

Assessment Unit - Regional Ecosystem - Koala	AU5 - Track
	Score
SITE CONDITION	
Recruitment of woody perennial species in EDL	0
Native plant species richness - trees	0
Native plant species richness - shrubs	0
Native plant species richness - grasses	0
Native plant species richness - forbs	0
Tree canopy height (Canopy)*	0
Tree canopy height (Sub-canopy)*	0
*Average tree canopy height	0
Tree canopy cover (Canopy)**	0
Tree canopy cover (Sub-canopy)**	0
**Average tree canopy cover	0
Shrub canopy cover	0
Native grass cover*	0
Organic litter*	0
Large trees (euc plus non-euc) (per ha)	0
Coarse woody debris (per ha)	0
Non-native plant cover	0
Quality and availability of food and foraging habitat	0
Quality and availability of shelter	0
Site Condition Score (/100)	0
Overall Site Condition Score - out of 3	0.00
SITE CONTEXT	
Size of patch	10
Connectedness	5
Context	4
Ecological Corridors	0
Role of site location to species overall population in the state	5
Threats to the species	1
Species mobility capacity	10
Site Context Score (/56)	35
Overall Site Context Score - out of 3	1.88
SPECIES STOCKING RATE	
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s)	20
Species Stocking Rate Score (/70)	20.00
Overall Species Stocking Rate Score - out of 4	1.14
Overall Assessment Unit Score	3.02

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		10 SAT surveys detected koala use within site
		No	Yes - adjacent		Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		5 Dispersal
		Not habitat	Dispersal	Foraging	Breeding		
Approximate density (per ha)	Score	0	10	20	30		0
		0%	low	med	high		
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15	5 See below
		0	5 - 15	20 - 35		40 - 45	
Total SRR score (out of 70)		20					
SRR Score (out of 4)	**1.142857143**						

*SSR Supplementary Table				
*Key source population for breeding	Score	0	10	0 Given the low usage and lack of evidence of breeding occurring on site it is not considered to be a key populaiton for breeding
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5 Unknown but using the cautionary principle it is considered possible.
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0 The site is highly unlikely to be necessary for maintaining genetic diversity given the low density
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0 The site is not near the limit of koalas range
		No	Yes	

Assessment Unit - Regional Ecosystem - GHFF			AU 1		AU 2		AU 3		AU 4	
Site Reference		Maximum Score	Non-remnant (Preclear RE12.9-10.19)		Remnant (RE12.9-10.2)		Remnant (RE12.3.11)		Remnant (RE12.9-10.7)	
Site Condition (40%)	Vegetation Condition	**20**	5	This AU is mapped as Category X	20	This AU is mapped as Category B	20	This AU is mapped as Category B	20	This AU is mapped as Category B
	Species Richness	**20**	10	T2 - *C. intermedia* *E. tereticornis* *C.. tessellaris* *C. trachyphloia* *E. crebra* T3 - *C. citriodora* *C. intermedia* *E. tereticornis* *C. tessellaris* *L. suaveolens* *M. quinquenervia* *C. trchyphloia* *E. crebra* Average = 6 GHFF species	5	T1 - *C. intermedia* *C. citriodora* T8 - *E. tereticornis* *C. intermedia* *C. tessellaris* *C. citriodora* Average = 3 GHFF species	10	T4 - *C. intermedia* *L. suaveolens* *M. quinquenervia* T7 - *E. tereticornis* *L. suaveolens* *G. robusta* *A. woodsiana* Average - 3.5 GHFF species	5	T5 - *EC. citriodora* *E. tereticornis* T6 - *C. intermedia* *E. tereticornis* *L. suaveolens* *A. leiocarpa* Average = 3 GHFF species
	Flower Score	**10**	8	T2 - *C. intermedia - 0.86* *A. disparrima - 0.00* *A. esxcelsa - 0.00* *E. tereticornis - 0.63* *A. littoralis - 0.00* *C.. tessellaris - 0.40* *C. trachyphloia - 0.45* *E. crebra - 0.65* T3 - *C. citriodora - 0.65* *C. intermedia - 0.86* *A. disparrima - 0.00* *A. exclesa - 0.00* *E. tereticornis - 0.63* *A. littoralis - 0.00* *C. tessellaris - 0.40* *L. suaveolens - 0.40* *M. quinquenervia - 0.88* *C. trchyphloia - 0.45* *E. crebra - 0.65* Average = 0.61	5	T1 - *C. intermedia - 0.86* *A. excelsa - 0.00* *C. citriodora - 0.65* *A. disparrima - 0.00* *A. littoralis - 0.00* T8 - *E. tereticornis - 0.63* *C. intermedia - 0.86* *A. leiocalyx - 0.00* *A. disparrima - 0.00* *A. excelsa - 0.00* *C. tessellaris - 0.40* *C. citriodora - 0.65* Average = 0.34	5	T4 - *C. intermedia - 0.86* *A. excelsa - 0.00* *L. suaveolens - 0.40* *M. quinquenervia - 0.88* T7 - *E. tereticornis - 0.63* *L. suaveolens - 0.40* *A. excelsa - 0.00* *A. fimbriata - 0.00* *G. robusta - 1.00* *A. woodsiana - 0.40* *A. leiocalyx - 0.00* Average = 0.42	5	T5 - *C. Citriodora - 0.65* *A. disparrima - 0.00* *A. excelsa - 0.00* *E. tereticornis - 0.63* T6 - *C. intermedia - 0.86* *E. tereticornis - 0.63* *L. suaveolens - 0.40* *A. leiocarpa - 0.35* *A. disparrima - 0.00* *A. excelsa - 0.00* *A. maideni - 0.00* *A. fimbriata - 0.00* Average = 0.29
	Timing of Biological Shortages	**10**	10	The species listed above cover all biological shortages	10	The species listed above cover all biological shortages	10	The species listed above cover all biological shortages	10	The species listed above cover all biological shortages
	Quality of Foraging Habitat	**20**	10	*C. intermedia, E. terticornis, E. crebra, C. citriodora and M. quinquenervia* are considered significant GHFF foraging species (>0.65 wt p*r)	5	*C. intermedia, C. citriodora and E. tereticornis* are considered significant GHFF foraging species (>0.65 wt p*r)	10	*C. intermedia, M. quinquenervia, E. tereticornis and G, robusta* are considered significant GHFF foraging species (>0.65 wt p*r)	10	*C. citriodora, E. tereticornis, C. intermedia and E.crebra* are considered significant GHFF foraging species (>0.65 wt p*r)
	Non-native Plant Cover	**20**	10	T2 - 20.00% T3 - 20.00% Av = 20.00%	10	T1 - 35.00% T8 - 10.00% Av = 22.50%	5	T4 - 30.00% T7 - 25.00% Av = 27.50%	10	T5 - 5.00% T6 - 10.00% Av = 7.50%
	Site Condition Score	**100**	**53**		**55**		**60**		**60**	
	Site Condition Score - out of 4	**4.00**	**2.12**		**2.20**		**2.40**		**2.40**	
Site Context (30%)	Size of patch	**10**	10	The size of patch of the site is greater than 200 ha.	10	The size of patch of the site is greater than 200 ha.	10	The size of patch of the site is greater than 200 ha.	10	The size of patch of the site is greater than 200 ha.
	Connectedness	**10**	10	There are 14 active GHFF camps within a 20km radius of the site.	10	There are 14 active GHFF camps within a 20km radius of the site.	10	There are 14 active GHFF camps within a 20km radius of the site.	10	There are 14 active GHFF camps within a 20km radius of the site.
	Context	**10**	6	There is approximately 39% GHFF foraging habitat within a 20km radius of the site.	6	There is approximately 39% GHFF foraging habitat within a 20km radius of the site.	6	There is approximately 39% GHFF foraging habitat within a 20km radius of the site.	6	There is approximately 39% GHFF foraging habitat within a 20km radius of the site.
	Ecological Corridors	**10**	0	The site is not within a State corridor.	0	The site is not within a State corridor.	0	The site is not within a State corridor.	0	The site is not within a State corridor.
	Role of site location to species overall population in the state	**10**	1	There are 2 active Level 3 GHFF camps within a 20km radius of the site	1	There are 2 active Level 3 GHFF camps within a 20km radius of the site	1	There are 2 active Level 3 GHFF camps within a 20km radius of the site	1	There are 2 active Level 3 GHFF camps within a 20km radius of the site
	Threats to the species	**10**	5	There is a moderate level of threats to the species on-site.	5	There is a moderate level of threats to the species on-site.	5	There is a moderate level of threats to the species on-site.	5	There is a moderate level of threats to the species on-site.
	Site Context Score	**60**	**32**		**32**		**32**		**32**	
	Site Context Score - out of 3	**3.00**	**1.60**		**1.60**		**1.60**		**1.60**	
Species Stocking Rate (30%)	GHFF Foraging Tree Density		T2 - 350 *stems per ha* T3 - 485 *stems per ha* Av = 417.5 stems per ha		T1 - 155 *stems per ha* T8 - 169 *stems per ha* Av = 162 stems per ha		T4 - 215 *stems per ha* T7 - *75 stems per ha* Av = 145 stems per ha		T5 - *100 stems per ha* T6 - *145 stems per ha* Av = 122.5 stems per ha	
	Species Stocking Rate Score	**10**	6		6		4		4	
	Species Stocking Rate Score - out of 3	**3.00**	**1.80**		**1.80**		**1.20**		**1.20**	
	Total		**5.52**		**5.60**		**5.20**		**5.20**	
	Area (hectares)		5.90		10.30		1.20		1.50	
	Weighting		0.31		0.54		0.06		0.08	
	Weighted Scores		1.72		3.05		0.33		0.41	
	Score		**5.52**							

RE12.9-10.19 340 stems/ha | RE12.9-10.2 240 stems/ha | RE12.3.11 846 stems/ha | RE12.9-10.7 480 stems/ha

Score	Stem Density Results (T1 and T2)	Score	Stem Density Results (T1 and T2)	Score	Stem Density Results (T1 and T2)	Score	Stem Density Results (T1 and T2)
2	0-43	**2**	0-30	**2**	0-106	**2**	0-60
4	44-184	**4**	31-130	**4**	107-458	**4**	61-260
6	185-312	**6**	131-220	**6**	459-776	**6**	261-440
8	313-333	**8**	221-235	**8**	777-828	**8**	441-470
10	334-347	**10**	236-245	**10**	829-864	**10**	471-490
8	348-368	**8**	246-260	**8**	865-916	**8**	491-520
6	369-496	**6**	261-350	**6**	917-1234	**6**	521-700
4	497-638	**4**	351-450	**4**	1235-1586	**4**	701-900
2	>638	**2**	>450	**2**	>1586	**2**	>900

Assessment Unit - Regional Ecosystem - GG	AU 1 - Cat X - cleared with scattered regrowth (Preclear RE12.9-10.19a)					
	RE12.9-10.19a Benchmark	Transect 2	Transect 3	Average of Transect(s)	% Benchmark	Score
SITE CONDITION						
Recruitment of woody perennial species in EDL	100	100	100	100	100	5
Native plant species richness - trees	4	10	11	10.5	262.50	5
Native plant species richness - shrubs	6	1	3	2	33.33	2.5
Native plant species richness - grasses	7	6	5	5.5	78.57	2.5
Native plant species richness - forbs	14	7	12	9.5	67.86	2.5
Tree canopy height (Canopy)*	24	22	21	21.5	89.58	5
Tree canopy height (Sub-canopy)*	10	15	16	15.5	155.00	5
					*Average tree canopy height	5
Tree canopy cover (Canopy)**	59	95.4	53.1	74.25	125.85	5
Tree canopy cover (Sub-canopy)**	22	58.1	71.2	64.65	293.86	3
					**Average tree canopy cover	4
Shrub canopy cover	11	16.9	0.7	8.8	80.00	5
Native grass cover*	16	15	27	21	131.25	5
Organic litter*	53	67	48	57.5	108.49	5
Large trees (euc plus non-euc) (per ha)	24	0	0	0	0.00	0
Coarse woody debris (per ha)	285	136	70	103	36.14	2
Non-native plant cover	0	20	20	20	20.00	5
Quality and availability of food and foraging habitat	NA	10	10	10	-	10
Quality and availability of shelter	NA	5	5	5	-	5
					Site Condition Score (/100)	64.25
					Overall Site Condition Score - out of 3	1.93
SITE CONTEXT						
Size of patch	10	10	10	10		10
Connectedness	5	4	4	4		4
Context	5	4	4	4		4
Ecological Corridors	6	0	0	0		0
Role of site location to species overall population in the state	5	5	5	5		5
Threats to the species	15	7	7	7		7
Species mobility capacity	10	7	7	7		7
					Site Context Score (/56)	37
					Overall Site Context Score - out of 3	1.98
SPECIES STOCKING RATE						
Greater Glider Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	20	20	20		20
					Species Stocking Rate Score (/70)	20.00
					Overall Species Stocking Rate Score - out of 4	1.14
Overall Assessment Unit Score						5.05

5							
5							
2.5							
2.5							
2.5							
5							
4							
5							
5							
5							
0							
2							
5							24.25
10							20
5	Estimate 0.98/ha						20
							64.25

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		
		No	Yes - adjacent		Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		
		Not habitat	Dispersal	Foraging	Breeding		
Approximate density (per ha)	Score	0	10	20	30		
		0%	low	med	high		
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15	
		0	5 - 15	20 - 35		40 - 45	
Total SRR score (out of 70)		20					
SRR Score (out of 4)	**1.142857143**						

0	No records
15	Breeding habitat
0	No usage
5	See below

*SSR Supplementary Table			
*Key source population for breeding	Score	0	10
		No	Yes/ Possibly
*Key source population for dispersal	Score	0	5
		No	Yes/ Possibly
*Necessary for maintaining genetic diversity	Score	0	15
		No	Yes/ Possibly
*Near the limit of the species range	Score	0	15
		No	Yes

0 Given the no usage it is not considered to be a key populaiton for breeding

5 Unknown but using the precautionary principle it is considered possible.

0 The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence

0 The site is not near the limit of Greater Gliders range

Assessment Unit - Regional Ecosystem - Greater Glider	AU 2 - Cat B - highly disturbed mapped remnant veg with scattered mature Eucalypt species (RE12.9-10.2)					
	RE12.9-10.2 Benchmark	Transect 1	Transect 8	Average of Transect(s)	% Benchmark	Score
SITE CONDITION						
Recruitment of woody perennial species in EDL	100	100	50	75	75	3
Native plant species richness - trees	6	5	7	6	100.00	5
Native plant species richness - shrubs	7	5	5	5	71.43	2.5
Native plant species richness - grasses	7	6	5	5.5	78.57	2.5
Native plant species richness - forbs	13	9	13	11	84.62	2.5
Tree canopy height (Canopy)*	21	21	17	19	90.48	5
Tree canopy height (Sub-canopy)*	12	12	12	12	100.00	5
					*Average tree canopy height	5
Tree canopy cover (Canopy)**	64	77.3	44.6	60.95	95.23	5
Tree canopy cover (Sub-canopy)**	20	50.9	67.3	59.1	295.50	3
					**Average tree canopy cover	4
Shrub canopy cover	6	1.1	18.6	9.85	164.17	5
Native grass cover*	21	6	2	4	19.05	1
Organic litter*	48	51	55	53	110.42	5
Large trees (euc plus non-euc) (per ha)	38	38	4	21	55.26	10
Coarse woody debris (per ha)	506	446	92	269	53.16	5
Non-native plant cover	0	35	10	22.5	22.50	5
Quality and availability of food and foraging habitat	NA	10	10	10	-	10
Quality and availability of shelter	NA	5	5	5	-	5
					Site Condition Score (/100)	67.75
					Overall Site Condition Score - out of 3	2.03
SITE CONTEXT						
Size of patch	10	10	10	10		10
Connectedness	5	4	4	4		4
Context	5	4	4	4		4
Ecological Corridors	6	0	0	0		0
Role of site location to species overall population in the state	5	5	5	5		5
Threats to the species	15	7	7	7		7
Species mobility capacity	10	7	7	7		7
					Site Context Score (/56)	37
					Overall Site Context Score - out of 3	1.98
SPECIES STOCKING RATE						
Greater Glider Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	20	20	20		20
					Species Stocking Rate Score (/70)	20.00
					Overall Species Stocking Rate Score - out of 4	1.14
Overall Assessment Unit Score						5.16

3							
5							
2.5							
2.5							
2.5							
5							
4							
5							
1							
5							
10							
5							
5						27.75	
10						20	
5	Estimate 1.6/ha					20	
						67.75	

Species Stocking Rate (SSR)						
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	
		0%	low	med	high	
Role/importance of species population on site*	Score (*Total from supplementary table below)*	0	5	10		15
		0	5 - 15	20 - 35		40 - 45
Total SRR score (out of 70)		20				
SRR Score (out of 4)		**1.142857143**				

0	No records
15	Breeeding habitat
0	No usage
5	See below

*SSR Supplementary Table			
*Key source population for breeding	Score	0	10
		No	Yes/ Possibly
*Key source population for dispersal	Score	0	5
		No	Yes/ Possibly
*Necessary for maintaining genetic diversity	Score	0	15
		No	Yes/ Possibly
*Near the limit of the species range	Score	0	15
		No	Yes

0	Given the no usage it is not considered to be a key populaiton for breeding
5	Unknown but using the precautionary principle it is considered possible.
0	The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence
0	The site is not near the limit of Greater Gliders range

Assessment Unit - Regional Ecosystem - Greater Glider	AU 3 - Cat B - Remnant vegetation associated with Flagstone Creek (RE12.3.11/12.3.7)					
	RE12.3.11 Benchmark	Transect 4	Transect 7	Average of Transect(s)	% Benchmark	Score
SITE CONDITION						
Recruitment of woody perennial species in EDL	100	100	0	50	50	3
Native plant species richness - trees	7	4	8	6	85.71	2.5
Native plant species richness - shrubs	7	3	4	3.5	50.00	2.5
Native plant species richness - grasses	12	2	2	2	16.67	0
Native plant species richness - forbs	25	6	11	8.5	34.00	2.5
Tree canopy height (Canopy)*	23	23	19	21	91.30	5
Tree canopy height (Sub-canopy)*	8	8	14	11	137.50	5
					*Average tree canopy height	5
Tree canopy cover (Canopy)**	56	63.7	28.2	45.95	82.05	5
Tree canopy cover (Sub-canopy)**	33	52.3	79.5	65.9	199.70	5
					**Average tree canopy cover	5
Shrub canopy cover	20	21.4	16.5	18.95	94.75	5
Native grass cover*	44	8	67	37.5	85.23	3
Organic litter*	37	57	6	31.5	85.14	5
Large trees (euc plus non-euc) (per ha)	30	14	8	11	36.67	5
Coarse woody debris (per ha)	555	289	178	233.5	42.07	2
Non-native plant cover	0	30	25	27.5	27.50	3
Quality and availability of food and foraging habitat	NA	10	10	10	-	10
Quality and availability of shelter	NA	1	1	1	-	1
					Site Condition Score (/100)	45.75
					Overall Site Condition Score - out of 3	1.37
SITE CONTEXT						
Size of patch	10	10	10	10		10
Connectedness	5	4	4	4		4
Context	5	4	4	4		4
Ecological Corridors	6	0	0	0		0
Role of site location to species overall population in the state	5	5	5	5		5
Threats to the species	15	7	7	7		7
Species mobility capacity	10	7	7	7		7
					Site Context Score (/56)	37
					Overall Site Context Score - out of 3	1.98
SPECIES STOCKING RATE						
Greater Glider Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	20	20	20		20
					Species Stocking Rate Score (/70)	20.00
					Overall Species Stocking Rate Score - out of 4	1.14
Overall Assessment Unit Score						4.50

3							
2.5							
2.5							
0							
2.5							
5							
5							
5							
3							
5							
5							
2							
3							21.75
10							20
1	Estimate 0.5/ha						4
							45.75

Species Stocking Rate (SSR)						
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	
		0%	low	med	high	
Role/importance of species population on site*	Score (*Total from supplementary table below)*	0	5	10		15
		0	5 - 15	20 - 35		40 - 45
Total SRR score (out of 70)		20				
SRR Score (out of 4)		**1.142857143**				

0	No records
15	Breeding habitat
0	No usage
5	See below

*SSR Supplementary Table			
*Key source population for breeding	Score	0	10
		No	Yes/ Possibly
*Key source population for dispersal	Score	0	5
		No	Yes/ Possibly
*Necessary for maintaining genetic diversity	Score	0	15
		No	Yes/ Possibly
*Near the limit of the species range	Score	0	15
		No	Yes

0	Given the no usage it is not considered to be a key populaiton for breeding
5	Unknown but using the precautionary principle it is considered possible.
0	The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence
0	The site is not near the limit of Greater Gliders range

Assessment Unit - Regional Ecosystem - Greater Glider	AU 4 - Cat B - Eucalypt dominated remnant veg. (RE12.9-10.7)								
	RE12.9-10.7 Benchmark	Transect 5	Transect 6	Average of Transect(s)	% Benchmark	Score			
SITE CONDITION									
Recruitment of woody perennial species in EDL	100	100	100	100	100	5	5		
Native plant species richness - trees	3	4	8	6	200.00	5	5		
Native plant species richness - shrubs	5	3	6	4.5	90.00	2.5	2.5		
Native plant species richness - grasses	8	3	4	3.5	43.75	2.5	2.5		
Native plant species richness - forbs	26	6	10	8	30.77	2.5	2.5		
Tree canopy height (Canopy)*	21	16	17	16.5	78.57	5			
Tree canopy height (Sub-canopy)*	10	8	5	6.5	65.00	3			
					*Average tree canopy height	4	4		
Tree canopy cover (Canopy)**	40	18.6	51.9	35.25	88.13	5			
Tree canopy cover (Sub-canopy)**	8	78.9	89.8	84.35	1054.38	3			
					**Average tree canopy cover	4	4		
Shrub canopy cover	3	12.2	1.3	6.75	225.00	3	3		
Native grass cover*	61	2	35	18.5	30.33	1	1		
Organic litter*	20	91	36	63.5	317.50	3	3		
Large trees (euc plus non-euc) (per ha)	18	18	10	14	77.78	10	10		
Coarse woody debris (per ha)	272	604	232	418	153.68	5	5		
Non-native plant cover	0	5	10	7.5	7.50	5	5		26.25
Quality and availability of food and foraging habitat	NA	10	10	10	-	10	10		20
Quality and availability of shelter	NA	5	5	5	-	5	5	Estimate 0.98/ha	20
									66.25
					Site Condition Score (/100)	66.25			
					Overall Site Condition Score - out of 3	1.99			
SITE CONTEXT									
Size of patch	10	10	10	10		10			
Connectedness	5	4	4	4		4			
Context	5	4	4	4		4			
Ecological Corridors	6	0	0	0		0			
Role of site location to species overall population in the state	5	5	5	5		5			
Threats to the species	15	7	7	7		7			
Species mobility capacity	10	7	7	7		7			
					Site Context Score (/56)	37			
					Overall Site Context Score - out of 3	1.98			
SPECIES STOCKING RATE									
Greater Glider Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	20	20	20		20			
					Species Stocking Rate Score (/70)	20.00			
					Overall Species Stocking Rate Score - out of 4	1.14			
Overall Assessment Unit Score						5.11			

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		0 No records
		No	Yes - adjacent		Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		15 Breeding habitat
		Not habitat	Dispersal	Foraging	Breeding		
Approximate density (per ha)	Score	0	10	20	30		0 No usage
		0%	low	med	high		
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15	5 See below
		0	5 - 15	20 - 35		40 - 45	
Total SRR score (out of 70)		20					
SRR Score (out of 4)	**1.142857143**						

*SSR Supplementary Table				
*Key source population for breeding	Score	0	10	0 Given the no usage it is not considered to be a key populaiton for breeding
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5 Unknown but using the precautionary principle it is considered possible.
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0 The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0 The site is not near the limit of Greater Gliders range
		No	Yes	

Assessment Unit - Regional Ecosystem - YBG	AU 1 - Cat X - cleared with scattered regrowth (Preclear RE12.9-10.19a)								
	RE12.9-10.19a Benchmark	Transect 2	Transect 3	Average of Transect(s)	% Benchmark	Score			
SITE CONDITION									
Recruitment of woody perennial species in EDL	100	100	100	100	100	5	5		
Native plant species richness - trees	4	10	11	10.5	262.50	5	5		
Native plant species richness - shrubs	6	1	3	2	33.33	2.5	2.5		
Native plant species richness - grasses	7	6	5	5.5	78.57	2.5	2.5		
Native plant species richness - forbs	14	7	12	9.5	67.86	2.5	2.5		
Tree canopy height (Canopy)*	24	22	21	21.5	89.58	5			
Tree canopy height (Sub-canopy)*	10	15	16	15.5	155.00	5			
					*Average tree canopy height	5	5		
Tree canopy cover (Canopy)**	59	95.4	53.1	74.25	125.85	5			
Tree canopy cover (Sub-canopy)**	22	58.1	71.2	64.65	293.86	3			
					**Average tree canopy cover	4	4		
Shrub canopy cover	11	16.9	0.7	8.8	80.00	5	5		
Native grass cover*	16	15	27	21	131.25	5	5		
Organic litter*	53	67	48	57.5	108.49	5	5		
Large trees (euc plus non-euc) (per ha)	24	0	0	0	0.00	0	0		
Coarse woody debris (per ha)	285	136	70	103	36.14	2	2		
Non-native plant cover	0	20	20	20	20.00	5	5		24.25
Quality and availability of food and foraging habitat	NA	10	10	10	-	10	10		20
Quality and availability of shelter	NA	5	5	5	-	5	5	Estimate 0.98/ha	20
									64.25
					Site Condition Score (/100)	64.25			
					Overall Site Condition Score - out of 3	1.93			
SITE CONTEXT									
Size of patch	10	10	10	10		10			
Connectedness	5	4	4	4		4			
Context	5	4	4	4		4			
Ecological Corridors	6	0	0	0		0			
Role of site location to species overall population in the state	5	5	5	5		5			
Threats to the species	15	7	7	7		7			
Species mobility capacity	10	7	7	7		7			
					Site Context Score (/56)	37			
					Overall Site Context Score - out of 3	1.98			
SPECIES STOCKING RATE									
YBG Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	25	25	25		25			
					Species Stocking Rate Score (/70)	25.00			
					Overall Species Stocking Rate Score - out of 4	1.43			
Overall Assessment Unit Score						5.34			

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		5 Adjacent record but disconnected
		No	Yes - adjacent		Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		15 Breeding habitat
		Not habitat	Dispersal	Foraging	Breeding		
Approximate density (per ha)	Score	0	10	20	30		0 No usage
		0%	low	med	high		
Role/importance of species population on site*	Score (*Total from supplementary table below)*	0	5	10		15	5 See below
		0	5 - 15	20 - 35		40 - 45	
Total SRR score (out of 70)		25					
SRR Score (out of 4)	**1.428571429**						

*SSR Supplementary Table				
*Key source population for breeding	Score	0	10	0 Given the no usage it is not considered to be a key populaiton for breeding
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5 Unknown but using the precautionary principle it is considered possible.
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0 The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0 The site is not near the limit of Yellow Bellied Gliders range
		No	Yes	

Assessment Unit - Regional Ecosystem - YBG	AU 2 - Cat B - highly disturbed mapped remnant veg with scattered mature Eucalypt species (RE12.9-10.2)					
	RE12.9-10.2 Benchmark	Transect 1	Transect 8	Average of Transect(s)	% Benchmark	Score
SITE CONDITION						
Recruitment of woody perennial species in EDL	100	100	50	75	75	3
Native plant species richness - trees	6	5	7	6	100.00	5
Native plant species richness - shrubs	7	5	5	5	71.43	2.5
Native plant species richness - grasses	7	6	5	5.5	78.57	2.5
Native plant species richness - forbs	13	9	13	11	84.62	2.5
Tree canopy height (Canopy)*	21	21	17	19	90.48	5
Tree canopy height (Sub-canopy)*	12	12	12	12	100.00	5
					*Average tree canopy height	5
Tree canopy cover (Canopy)**	64	77.3	44.6	60.95	95.23	5
Tree canopy cover (Sub-canopy)**	20	50.9	67.3	59.1	295.50	3
					**Average tree canopy cover	4
Shrub canopy cover	6	1.1	18.6	9.85	164.17	5
Native grass cover*	21	6	2	4	19.05	1
Organic litter*	48	51	55	53	110.42	5
Large trees (euc plus non-euc) (per ha)	38	38	4	21	55.26	10
Coarse woody debris (per ha)	506	446	92	269	53.16	5
Non-native plant cover	0	35	10	22.5	22.50	5
Quality and availability of food and foraging habitat	NA	10	10	10	-	10
Quality and availability of shelter	NA	5	5	5	-	5
					Site Condition Score (/100)	67.75
					Overall Site Condition Score - out of 3	2.03
SITE CONTEXT						
Size of patch	10	10	10	10		10
Connectedness	5	4	4	4		4
Context	5	4	4	4		4
Ecological Corridors	6	0	0	0		0
Role of site location to species overall population in the state	5	5	5	5		5
Threats to the species	15	7	7	7		7
Species mobility capacity	10	7	7	7		7
					Site Context Score (/56)	37
					Overall Site Context Score - out of 3	1.98
SPECIES STOCKING RATE						
YBG Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	25	25	25		25
					Species Stocking Rate Score (/70)	25.00
					Overall Species Stocking Rate Score - out of 4	1.43
Overall Assessment Unit Score						5.44

3							
5							
2.5							
2.5							
2.5							
5							
4							
5							
1							
5							
10							
5							
5							27.75
10							20
5	Estimate 1.6/ha						20
							67.75

Species Stocking Rate (SSR)						
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	
		0%	low	med	high	
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15
		0	5 - 15	20 - 35		40 - 45
Total SRR score (out of 70)		25				
SRR Score (out of 4)	**1.428571429**					

*SSR Supplementary Table			
*Key source population for breeding	Score	0	10
		No	Yes/ Possibly
*Key source population for dispersal	Score	0	5
		No	Yes/ Possibly
*Necessary for maintaining genetic diversity	Score	0	15
		No	Yes/ Possibly
*Near the limit of the species range	Score	0	15
		No	Yes

Adjacent record but		
5	disconnected	
15	Breeding habitat	
0	No usage	
5	See below	

0 Given the no usage it is not considered to be a key populaiton for breeding

5 Unknown but using the precautionary principle it is considered possible.

0 The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence

0 The site is not near the limit of Yellow Bellied Gliders range

Assessment Unit - Regional Ecosystem - YBG	AU 3 - Cat B - Remnant vegetation associated with Flagstone Creek (RE12.3.11/12.3.7)								
	RE12.3.11 Benchmark	Transect 4	Transect 7	Average of Transect(s)	% Benchmark	Score			
SITE CONDITION									
Recruitment of woody perennial species in EDL	100	100	0	50	50	3	3		
Native plant species richness - trees	7	4	8	6	85.71	2.5	2.5		
Native plant species richness - shrubs	7	3	4	3.5	50.00	2.5	2.5		
Native plant species richness - grasses	12	2	2	2	16.67	0	0		
Native plant species richness - forbs	25	6	11	8.5	34.00	2.5	2.5		
Tree canopy height (Canopy)*	23	23	19	21	91.30	5			
Tree canopy height (Sub-canopy)*	8	8	14	11	137.50	5			
					*Average tree canopy height	5	5		
Tree canopy cover (Canopy)**	56	63.7	28.2	45.95	82.05	5			
Tree canopy cover (Sub-canopy)**	33	52.3	79.5	65.9	199.70	5			
					**Average tree canopy cover	5	5		
Shrub canopy cover	20	21.4	16.5	18.95	94.75	5	5		
Native grass cover*	44	8	67	37.5	85.23	3	3		
Organic litter*	37	57	6	31.5	85.14	5	5		
Large trees (euc plus non-euc) (per ha)	30	14	8	11	36.67	5	5		
Coarse woody debris (per ha)	555	289	178	233.5	42.07	2	2		
Non-native plant cover	0	30	25	27.5	27.50	3	3		21.75
Quality and availability of food and foraging habitat	NA	10	10	10	-	10	10		20
Quality and availability of shelter	NA	1	1	1	-	1	1	Estimate 0.5/ha	4
									45.75
					Site Condition Score (/100)	45.75			
					Overall Site Condition Score - out of 3	1.37			
SITE CONTEXT									
Size of patch	10	10	10	10		10			
Connectedness	5	4	4	4		4			
Context	5	4	4	4		4			
Ecological Corridors	6	0	0	0		0			
Role of site location to species overall population in the state	5	5	5	5		5			
Threats to the species	15	7	7	7		7			
Species mobility capacity	10	7	7	7		7			
					Site Context Score (/56)	37			
					Overall Site Context Score - out of 3	1.98			
SPECIES STOCKING RATE									
YBG Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	25	25	25		25			
					Species Stocking Rate Score (/70)	25.00			
					Overall Species Stocking Rate Score - out of 4	1.43			
Overall Assessment Unit Score						4.78			

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		Adjacent record but disconnected
		No	Yes - adjacent		Yes - on site		5
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		Breeding habitat
		Not habitat	Dispersal	Foraging	Breeding		15
Approximate density (per ha)	Score	0	10	20	30		No usage
		0%	low	med	high		0
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10		15	
		0	5 - 15	20 - 35		40 - 45	See below
Total SRR score (out of 70)		25					5
SRR Score (out of 4)	**1.428571429**						

*SSR Supplementary Table				
*Key source population for breeding	Score	0	10	0 Given the no usage it is not considered to be a key populaiton for breeding
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5 Unknown but using the precautionary principle it is considered possible.
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0 The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0 The site is not near the limit of Yellow Bellied Gliders range
		No	Yes	

Assessment Unit - Regional Ecosystem - YBG	AU 4 - Cat B - Eucalypt dominated remnant veg. (RE12.9-10.7)								
	RE12.9-10.7 Benchmark	Transect 5	Transect 6	Average of Transect(s)	% Benchmark	Score			
SITE CONDITION									
Recruitment of woody perennial species in EDL	100	100	100	100	100	5	5		
Native plant species richness - trees	3	4	8	6	200.00	5	5		
Native plant species richness - shrubs	5	3	6	4.5	90.00	2.5	2.5		
Native plant species richness - grasses	8	3	4	3.5	43.75	2.5	2.5		
Native plant species richness - forbs	26	6	10	8	30.77	2.5	2.5		
Tree canopy height (Canopy)*	21	16	17	16.5	78.57	5			
Tree canopy height (Sub-canopy)*	10	8	5	6.5	65.00	3			
					*Average tree canopy height	4	4		
Tree canopy cover (Canopy)**	40	18.6	51.9	35.25	88.13	5			
Tree canopy cover (Sub-canopy)**	8	78.9	89.8	84.35	1054.38	3			
					**Average tree canopy cover	4	4		
Shrub canopy cover	3	12.2	1.3	6.75	225.00	3	3		
Native grass cover*	61	2	35	18.5	30.33	1	1		
Organic litter*	20	91	36	63.5	317.50	3	3		
Large trees (euc plus non-euc) (per ha)	18	18	10	14	77.78	10	10		
Coarse woody debris (per ha)	272	604	232	418	153.68	5	5		
Non-native plant cover	0	5	10	7.5	7.50	5	5		26.25
Quality and availability of food and foraging habitat	NA	10	10	10	-	10	10		20
Quality and availability of shelter	NA	5	5	5	-	5	5	Estimate 0.98/ha	20
									66.25
					Site Condition Score (/100)	66.25			
					Overall Site Condition Score - out of 3	1.99			
SITE CONTEXT									
Size of patch	10	10	10	10		10			
Connectedness	5	4	4	4		4			
Context	5	4	4	4		4			
Ecological Corridors	6	0	0	0		0			
Role of site location to species overall population in the state	5	5	5	5		5			
Threats to the species	15	7	7	7		7			
Species mobility capacity	10	7	7	7		7			
					Site Context Score (/56)	37			
					Overall Site Context Score - out of 3	1.98			
SPECIES STOCKING RATE									
YBG Stocking Rate (utilising SSR & SSR Supplementary Table(s)	70	25	25	25		25			
					Species Stocking Rate Score (/70)	25.00			
					Overall Species Stocking Rate Score - out of 4	1.43			
Overall Assessment Unit Score						5.40			

Species Stocking Rate (SSR)							
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10		5 Adjacent record but disconnected
		No	Yes - adjacent		Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		15 Breeding habitat
		Not habitat	Dispersal	Foraging	Breeding		
Approximate density (per ha)	Score	0	10	20	30		0 No usage
		0%	low	med	high		
Role/importance of species population on site*	Score (*Total from supplementary table below)*	0	5	10		15	5 See below
		0	5 - 15	20 - 35		40 - 45	
Total SRR score (out of 70)		25					
SRR Score (out of 4)	**1.428571429**						

*SSR Supplementary Table				
*Key source population for breeding	Score	0	10	0 Given the no usage it is not considered to be a key populaiton for breeding
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5 Unknown but using the precautionary principle it is considered possible.
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0 The site is highly unlikely to be necessary for maintaining genetic diversity given the species absence
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0 The site is not near the limit of Yellow Bellied Gliders range
		No	Yes	

Appendix A14

EPBC Vegetation Clearing and Fauna Management Plan

NEW BEITH ROAD

EPBC Vegetation Clearing and Fauna Management Plan

DWG NO.	DRAWING TITLE	ISSUE	DATE
8418 E 01 EPBC VCFMP B	COVER SHEET	B	10/11/2025
8418 E 02 EPBC VCFMP B	INTRODUCTION AND NOTES	B	10/11/2025
8418 E 03 EPBC VCFMP B	FAUNA NOTES	B	10/11/2025
8418 E 04 EPBC VCFMP B	CONTEXT SHEET	B	10/11/2025
8418 E 05 EPBC VCFMP B	DETAIL SHEET/S	B	10/11/2025
8418 E 18 EPBC VCFMP B	CLEARING DIRECTION	B	10/11/2025
8418 E 19 EPBC VCFMP B	WEED MANAGEMENT NOTES	B	10/11/2025
8418 E A01 EPBC VCFMP B	APPENDIX 1. WEED LIST	B	10/11/2025
8418 E A02 EPBC VCFMP B	APPENDIX 2. TREE SCHEDULE	B	10/11/2025

Saunders Havill

PATHWAYS TO SUCCESS

NEW BEITH ROAD

EPBC Vegetation Clearing and Fauna Management Plan - *Notes*

INTRODUCTION

The Environmental Management Division of **Saunders Havill (SH)** was engaged by **PEET Flagstone City Pty Ltd** to prepare an EPBC Vegetation Clearing and Fauna Management Plan (EPBC VCFMP) for the proposed New Beith Road project.

The purpose of this plan is to manage the vegetation removal process and the protection of fauna species within the clearing area. The clearing works will follow general principles for vegetation clearing documented on this sheet and *Sheet 3*, and all specific requirements.

This EPBC VCFMP has been produced by overlaying the following site datasets to determine impacts and disturbance on existing vegetation:

1. GPS accurate tree data including specimen details & features (SH, 2024)
2. Site Inspection of Existing Vegetation (SH, 2024)
3. Site Layout Plans (Colliers)
4. Arborist inspection (TBA if required)

PROJECT MANAGEMENT

Vegetation management and processes are an integral part of the construction and operational works phases. The site supervisor is responsible for all onsite works including overseeing vegetation clearing, health and safety of fauna and adhering to conditions and guidelines and Australian Standards - Protection of Trees on Development Sites AS4970-2025 and Pruning of Amenity Trees AS4373-2007.

When required, the project arborist (with minimum AQF Level 5 in Arboriculture and minimum 5 years' experience) is responsible for: undertaking all appropriate arboricultural measures prior to the commencement of any earthworks on site to ensure the survival and long-term health of existing trees to be retained. These measures may include soil decompaction, soil aeration, fertilising, mulching, watering, root or crown reduction and hazard reduction or as otherwise determined by the arborist. The site arborist is also required to direct and supervise all works within TPZs of trees to be retained and perform arboricultural care requirements where necessary.

SITE CONTACTS

Site and consulting contacts for queries relating to vegetation clearing include:

Client Contact:
To be advised

Site Contractor:
To be advised

Site Fauna spotter-catcher:
To be advised
(Refer to *Sheet 3* for responsibilities)

Environmental Contact:
Saunders Havill Group
Dr. Andrew Davies
E: mail@saundershavill.com

Site Arborist:
To be advised

Site Bushfire Consultant:
To be advised

CLEARING PHASES AND PROCESS

PHASE 1 - Tree Protection Fencing to be installed

Fencing to be installed prior to the commencement of any clearing works on the site. Tree protection fencing to be located at or beyond the Notional Root Zone which is defined as 12 x diameter at standard height (DSH) with a minimum of 2m (AS4970-2025 Protection of trees on development sites)—unless approved by the appointed arborist.

PHASE 2 - Council Pre-start Meeting (if required)

Fencing shall be in place at the time of the official pre-start meeting for inspection and sign off by relevant Officers.

PHASE 3 - Fauna Inspections and Management

Undertake necessary fauna management requirements prior to clearing works - as a minimum, this will include the specifications listed on *Sheet 3* and acknowledge specific approval requirements.

PHASE 4 - Undertake Bulk Clearing

Undertake wholesale removal of vegetation once approved for removal by a qualified fauna spotter and all necessary permits are obtained. Clearing will occur in the direction outlined on *Sheet 18* of this EPBC VCFMP, and managed by the appointed fauna spotter-catcher to allow all fauna to move unimpeded towards environmental corridors adjoining the site.

Vegetation clearing techniques:

i. By utilising the most appropriate machinery and equipment during vegetation clearing, the probability of injury or death of wildlife during clearing can be significantly reduced or eliminated while still maintaining an efficient vegetation removal process.
ii. Suggested techniques are as follows: (a) a vertical tree grab attachment on an excavator (30 tonne) can be used to pull entire trees in size up to 30-40cm diameter at a height measured at 1.4 metres above ground level and lay them down in a steady controlled fashion, allowing inspection by a fauna spotter-catcher (b) where large trees are too large for a vertical tree grab and have been identified, an elevated work platform or where practical, cherry picker will be used in conjunction with a chainsaw operator and fauna spotter-catcher. Alternatively, careful removal of hollow section from habitat tree and gentle lowering for inspection by fauna spotter-catcher (c) the use of bulldozers to clear vegetation is limited to vegetation that has been thoroughly inspected by a fauna spotter-catcher and is found to contain no fauna or potential habitat. Bulldozers are not to be used to push over large trees that contain hollows or other habitat features.

NOTE: Dogs are not permitted onsite at any time during construction. Construction works, including clearing, must occur between the hours of 6.00am and 6.00pm.

ACCESS AND STOCKPILING

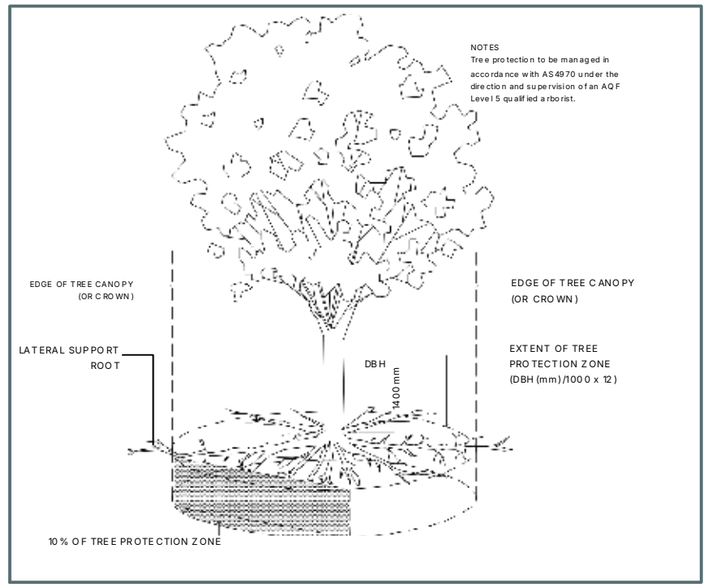
Vegetation stockpiling locations are to be designated in easily accessible areas outside of TPZs. Indicative vegetation stockpiling locations have been allocated within / near the clearing area, allowing for material to be easily delivered and stored. These locations are subject to minor change, according to cut/fill activities and intended location for reuse.

Cleared vegetation free of weeds is to be reused on or off the project site. Recycling techniques include mulching, tub-grinding, wood chipping and salvage (e.g. custom milling). Trees with identified hollows will have the hollow section preserved and will be suitably mounted on nearby or adjacent suitable trees.

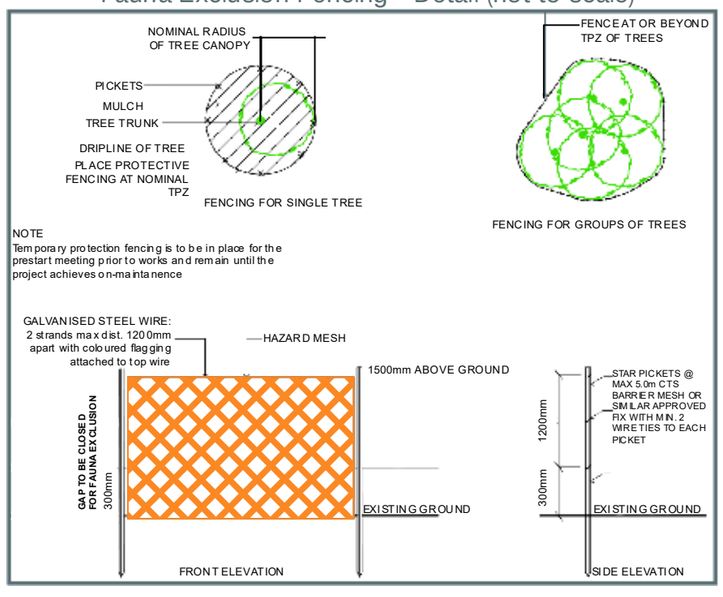
MAINTENANCE

After tree clearing works on site, an analysis of the vegetation's health and growth will be undertaken by the project arborist to determine specific maintenance needs. Follow up maintenance works will be carried out on retained vegetation where required. If conditioned in the approval—the project arborist is required to submit a report to relevant authorities detailing the measures undertaken during the construction period and any further work required post this period.

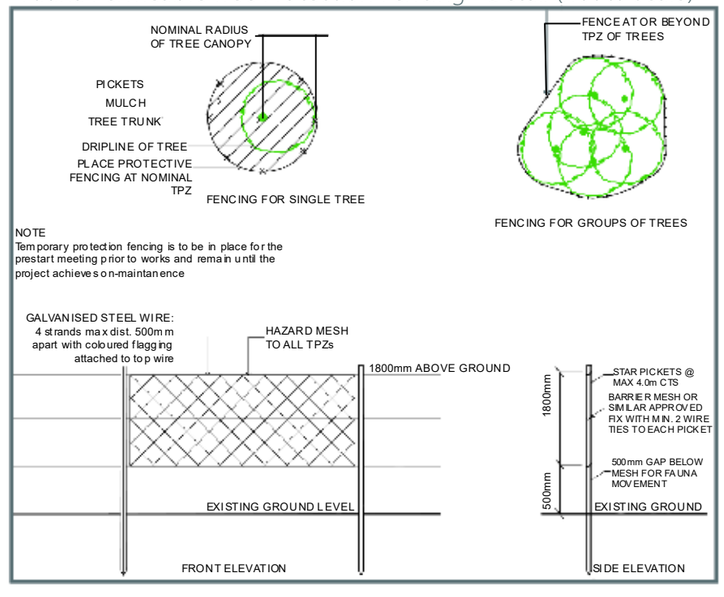
Tree Protection Zone - Detail (not to scale)



Fauna Exclusion Fencing - Detail (not to scale)



Fauna Permeable Tree Protection Fencing - Detail (not to scale)



Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

References:
AS4970-2025 Protection of trees on development sites

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 02 EPBC VCFMP B

NEW BEITH ROAD

EPBC Vegetation Clearing and Fauna Management Plan - *Fauna Notes*

INTRODUCTION

The Fauna Management specification on this *EPBC VCFMP* is designed to protect native animals and control/manage impacts during the vegetation clearing works. The clearing area occurs within the existing unsealed road reserve for the New Beith Road, which abuts large rural residential dwellings to the north, bushland to the east and west, and the Greater Flagstone PDA to the south. Common species associated with semi-urban landscapes were spotted at the clearing area during the field assessment. The fauna management specifications and principles incorporated in this *EPBC VCFMP* apply generically to all native animals and focus on avoiding conflicts and incorporating measures to minimise disturbance. Compliance with this section of the *EPBC VCFMP* is compulsory and incorporates the use of expert consultants including a Fauna Spotter (holding a valid Wildlife Rehabilitation Permit issued by the Department of Environment, Tourism, Science and Innovation).

FAUNA IMPACTS

Clearing of vegetation provides an obvious source of impact to existing habitat and animal safety. More specifically the existing vegetation provides habitat, movement and protection opportunities for some fauna through both regrowth and canopy trees. These opportunities may be altered during and post vegetation clearing works. Potential impacts include:

CONSTRUCTION IMPACTS

- Direct removal of site vegetation
- Loss of habitat
- Noise, vibration and dust
- Erosion and sedimentation
- Threats associated with open cuts etc. and fauna entrapment
- Loss of food sources
- Excavation/compaction/changes in ground levels
- Altering hydrological flows
- Fragmentation of habitat

OPERATIONAL IMPACTS

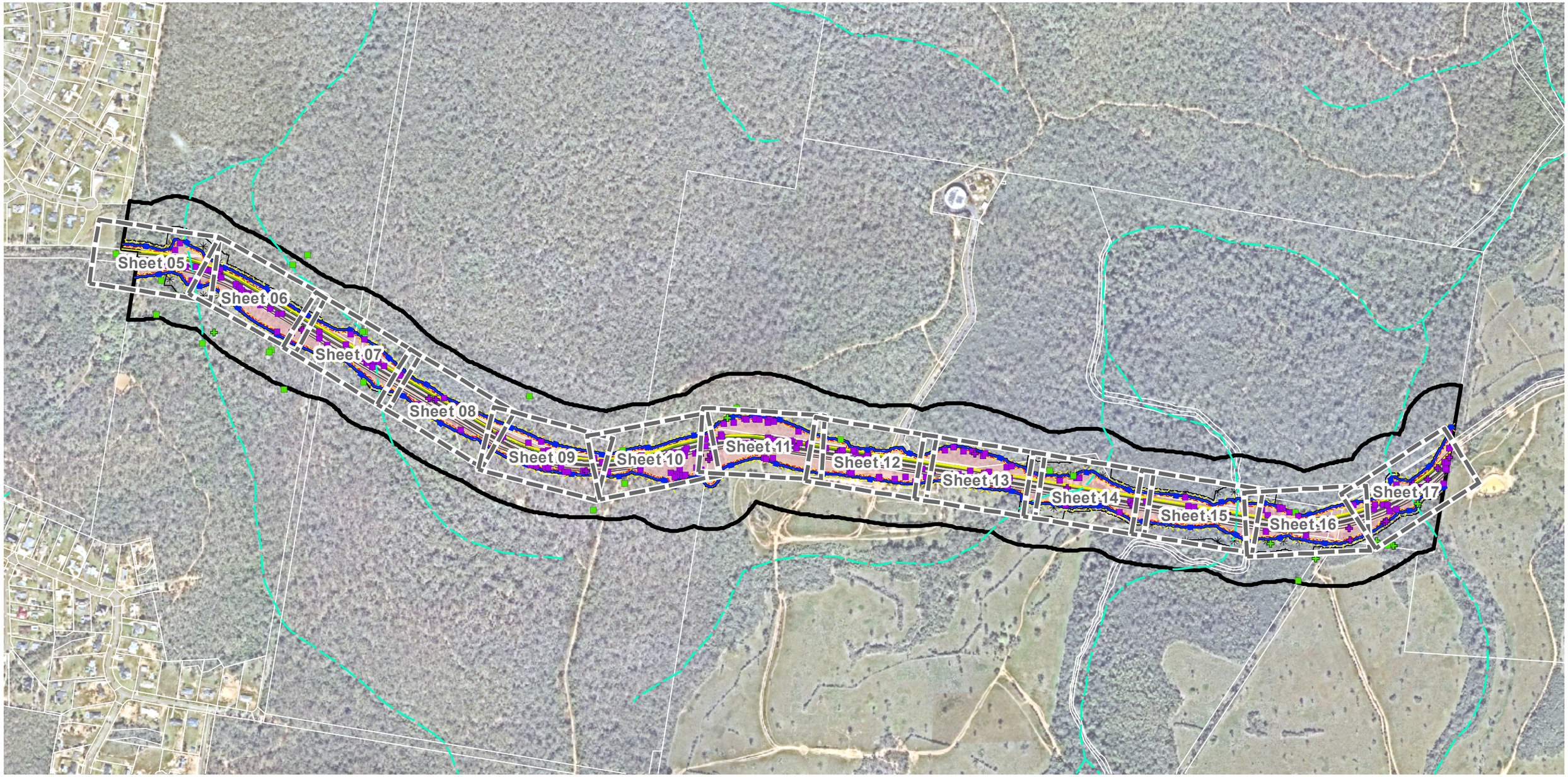
- Weed introduction (garden escapees)
- Increased hydrology with increased hardstand
- Altering of run-off chemical and nutrient components (quality)
- Barriers to fauna movement
- Vehicles and pedestrian movement and trespass
- Introduction of domestic and predatory species

FAUNA MANAGEMENT SCHEDULE

1.0 Pre - Clearing				
Ref:	**Management Item**	**Responsibility**	**Timing**	**Reporting**
1.1	**Temporary Fencing** Prior to the commencement of works and to be inspected by the site Environmental Coordinator and/or Project Arborist—Delineate areas where vegetation is proposed to be retained with exclusion fencing to prevent accidental felling. Clearing is to be undertaken in accordance with AS 4970-2025 Protection of Trees on Development Sites. ▪ Fencing will be fauna friendly ▪ No clearing, stockpiling, site access, earthworks, storage, etc. is to occur within the temporary protection fencing. ▪ Only approved weed management works to occur within the temporary protection fencing ▪ Fencing to be reinstated immediately if damaged or knocked down, any damage to retained trees to be immediately reported to Project Arborist. ▪ Fencing to remain until the completion of all site works.	Site Supervisor	Prior to the commencement of clearing	Inspected by Project Arborist
1.2	**Contractor Education & Awareness** All site contractors and subcontractors will be made aware of their responsibilities to protect native fauna. The Fauna Management notes on this EPBC VCFMP are provided as a working document to assist on-site management and protection of native animals. This generally will form part of education and training on a broader workplace health and safety but as a minimum will include: ▪ Copy of EPBC VCFMP kept on-site (Site Office). ▪ General education and awareness notification of contractors and sub-contractors involved in activities potentially impacting native animals as part of site induction – contractors must know the location of the EPBC VCFMP, key phone numbers and who to report to if they breach the EPBC VCFMP. ▪ A list of relevant contact phone numbers as listed on these drawings is kept in a visible and accessible location in the site office.	Site Supervisor / The Proponent	Prior to the commencement of clearing and as part of the site induction for new staff and sub-contractors	Site Supervisor
2.0 Vegetation Clearing				
2.1	**Spotter / Relocator** Immediately prior to the commencement of clearing of native vegetation a daily visual inspection of the area must be carried out by a qualified fauna spotter-catcher holding a valid Rehabilitation Permit. Furthermore, the fauna spotter-catcher is to be present on site during all clearing operations to supervise and direct clearing works, and to respond to any situations that may arise in relation to fauna. In the event of an animal being located, a suitable buffer area (as determined by the fauna spotter-catcher) will be established around the animal's location that excludes machinery until it has relocated at its own accord (usually overnight). If an animal requires relocating this must be undertaken by a suitable qualified fauna expert recognized by the Department of Environment, Tourism, Science and Innovation. For some fauna, specific permit requirements apply. If vegetation is left stockpiled for more than 24 hours or overnight, the fauna spotter-catcher must inspect the vegetation prior to chipping or removal from site. The Fauna Spotter-catcher will manage the care of any injured or orphaned wildlife (e.g. veterinary attention or delivery to a wildlife carer). Any native fauna listed as a threatened species under the Nature Conservation (Animals) Regulation 2020 that are injured or orphaned by the development process, must be reported to the Department of Environment, Tourism, Science and Innovation (1300 130 372). Any other injured or orphaned fauna must be reported through the Rehabilitation Permit return process by the Fauna Spotter-catcher. The Site Supervisor is responsible for the safe management of site fauna and implementation of these specific fauna requirements.	Site Supervisor	Prior to the commencement, and during clearing	Inspected by the Fauna Spotter-catcher
2.2	**Specific Koala Management Notes** A Koala/Fauna spotter-catcher is a person who holds a valid Rehabilitation Permit from the relevant State Government Agency, and has either a tertiary qualification in Biology or Zoology, or who is demonstrably experienced in the identification and location of Koalas in their natural habitat. For example, a Koala keeper employed by a licensed Wildlife exhibitor (i.e. a zoo) may be capable of demonstrating competence in locating Koala's. Prior to the commencement and during felling operations, it is the responsibility of the Koala spotter to be present at the site of felling operations identify any tree at the site within which a Koala is present, as well as any tree that has a crown which is intermeshed or overlapping with such a tree; and advise the person who is authorised to conduct the felling operation, or that persons' representative, of the precise location of each such tree Management Item.	Site Supervisor	Prior to the commencement, and during clearing	Inspected by the Fauna Spotter-catcher
2.3	**Clearing Pattern / Fauna Flushing** Clearing occurs once the fauna spotter-catcher gives sign off the site is clear of all native species and all necessary permits are obtained. The intended clearing direction is towards retained vegetation adjoining the site. Clearing direction is subject to amendment by the fauna spotter-catcher. At the completion of operational works, and prior to the sealing of survey plans for the relevant stage, the fauna spotter-catcher must provide certification to relevant officers that all works were undertaken in accordance with these fauna management requirements and specific requirements.	Site Supervisor	Prior to the commencement, and during clearing	Inspected by the Fauna Spotter-catcher
2.4	**Specific Habitat Tree Notes** Where possible, clearing of habitat trees is to be avoided during late winter and spring (typically July – October) when many native birds are actively nesting/have young in nests and arboreal mammals have dependent and/or pouch young.	Site Supervisor	Prior to the commencement, and during clearing	Inspected by the Fauna Spotter-catcher

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Context Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets
- Waterways

GPS Tree Plot

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:9,000

References:
AS4970-2025 Protection of trees on development sites

0 50 100 200 300 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

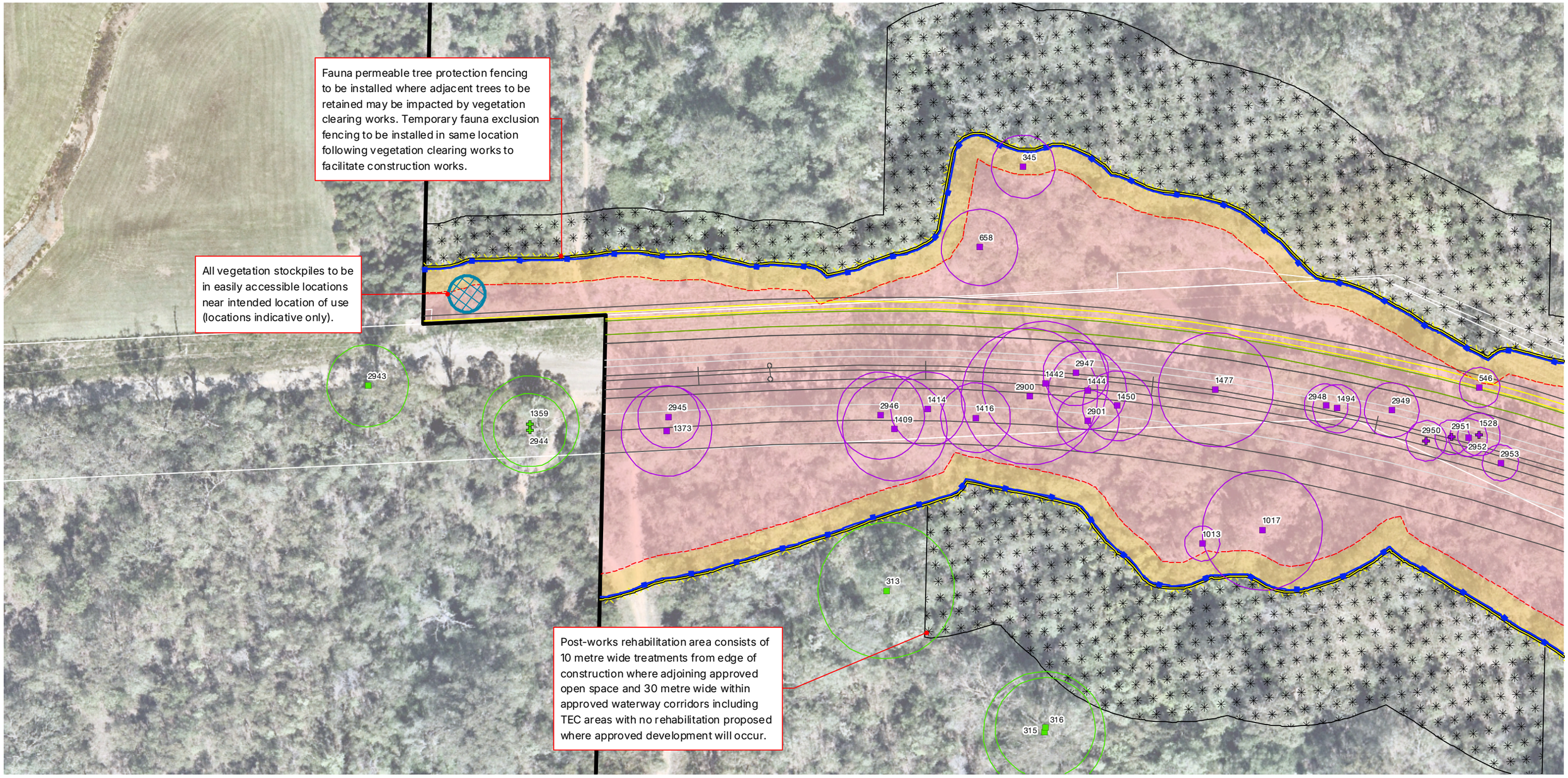
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 04 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS				
ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

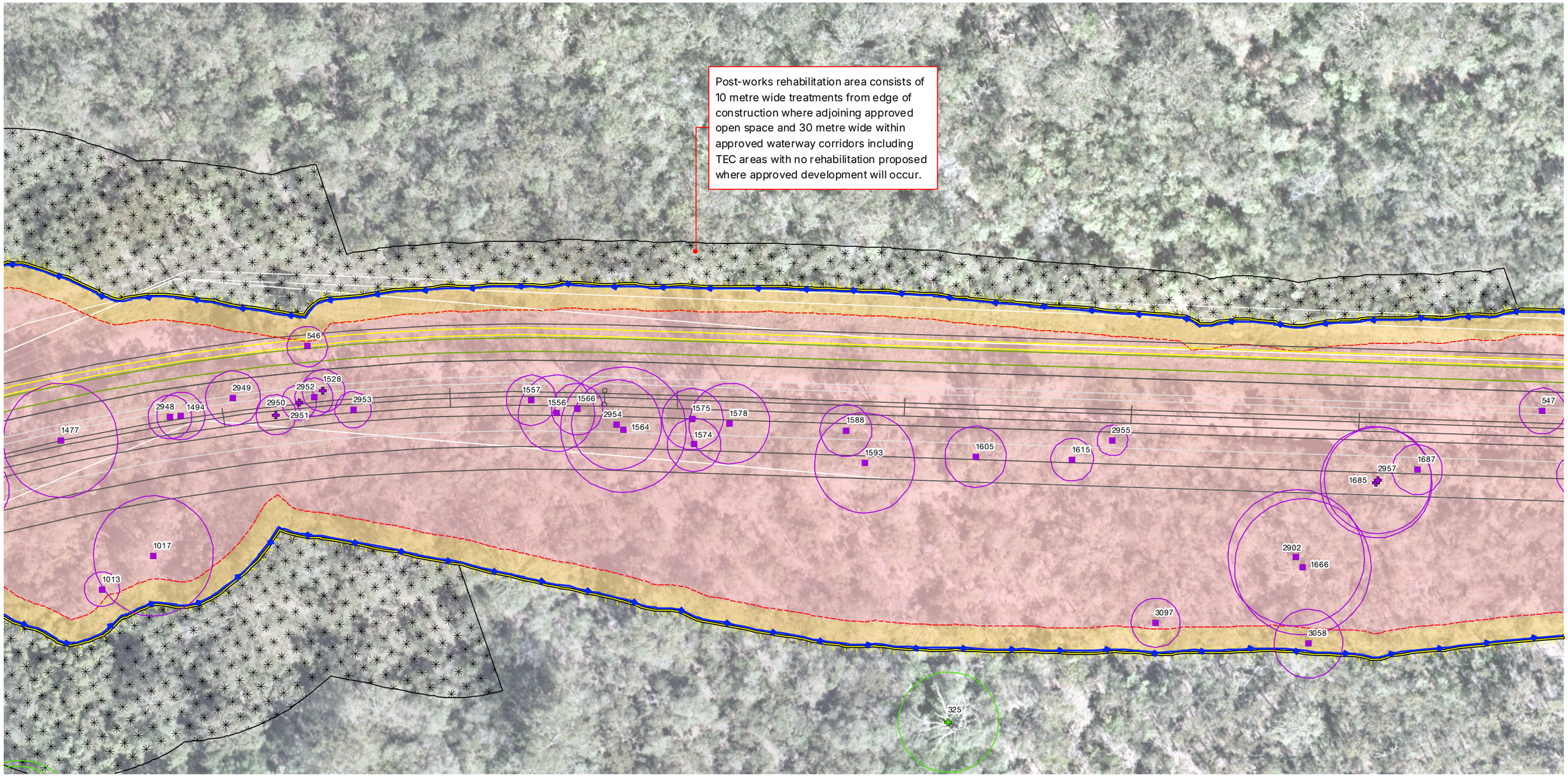
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 05 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS				
ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

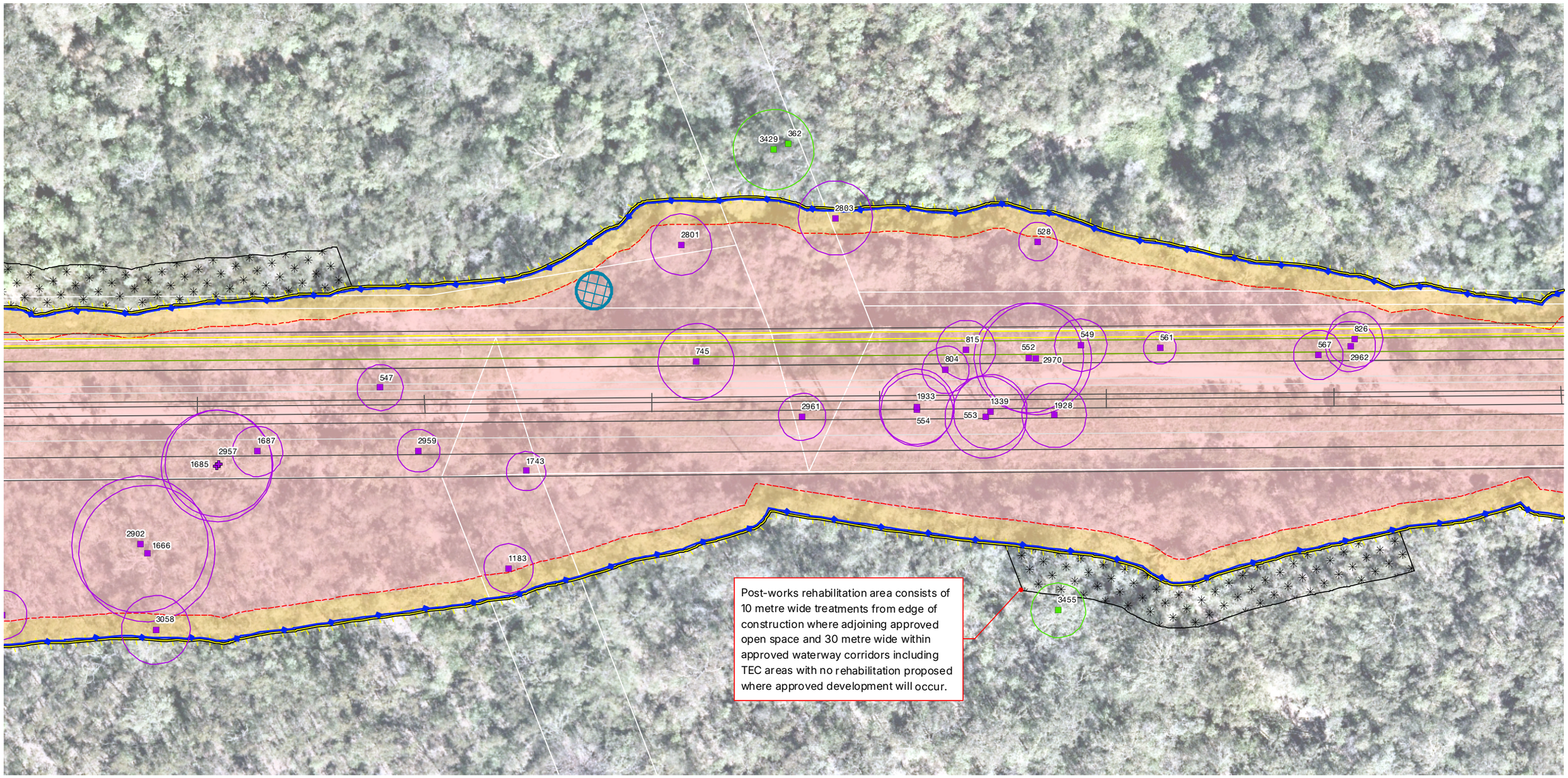
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 06 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS				
ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 07 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*

LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

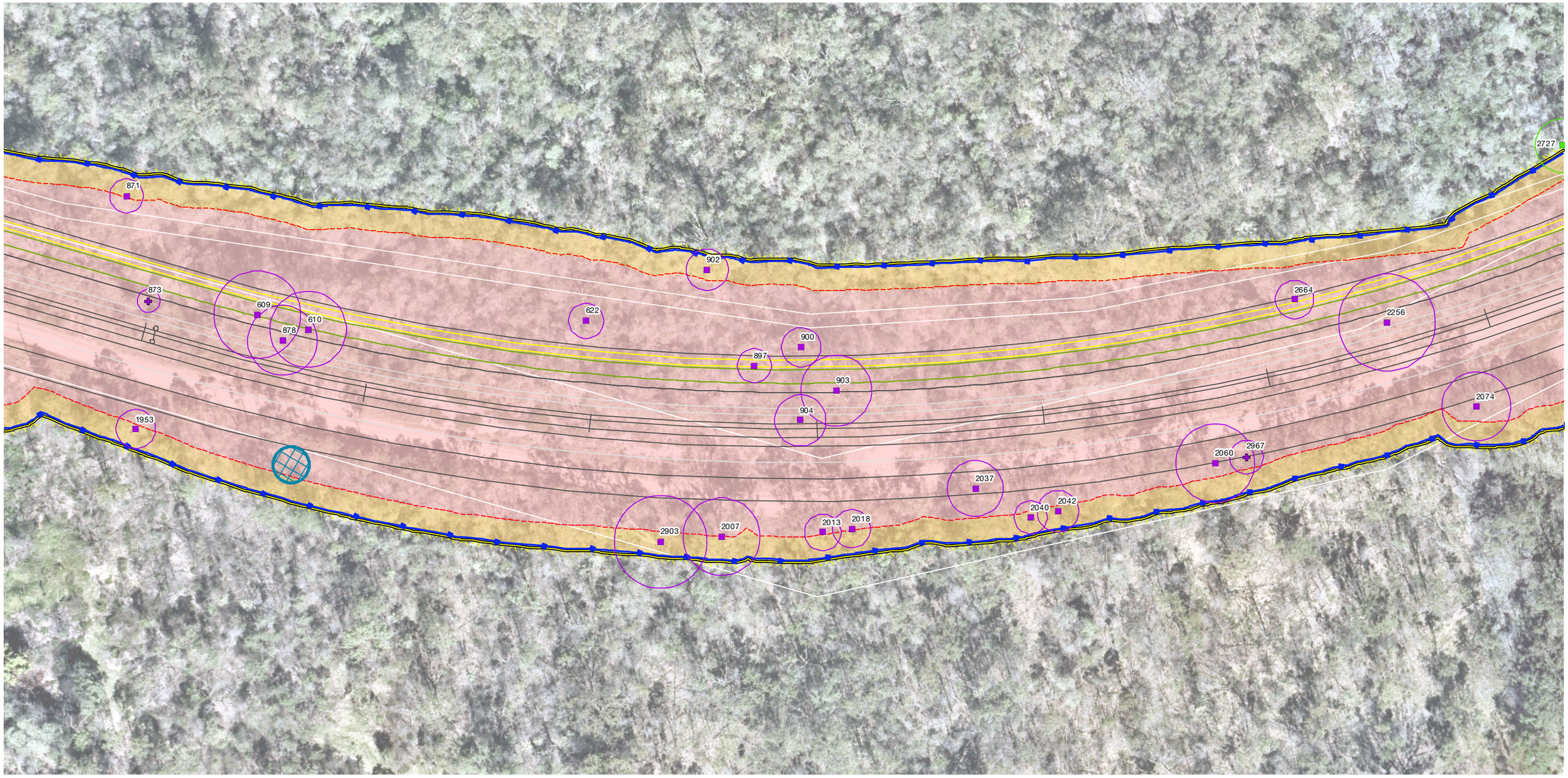
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 08 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

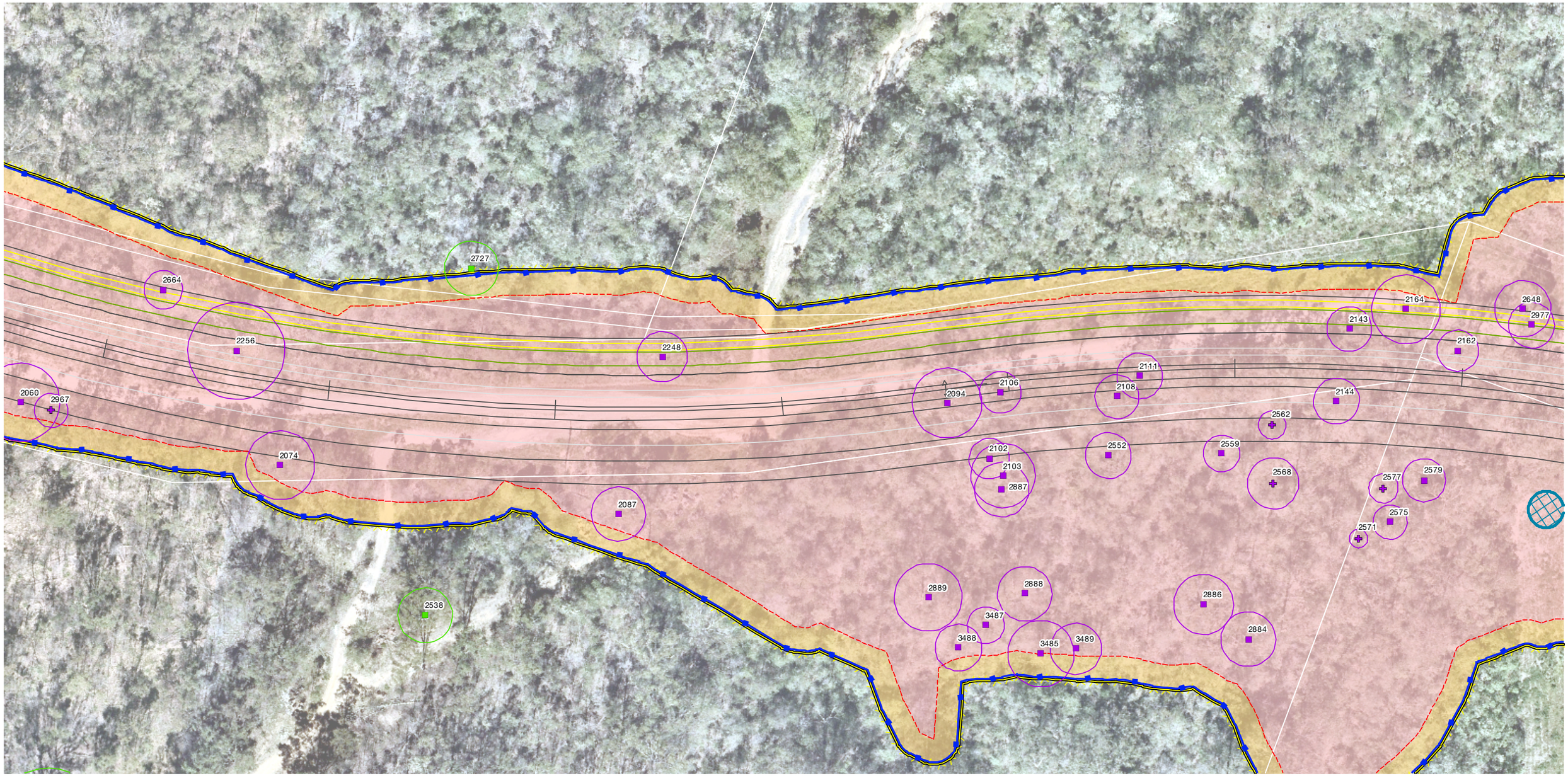
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 09 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

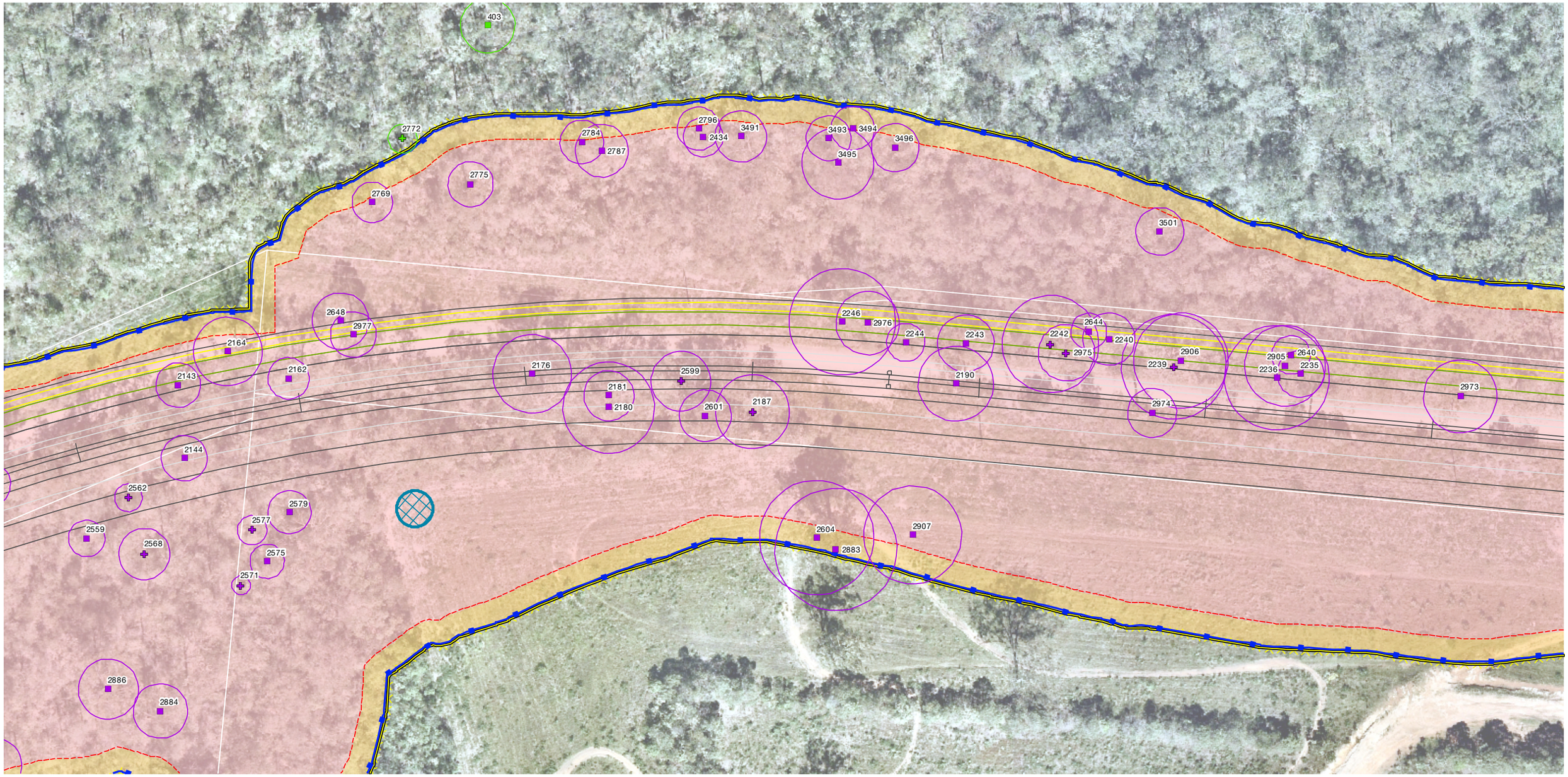
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 10 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

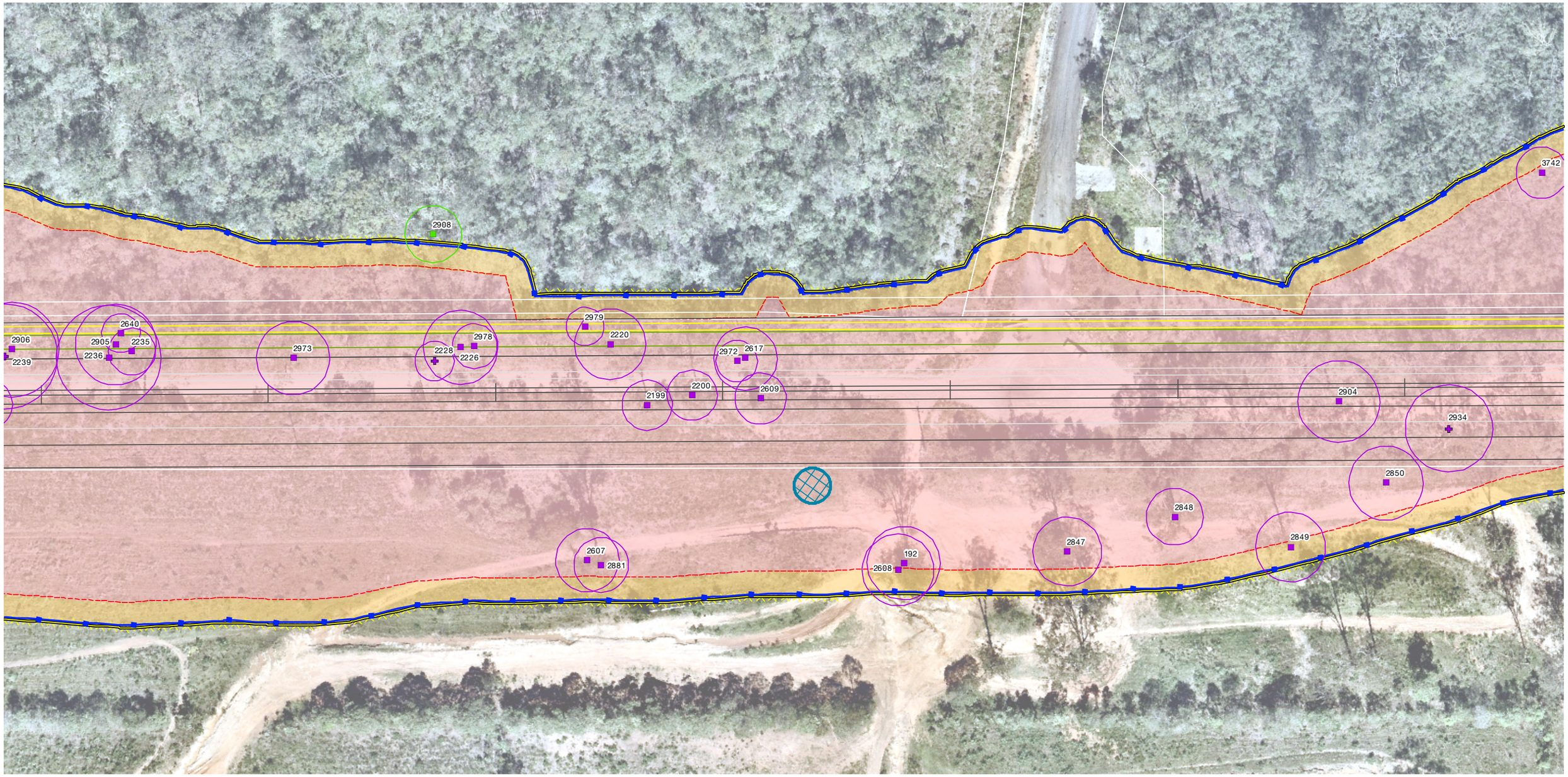
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 11 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

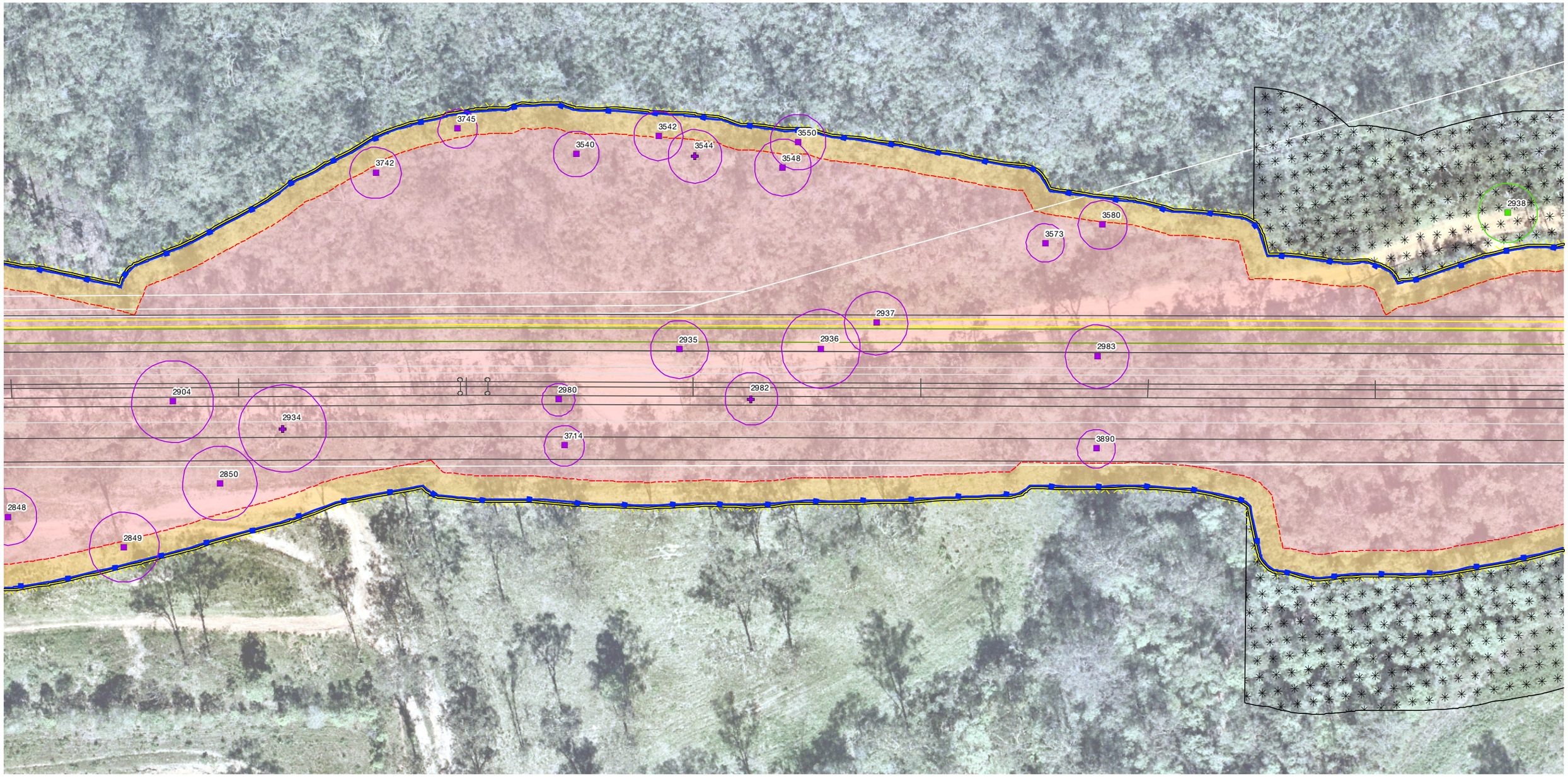
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 12 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

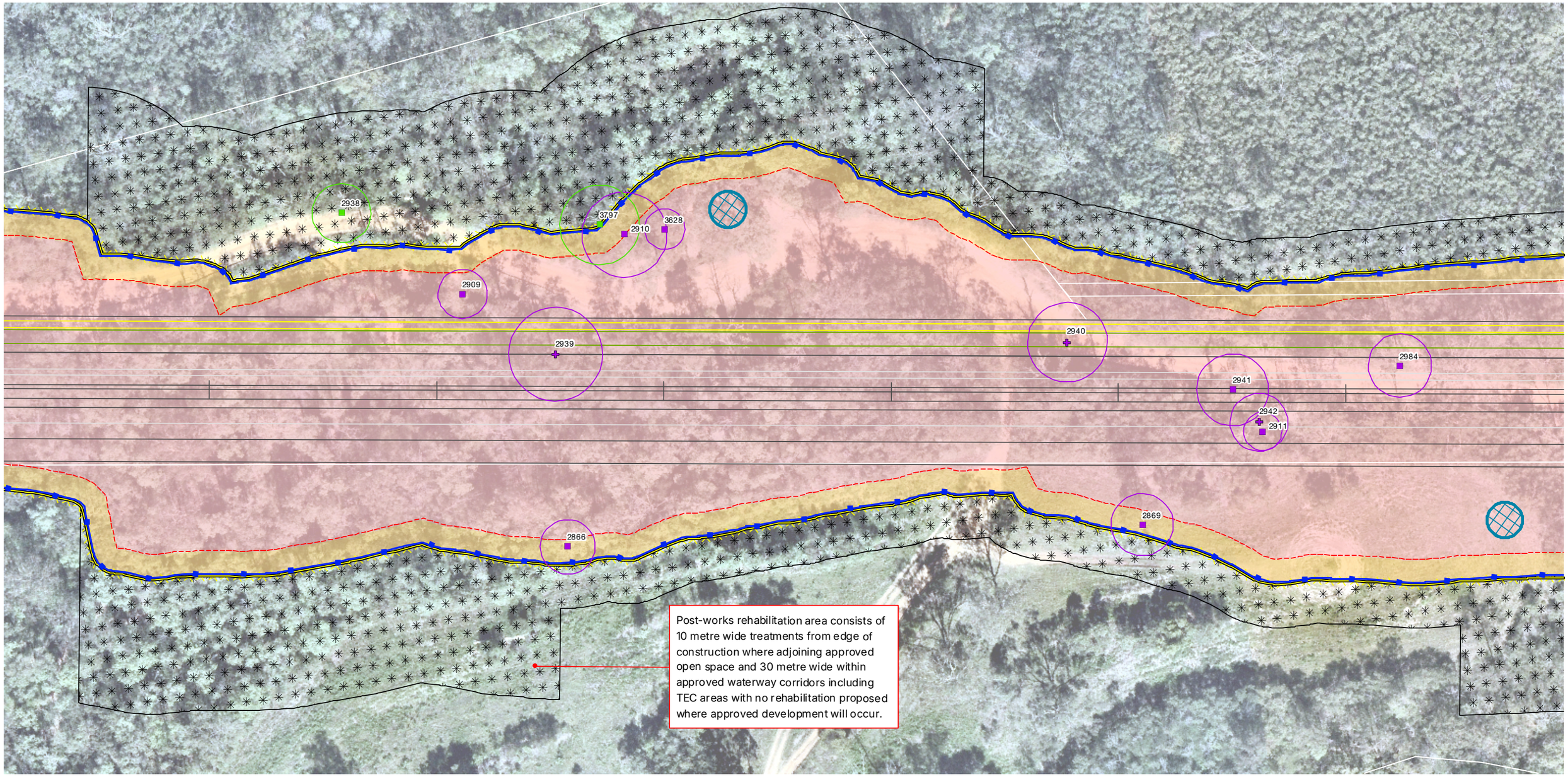
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 13 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS				
ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 14 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*

Post-works rehabilitation area consists of 10 metre wide treatments from edge of construction where adjoining approved open space and 30 metre wide within approved waterway corridors including TEC areas with no rehabilitation proposed where approved development will occur.

3662
2912
2913
2984
2941
2942
2911
2933
2931
2932
2930
2929
3921

LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

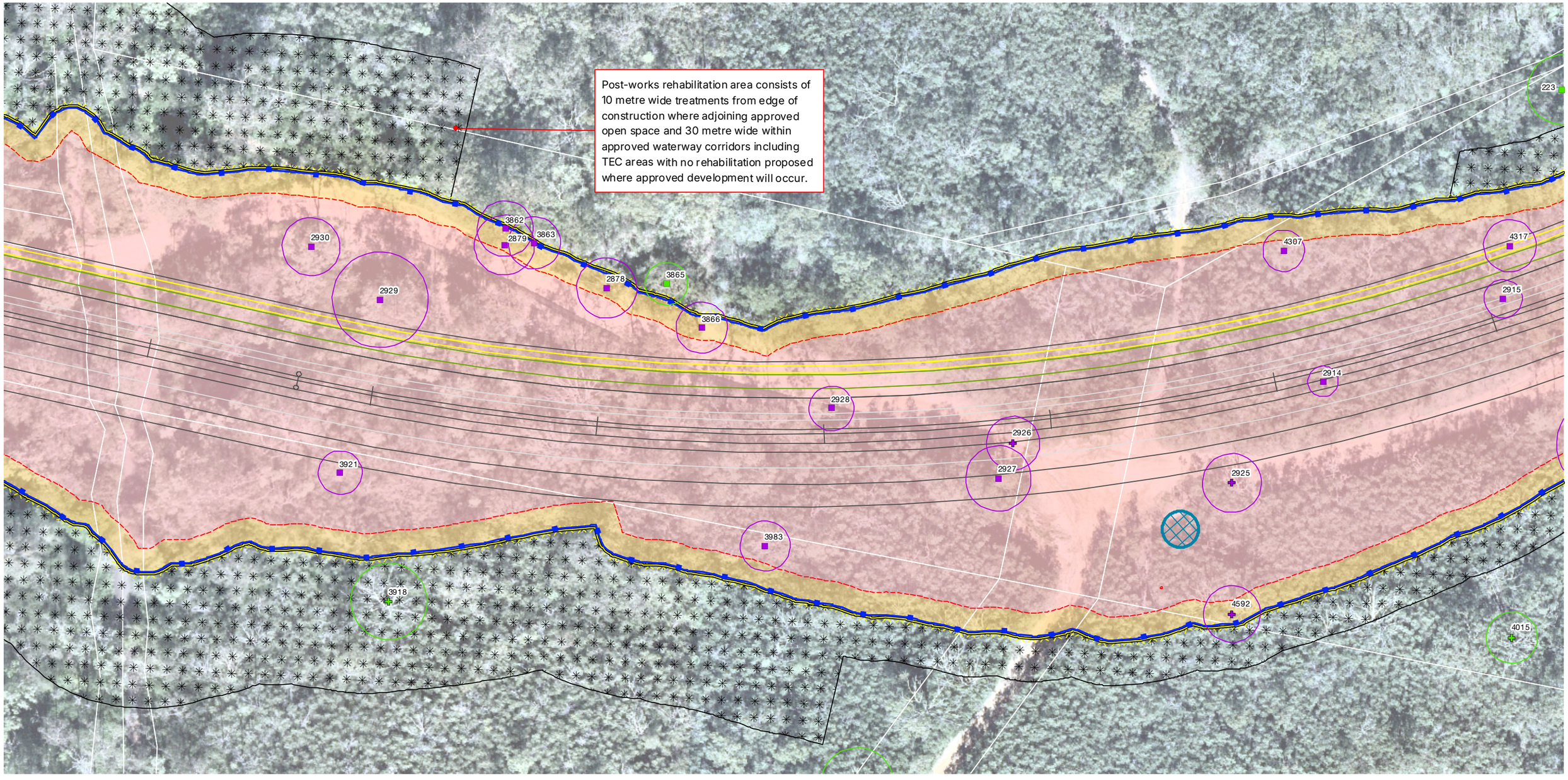
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 15 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS				
ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

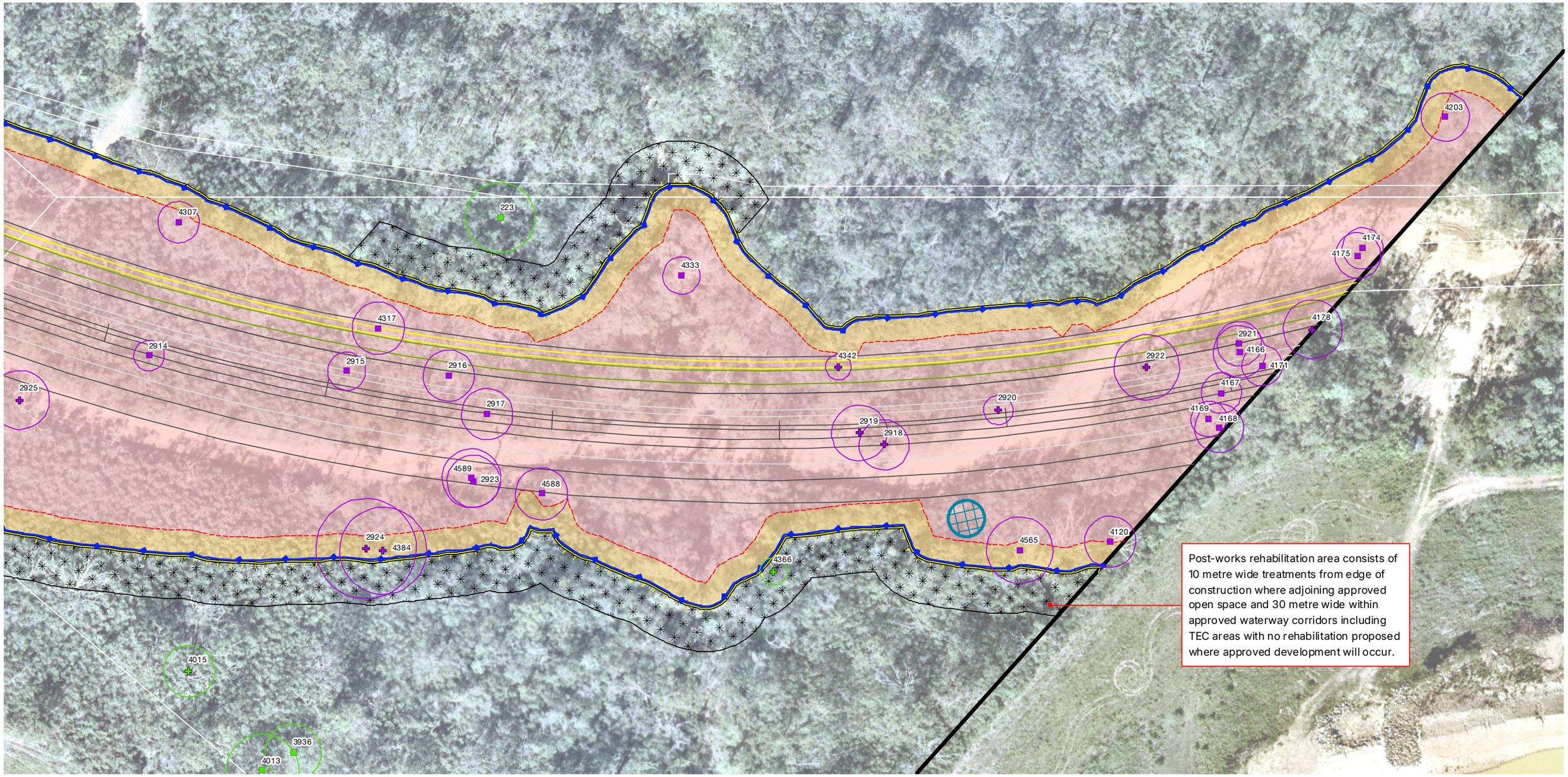
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 16 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Detail Sheet*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets

GPS Tree Plot (w/ TPZ)

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Vegetation clearing stockpile (indicative)

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:850

References:
AS 4970-2025 Protection of trees on development sites

0 2.5 5 10 15 20 25 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

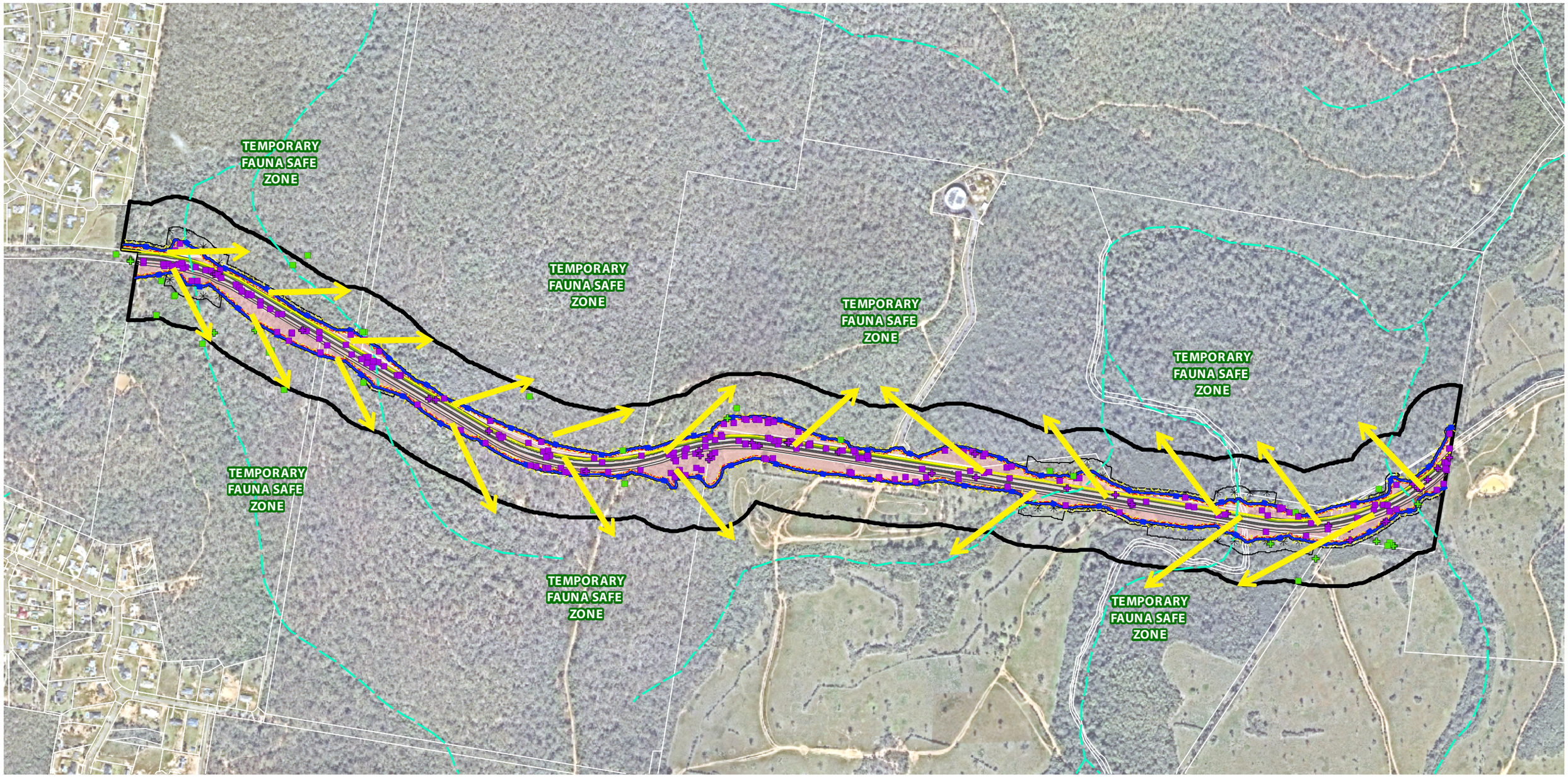
PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 17 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Clearing Direction (indicative)*



LEGEND

- Qld DCDB
- Referral Area
- Detail Sheets
- Waterways

GPS Tree Plot

- Non-juvenile Koala habitat tree retention subject to future works
- Dead/stag tree retention subject to future works
- Non-juvenile Koala habitat tree to remove as part of this application
- Dead/stag tree to remove as part of this application

Engineering Detail (indicative)

- Proposed Road Design
- Proposed Linemarking
- Proposed Cycleway
- Proposed Footpaths
- Proposed Batters
- Works Extent (indicative)
- 5m Construction Extent (indicative)
- Post-Works Rehabilitation Area (refer to weed management sheets for further details)
- Phase 1 Fencing: Fauna permeable tree protection fencing
- Phase 2 Fencing: Fauna exclusion fencing (temporary for construction)
- Clearing direction (indicative)

Saunders Havill
BOWEN HILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE (A3)
1:9,000

References:
AS 4970-2025 Protection of trees on development sites

0 50 100 200 300 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 18 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - *Site Works and Weed Notes*

WEED NOTES

Weed management comprises a major part of rehabilitation site works. Weed management provides the basis of aiding natural regeneration and assisted natural regeneration. It also forms part of the preliminary work required for reconstruction and fabrication scopes.

Weed Management is to be undertaken in accordance with the SEQERF Primary, Follow-up and Maintenance works notes. Weed management will encompass all species declared at the commonwealth, state and local level, and any weeds that appear to be invasive at the site.

A total of eight (8) Restricted Invasive Plants under the Biosecurity Act 2014 were identified on-site and are listed in *Appendix 01*. Four (4) of the Restricted Invasive Plant species are also classified as Weeds of National Significance (WoNS) which have been selected nation-wide based on their level of invasiveness, potential for spread and environmental, social and economic impacts.

Critical skills for Weed Management include:

- Knowledge of relevant legislation
- Plant Identification skills
- Knowledge of different weed management techniques

Knowledge of Relevant Legislation

Contractors must have a depth of knowledge of relevant legislation to complete site rehabilitation works. This includes invasive plant classifications and control obligations under the Queensland *Biosecurity Act 2014* and local Biosecurity Plans (Refer to adjacent schedules for classification of weeds under the Act).

Bush regenerators must comply with the requirements of the Workplace Health and Safety Act 2011 or, when working on Commonwealth lands, the Commonwealth's Occupational Health and Safety (Commonwealth Employment) Act 1991.

Contractors must obtain all relevant permits required under State and Commonwealth legislation (e.g. Nature Conservation Act 1992, Fisheries Act 1994, Vegetation Management Act 1999, Biosecurity Act 2014). Contractors must also be aware of and adhere to cultural heritage protection obligations under the Aboriginal Cultural Heritage Act 2003 and where chemicals are in use, the Agricultural Chemicals Distribution Control Act 1966.

In addition to the above, contractors will also be familiar with local government body requirements (e.g. Local Codes, Policies and Guidelines).

RESTRICTED MATTERS (*BIOSECURITY ACT 2014*)	
Category	**Description**
1	must be reported to an inspector within 24 hours if it is present in, or on, something in your possession or under your control or at a place where you are the occupier, unless an appropriately authorised officer has already been advised or you possess a permit for the restricted matter. Includes red imported fire ants, electric ants, Asian honey bees, and certain animal diseases, aquatic diseases and pathogens.
2	must be reported to an inspector within 24 hours if it is present in, or on, something in your possession or under your control or at a place where you are the occupier, unless an appropriately authorised officer has already been advised or you possess a permit for the restricted matter. includes certain noxious fish, weeds and pest animals
3	You must not distribute this restricted matter. It must not be given as a gift, sold, traded or released into the environment unless the distribution or disposal is authorised in a regulation or under a permit. Deliberate human distribution or disposal contrary to the legislation is a key source of spread into other areas. includes weeds, pest animals and noxious fish
4	You must not move this restricted matter to ensure that it does not spread into other areas of the state. includes specific weeds, pest animals and noxious fish
5	You must not possess or keep this restricted matter under your control. These pests have a high risk of negatively impacting on the environment. You may only keep this restricted matter under a permit of the *Biosecurity Act 2014* or another Act. includes weeds, pest animals and noxious fish
6	You must not feed this category of restricted matter. Feeding this restricted matter may cause their numbers to increase and negatively impact the economy or the environment. Feeding for the purpose of preparing for or undertaking a control program is exempted. Includes invasive animals such as feral deer, foxes, rabbits and wild dogs and noxious fish such as carp, gambusia and tilapia.
7	If you have these noxious fish in your possession you must kill the restricted matter and dispose of the carcass by burying the whole carcass in the ground above the high tide water mark or placing it in a waste disposal receptacle. Includes noxious fish such as carp, weather loach, climbing perch and gambusia.

Plant Identification Skills

Both native and weed species will be identified prior to primary weed removal works and ongoing throughout the follow-up and maintenance periods. This is to maximise natural regeneration and reducing likelihood of accidental weed spraying to native vegetation. Regenerating species to be treated and maintained in a similar manner to newly planted revegetation tube stock. If contractor is unsure of species, advice will be sought from a botanist, specialist contractor or confirmed with Queensland Herbarium. Refer to indicative Weed Treatment schedules derived from Queensland Herbarium for an indication of weed species and treatments.

Knowledge of Different Weed Management Techniques

A range of weed management techniques are available to combat varying weed species and scenarios. Refer to adjacent schedules and Appendix 01 for an indication of weed management techniques.

WEED MANAGEMENT TECHNIQUES	
METHOD	**DESCRIPTION**
Herbicide	**The herbicide weed control techniques described below provide a range of proven methods that can be used on a restoration site.**
Cut - Scrape-Paint	Cut the stem of the plant close to the ground (approximately 1-2cm) ensuring that soil does not come in contact with the cut surface. The cut can be made at a slight angle in order to increase the surface area that is exposed to the chemical. Apply herbicide immediately to the cut stump using poison pot and brush or dripper bottle. Using a knife, scrape the sides of the stump thoroughly to expose the green tissue. Apply herbicide to the scraped stump. The chemical must be applied within 10 seconds of the cut or scrape being made in order for it to be fully effective.
Cut - Paint	Cut the stem of the plant close to ground level. Apply herbicide to the cut stump using poison pot and brush or dripper bottle. This method is best suited to easy-to-treat weeds such as small-leaved privet (Ligustrum sinense), provided that the diameter of the stem at ground level is less than approximately three centimetres. If a glyphosate-/ metsulfuron methyl herbicide mix is being used in the poison pot, a greater range of weeds can be controlled using this method e.g. Easter cassia.
Scrape - Paint	Scrape as much of the stem as possible (one side of the stem) using a knife and apply herbicide to the scrape. Leave a small section of the vine unscraped, and then twist the vine so that the next scrape is made on the opposite side of the stem to the preceding scrape. Continue along the length of the vine, scraping and painting as much of the stem as possible, with scraping to be concentrated along the thicker stems close to the root of the plant. This is the best method to use for madeira vine, as it allows the chemical to translocate to the underground storage organs and aerial tubers which may be hanging in large clusters above head height. This avoids the potential problem of tubers from cut stems left hanging in the trees from dropping to the ground and sprouting. When scraping madeira vine stems a deep scrape is advisable – scrape right through to the fibrous, stringy section of the stem, taking care not to sever the vine. This method is also suitable for treatment of ochna.
Over-spraying	Over-spraying involves the use of knapsacks or power sprayers to treat large expanses of weed such as lantana thickets. The foliage must be covered with herbicide but not to the point of running off the plant. The dead plants remain in place and can be cut down at a later stage. Prior to over-spraying, any weeds that are growing closely around established native plants must be hand removed or treated by cut-scrape-paint.
Spot-spraying	A knapsack filled with an appropriate herbicide mix is used by the operator to selectively control environmental weeds. A keen eye and an ability to distinguish between the native and weed species likely to be present, especially at seedling stage, is essential. Marker dye is added to the chemical mix to allow the operator to see what has already been sprayed, thus covering the ground weeds comprehensively and thoroughly Glyphosate and metsulfuron methyl are the main herbicides used for spot-spraying in ecological restoration, together with the addition of a penetrant and/or surfactant and marker dye.
Splatter Gun	This small gas-powered injector kit is fitted into a knapsack for easy carrying and delivers large droplets in a stream over the weed. The gun is used to deliver a concentrated herbicide (glyphosate or metsulfuron methyl) across large dense expanses of weed. The method is used for species such as lantana (ratio of 1:9 of glyphosate:water). Splatter gun involves spraying strips at one to two metre intervals over the thicket. The herbicide is then translocated throughout the entire plant. The method does not require the whole plant to be covered as in over-spray.
Roll-hang	Vines such as mile-a-minute (Ipomoea cairica) which produce long stolons extending many metres along the surface of the ground, are suited to the roll-hang method. Locate the base of the plant and carefully pull up the runners and roll them up. The resulting roll of vine is then hung in the fork of a tree to dry out as if it is left on the ground it is likely to re-shoot. Where runners are climbing up into a tree they are cut off at head height prior to the runner being rolled up – there is no need to pull cut vines down from trees as this action is likely to damage the tree. The base of the vine is treated using the cut scrape-paint method.
Gouge-paint	This method applies to plant species that have a fleshy underground storage organ, such as the large tuber that is often found at the base of madeira vine. It is also particularly appropriate for the treatment of climbing asparagus (Protasparagus plumosus). If using this technique on climbing asparagus, first cut the stems that are growing into the canopy at head height and also at the base. The fleshy rhizome can then be gouged, or alternatively in the case of climbing asparagus, it may be struck several times firmly with the head of a pair of loppers, allowing the brown outer covering of the crown to peel away exposing the white fleshy inner section of the rhizome for application of herbicide. Gouge out sections of the fleshy base with a knife and apply herbicide using a paint pot and brush or dripper bottle within 10 seconds.
Basal Barking	This method involves mixing an oil-soluble herbicide in diesel/kerosene and painting or spraying the full circumference of the trunk or stem of the plant from ground level to a height of approximately 45cm. Basal bark application is suitable for thin-barked woody weeds including saplings, regrowth and multi-stemmed shrubs. The method will usually result in the mortality of difficult-to-control woody weeds at any time of the year, provided the bark is not wet or too thick to enable the herbicide to penetrate. The method cannot be used in wet weather, adjacent to waterways or in areas where native trees and shrubs are located. The use is most practical to situations where a weed is particularly difficult to control e.g. cherry guava and where other methods have been unsuccessful.
Stem Injection	Large woody weeds such as camphor laurel, coral trees (Erythrina spp, Privet Ligustrum spp) and umbrella trees are generally treated by stem-injection. Holes are drilled at regular intervals around the base of the tree and exposed roots using a drill. A tree injection syringe attached to a small capacity knapsack is used to fill the holes with the herbicide. Stem-injection of trees can also be undertaken using a hatchet to create cuts in a 'brickwork pattern' in trunks of trees for the application of herbicide (known as tree frilling). Frilling is more labour intensive than drilling. The greatest benefit of stem injection is that the trees can be left standing in situ as they die, provided there is no risk to humans or infrastructure from falling limbs. This creates convenient roosts for birds and other animals, and prevents the formation of large amounts of debris on the ground and damage to understorey plants which would result if the trees were to be cut down using a chainsaw.
Wick Wiping	Wick wipers can be manually used with a sponge or wick applicator, attached to a container filled with herbicide or as an attachment towed by a tractor. The manual method can be used to selectively apply herbicide to the leaves of weeds growing in sensitive situations. The handheld container can leak and generally spot spraying would be recommended. The use of a tractor drawn wick wiper is used to control taller growing species such as introduced grasses and to encourage the growth of lower growing species. This method could be used in preparation for planting.
Mechanical	**Mechanical weed control involves the use of powered and non-powered equipment such as brush cutters, chainsaws, slashers, shovels, pruners, saws, etc. These methods are best used in situations where there is a large, uninterrupted stand of weeds.**
Dig and Bag	Dig and remove tuberous/ rhizomatous root systems. Remove roots or whole plant in hard/ compacted soils. Place in suitable container and remove from site, dispose of by deep burial, burn or burial at a land fill, must not place declared weed species in recycling (mulch).
Hand-Pull	Remove totally from ground by hand (human). Perform when soil is moist. Applicable to small infestations or areas of environmental sensitivity (including sensitive watercourses, when frogs are breeding, or presence of threatened species).
General Mechanical	May involve use of machinery (e.g. brush cutter, chainsaw, slasher, dozer, excavator). Suitable for large infestations and weed trees. Initially cost-effective, but requires immediate revegetation of site or matting/ mulch application and extensive maintenance periods. Generates excessive soil and vegetation disturbance.

Note: Table adapted from a table in SEQERF

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

References:
AS4970-2025 Protection of trees on development sites

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E 19 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - APPENDIX A *Weed Treatment and Removal (i)*

Queensland Herbarium Invasive Naturalised Plants In South East Queensland								
Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
1	Mimosaceae	Acacia boliviana (Bolivian wattle)	1	1	4	T/O	Mechanical or chain removal.	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance.
2	Mimosaceae	Acacia farnesiana (mimosa bush)	6	15	3	T/A	Mechanical removal of small plants.	
3	Mimosaceae	Acacia nilotica subsp. indica (prickly acacia)	3	3	4.4	T/A	Mechanical or chain removal.	
4	Cactaceae	Acanthocereus tetragonus (sword pear)	1	1	3	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
5	Polygonaceae	Acetosa sagittata (rambling dock)	4	18	4	V/U	Tubers: Dig up, bag and remove.	
6	Agavaceae	Agave americana (century plant)	4	9	4	S/OA	Dig out by hand or machine	
7	Agavaceae	Agave sisalana (sisal)	2	4	4	S/OA	Dig out by hand or machine	
8	Agavaceae	Agave vivipara var. vivipara (sisal)	2	3	4	S/OA	Dig out by hand or machine	
9	Asteraceae	Ageratina adenophora (crofton weed)	6	38	5	H/O	Hand pull and hang to dry.	
10	Asteraceae	Ageratina riparia (mistflower)	5	38	5	H/O	Hand pull and hang to dry.	
11	Asteraceae	Ageratum houstonianum (blue billygoat weed)	8	81	4	H/UO	N/A	
12	Simaroubaceae	Ailanthus altissima (tree of heaven)	1	3	4	T/O	Seedlings: Hand pull	
13	Amaranthaceae	Alternanthera philoxeroides (alligator weed)	1	3	5	Ha/U	Physical removal of plant not to be attempted	
14	Poaceae	Andropogon virginicus (whisky grass)	6	14	4	H/A	Hand pull or dig out small infestations.	
	Basellaceae	Anredera cordifolia (madeira vine)	8	16	5	V/O	Small Vines & Tubers: Hand pull. Bag and dispose.	
16	Asclepiadaceae	Araujia sericifera (mothvine)	9	38	4	V/O	Seedlings & Vines: Hand pull. Bag and remove fruit.	
17	Aristolochiaceae	Aristolochia elegans (Dutchman's pipe)	8	30	4	V/O	Stems: Hand pull; Fruit: Bag and remove.	
18	Poaceae	Arundo donax (giant reed)	1	4	4	H/O	Physical removal of small infestations.	
19	Asclepiadaceae	Asclepias curassavica (red cotton bush)	9	43	3	S/O	Hand pull; Slash	
20	Asparagaceae	Asparagus aethiopicus cv. Sprengeri (asparagus ground fern)	5	35	5	H/O	Dig out unwanted plants and dispose of at the appropriate council landfill. Remove the entire crown of underground stem of plant to prevent regrowth	
21	Asparagaceae	Asparagus africanus (ornamental asparagus, asparagus fern)	7	26	5	V/O	Dig out roots and dispose of at local council landfill site. Remove entire crown and underground stem to prevent regrowth	
22	Asparagaceae	Asparagus plumosus (asparagus fern)	4	8	4	V/O	Rhizomes: crown and hang to dry.	
23	Poaceae	Axonopus compressus (broad leaved carpet grass)	5	23	4	H/AO	Cut stems from roos.	
24	Asteraceae	Baccharis halimifolia (groundsel bush)	10	168	5	S/O	Seedlings: Hand pull	
25	Asteraceae	Bidens pilosa (cobbler's pegs)	10	110	4	H/U	Hand pull or cultivation.	
26	Poaceae	Brachiaria decumbens (signal grass)	4	14	4	H/A	Grazing	
27	Poaceae	Brachiaria mutica (para grass)	6	18	4	Ha/A	Grazing	
28	Crassulaceae	Bryophyllum daigremontianum x B. delagoense (hybrid mother-of millions)	6	15	5	H/O	Hand pull and dispose	
29	Crassulaceae	Bryophyllum delagoense (mother of millions)	8	38	5	H/O	Hand pull and dispose	
30	Crassulaceae	Bryophyllum pinnatum (resurrection plant)	6	17	4	H/O	Hand pull and dispose	
31	Buddlejaceae	Buddleja madagascariensis (buddleja)	5	6	3	S,V/O	N/A	
32	Cabombaceae	Cabomba caroliniana (cabomba, fanwort)	4	12	5	Ha/F	Mechanical removal of small infestations	
33	Caesalpiniaceae	Caesalpinia decapetala (thorny poinciana)	4	20	4	S,V/O	Seed-heads: Bag and remove.	
34	Brassicaceae	Cakile edentula (American sea rocket)	4	24	4	H/U	Manually grub and destroy.	
35	Commelinaceae	Callisia fragrans (purple succulent)	3	9	4	H/O	N/A	
36	Cannaceae	Canna indica (canna lily)	3	9	3	H/O	Dig out entire plant	
37	Sapindaceae	Cardiospermum grandiflorum (balloon vine)	7	31	4	V/O	Seedlings & Small Vines: Hand Pull	
38	Apocynaceae	Cascabela thevetia (syn. Thevetia peruviana) (yellow oleander)	5	9	3	ST/O	Hand pull small infesttions. Slashing can be used but must be followed up by herbicide application.	
39	Apocynaceae	Catharanthus roseus (pink periwinkle)	5	22	4	S/O	Hand pull	
40	Ulmaceae	Celtis sinensis (Chinese celtis)	8	19	5	T/O	Remove when small. Hand pull or dig out small seedlings. Combine dozing, burning and controlled grazing for large infestations	
41	Poaceae	Cenchrus ciliaris (buffel grass)	4	15	4	H/A	Hand or mechanical removal of young plants	
42	Poaceae	Cenchrus echinatus (Mossman river grass)	8	43	3	H/A	Hand or mechanical removal of young plants	
43	Solanaceae	Cestrum parqui (green cestrum)	6	36	4	S/O	Seedlings: Hand pull	
44	Caesalpiniaceae	Chamaecrista rotundifolia (round-leaf cassia)	6	14	3	ST/A	Seedlings: Hand pull	
45	Poaceae	Chloris gayana (Rhodes grass)	9	55	4	H/A	Hand pulling and removal and digging of larger clumps	
46	Asteraceae	Chrysanthemoides monilifera subsp. rotundata (bitou bush)	3	23	5	S/OA	N/A	
47	Lauraceae	Cinnamomum camphora (camphor laurel)	7	25	5	T/O	Seedlings: Hand pull	
48	Rubiaceae	Coffea arabica (coffee)	3	7	3	ST/A	Saplings: Hand pull	
49	Arecaceae	Colocasia esculenta (taro)	3	4	3	H/AO	Hand pull.	
50	Commelinaceae	Commelina benghalensis (hairy wandering jew)	4	7	4	H/O	Collect and Bag	
51	Asteraceae	Conyza bonariensis (flax-leaf fleabane)	7	38	3	H/U	Hand or mechanical removal of small infestations	
54	Poaceae	Cortaderia selloana (pampas grass)	2	1	4	H/O	Small Plants: dig out by hand or machine	
55	Asclepiadaceae	Cryptostegia grandiflora (rubber vine)	6	19	4	V/O	Scattered or medium-density infestations: Where possible, repeated slashing close to ground level is recommended.	
56	Poaceae	Cynodon dactylon (couch, Bahama grass introduced cultivars)	10	45	4	H/OA	Hand pull small infestations, removing all roots or smother with mulch.	
57	Cyperaceae	Cyperus brevifolius (Mullumbimby couch)	8	53	3	H/O	Each has to be dug out with a spade and the entire plant turned over, exposing the root system while making sure all aerial parts of the plant are completely covered.	
58	Cyperaceae	Cyperus involucratus (African sedge)	6	15	4	Ha/OF	Each has to be dug out with a spade and the entire plant turned over, exposing the root system while making sure all aerial parts of the plant are completely covered.	
59	Fabaceae	Desmodium intortum (greenleaf desmodium)	4	11	3	H/A	Hand pull or crown and dispose	
60	Fabaceae	Desmodium uncinatum (silverleaf desmodium)	5	14	4	H/A	Hand pull or crown and dispose	
61	Poaceae	Digitaria didactyla (Queensland blue couch)	9	70	4	H/A	Hand pull or cultivation	
62	Poaceae	Digitaria eriantha (pangola grass)	5	20	3	H/A	Hand pull or cultivation	
63	Verbenaceae	Duranta erecta (duranta)	6	14	4	ST/O	Shrubs: CS&P (1:1.5)	
64	Poaceae	Echinochloa colona (awnless barnyard grass)	9	44	3	H/A	Hand or mechanical removal of small infestations	
65	Poaceae	Echinochloa crus-galli (barnyard grass)	6	34	4	H/A	Hand pull or dig out small infestations.	
66	Hydrocharitaceae	Egeria densa (egeria waterweed)	2	7	4	Ha/F	Hand pulling, cutting and digging with machines effective	
67	Pontederiaceae	Eichhornia crassipes (water hyacinth)	4	8	5	Ha/OF	Mechanical removal of small infestations	
68	Poaceae	Eleusine indica (crowsfoot grass)	8	55	4	H/A	Pull and chip. Replant with native couch.	
69	Poaceae	Eragrostis curvula (African lovegrass)	7	29	4	H/U	Chipped out before they flower. When chipping out the plant ensure that the tussock crowns are removed, as this will prevent regrowth. If in seed, the stems must be cut and bagged first.	
70	Rosaceae	Eriobotrya japonica (loquat)	3	5	3	T/O	Seedlings: Hand pull	
71	Fabaceae	Erythrina crista-galli (cockspur coral tree)	2	4	4	T/O	N/A	
72	Myrtaceae	Eugenia uniflora (Brazilian cherry)	4	19	4	ST/O	N/A	
73	Euphorbiaceae	Euphorbia cyathophora (painted spuge)	8	20	3	H/O	Hand pull	
74	Euphorbiaceae	Euphorbia heterophylla (milk weed)	5	12	3	H/O?	Hand pull	
75	Agavaceae	Furcraea foetida (Cuban hemp)	3	4	4.3	S/OA	Dig out by hand or machine	
76	Agavaceae	Furcraea selloa (hemp)	1	2	4	S/OA	Dig out by hand or machine	
77	Caesalpiniaceae	Gleditsia triacanthos (honey locust)	7	12	4	T/O	For the control of dense infestations on grazing land, burning followed by spot spraying is an economical control method.	
78	Colchicaceae	Gloriosa superba (glory lily)	3	26	4	V/O	N/A	
79	Asclepiadaceae	Gomphocarpus physocarpus (balloon cotton bush)	10	132	4	S/OU	Slash in winter and burn cuttings. Wanderer Butterfly can also be used as biological control.	

= Weed Species Recorded on site

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

References:
Queensland Herbarium Invasive Naturalised Plants in South East Queensland

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E A01_1 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - APPENDIX A *Weed Treatment and Removal (ii)*

Queensland Herbarium Invasive Naturalised Plants In South East Queensland

Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
80	Asteraceae	Gymnocoronis spilanthoides (Senegal tea)	3	4	5	Ha/F	Place plant material in a sealed plastic bag, leave in sunlight to rot then burn or dispose of at a council-approved land fill tip	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance.
81	Cactaceae	Harrisia martinii (harrisia cactus)	2	4	4	S/O	The use of the biological mealy-bug agent is recommended	
82	Zingiberaceae	Hedychium coronarium (wild ginger)	2	2	4	H/O	Small Plants: Hand pull and dispose	
83	Zingiberaceae	Hedychium gardnerianum (ginger lily)	1	3	4	H/O	Small Plants: Hand pull and dispose	
84	Malpighiaceae	Hiptage benghalensis (hiptage)	3	5	4	S,V/O	Hand pull small infestations.	
85	Acanthaceae	Hygrophila costata (Glush weed)	3	7	5	Ha/F	Hand pull smal infestations. Can be controlled by planting competitive native species.	
86	Poaceae	Hymenachne amplexicaulis cv. Olive (hymenachne)	1	1	4	Ha/A	A combined approach of different control methods including mechanical, chemical and biological with land management practices is most effective	
87	Acanthaceae	Hypoestes phyllostachya (polka-dot plant	3	5	4	H/O	Hand pull or crown and dispose	
88	Balsaminaceae	Impatiens walleriana (balsam)	2	6	4	H/O	N/A	
89	Convolvulaceae	Ipomoea cairica (mile-a-minute)	7	56	4	V/O	Vines & Runners: hand pull, roll up and hand up to dry.	
90	Convolvulaceae	Ipomoea indica (blue morning glory)	5	24	4	V/O	Vines and Runners: hand pull, roll up and hang to dry.	
91	Bignoniaceae	Jacaranda mimosifolia (jacaranda)	4	12	3	T/O	Seedlings: Hand pull	
92	Euphorbiaceae	Jatropha gossypiifolia (cotton-leaf physic nut, bellyache bush)	1	1	4	S/O	Hand pull	
93	Juncaceae	Juncus articulatus (jointed rush)	1	2	4	Ha/FO	Hand pull.	
94	Acanthaceae	Justicia betonica (squirreltail)	2	4	4	S/O	Hand pull smal infestations. Can be controlled by planting competitive native species.	
95	Sapindaceae	Koelreuteria elegans (Chinese rain tree)	1	1	3.6	T/O	Seedlings: Hand pull	
96	Verbenaceae	Lantana camara var. camara (lantana)	10	455	5	S/O	Seedlings: Hand pull	
97	Verbenaceae	Lantana montevidensis (creeping lantana)	8	62	5	S/O	Fire and/or mechanical control	
98	Mimosaceae	Leucaena leucocephala (leucaena)	6	14	4	ST/A	Small plants: Hand pull or mechanical removal	
99	Oleaceae	Ligustrum lucidum (tree privet)	5	9	5	T/O	Seedlings: Hand pull	
100	Oleaceae	Ligustrum sinense (Chinese privet)	4	11	5	T/O	Seedlings: Hand pull	
101	Liliaceae	Lilium formosanum (Taiwan lily)	5	10	4	H/O	Hand pull or crown and dispose	
102	Caprifoliaceae	Lonicera japonica (Japanese honeysuckle)	3	6	4	V/O	Vines and Runners: hand pull, roll up and hang to dry.	
103	Solanaceae	Lycium ferocissimum (African boxthorn)	1	5	4.4	S/O	N/A	
104	Bignoniaceae	Macfadyena unguis-cati (cat's claw creeper)	5	36	5	V/O	Tubers: crown or dig up, bag and remove.	
105	Fabaceae	Macroptilium atropurpureum (siratro)	8	39	4	V/A	N/A	
106	Fabaceae	Macrotyloma axillare (perennial horse gram)	4	12	3	V,H/A	N/A	
107	Poaceae	Melinis minutiflora (molasses grass)	5	17	5	H/A	Grazing or mowing	
108	Poaceae	Melinis repens (red Natal grass)	10	134	4	H/A	Grazing or mowing	
109	Mimosaceae	Mimosa pudica (common sensitive plant)	4	12	4	S/A	N/A	
110	Moraceae	Morus alba (white mulberry)	3	10	3	T/O	N/A	
111	Rutaceae	Murraya paniculata cv. Exotica (murraya)	6	26	4	S/O	Seedlings: Hand pull	
112	Haloragaceae	Myriophyllum aquaticum (parrot's feather)	3	15	4	Ha/F	N/A	
113	Brassicaceae	Nasturtium officinale (Qld use Rorippa nasturtium-aquaticum) (watercress)	7	19	4	Ha/FU	Manually grub and destroy.	
114	Fabaceae	Neonotonia wightii (glycine)	5	16	5	H/A	N/A	
115	Nymphaeaceae	Nymphaea caerulea subsp. zanzibarensis (blue lotus)	4	17	4	Ha/OF	Hand pull small infestations.	
116	Nymphaeaceae	Nymphaea mexicana (yellow waterlily)	2	4	4	Ha/OF	Hand pull small infestations.	
117	Ochnaceae	Ochna serrulata (ochna)	7	33	5	S/O	N/A	
118	Onagraceae	Oenothera drummondii subsp. drummondii (beach evening primrose)	3	17	4	H/O	Hand pull	
119	Oleaceae	Olea europaea (olive)	2	6	4	T/A	Seedlings: Hand pull	
120	Cactaceae	Opuntia aurantiaca (tiger pear)	1	2	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
121	Cactaceae	Opuntia imbricata (rope pear)	1	1	4	H/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
122	Cactaceae	Opuntia monacantha (drooping tree pear, syn. O. vulgaris)	2	3	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
123	Cactaceae	Opuntia stricta (common prickly pear)	7	67	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
124	Cactaceae	Opuntia tomentosa (velvet tree pear)	8	46	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
125	Poaceae	Panicum maximum (green panic and guinea grass)	8	78	5	H/A	Hand or mechanical removal of small infestations	
126	Asteraceae	Parthenium hysterophorus (parthenium weed)	6	14	4	H/U	Hand pulling of small areas is not recommended	
127	Poaceae	Paspalum conjugatum (paspalum grass)	7	38	4	H/A	Cut below crown.	
128	Poaceae	Paspalum dilatatum (paspalum grass)	10	30	4	H/A	Hand pull or dig up	
129	Poaceae	Paspalum mandiocanum (broad leaf paspalum)	3	6	4	H/A	N/A	
130	Poaceae	Paspalum notatum (bahia grass)	4	10	4	H/A	Hand pull or dig up	
131	Passifloraceae	Passiflora edulis (passion fruit)	6	12	3	V/AO	Hand Pull	
132	Passifloraceae	Passiflora foetida (stinking passion flower)	7	50	4	V/O	Hand Pull	
133	Passifloraceae	Passiflora suberosa (cork passionflower)	8	166	4	V/O	N/A	
134	Passifloraceae	Passiflora subpeltata (white passion flower)	10	60	4	V/O	Stems: Hand pull	
135	Scrophulariaceae	Paulownia tomentosa (paulownia)	3	5	4	T/AO	Seedlings: Hand pull	
136	Poaceae	Pennisetum alopecuroides (swamp foxtail)	7	29	4	H/O	Hand Pull	
137	Poaceae	Pennisetum clandestinum (kikuyu grass)	4	12	4	H/A	Hand Pull	
138	Poaceae	Pennisetum purpureum (elephant grass)	2	9	4	H/O	Grazing or mechanical removal	
139	Poaceae	Pennisetum setaceum (fountain grass)	3	11	3	H/O	Hand Pull	
140	Verbenaceae	Phyla canescens (lippia, Condamine couch)	3	4	4	Ha/O	A combined approach of different control methods including chemical and mechanical with land management practices is most effective	
141	Poaceae	Phyllostachys aurea (fishpole bamboo)	1	2	4	S/O	N/A	
142	Phytolaccaceae	Phytolacca octandra (inkweed)	10	50	3	H/O	Hand pull or crown	
143	Pinaceae	Pinus elliottii (slash pine)	4	22	4	T/A	Seedlings: Hand pull; Saplings and Trees: cut close to ground or ring-bark	
144	Araceae	Pistia stratiotes (water lettuce)	3	8	4	Ha/OF	Mechanical removal of small infestations	
145	Mimosaceae	Prosopis pallida (algaroba)	2	2	4	ST/O	When using mechanical control methods, it is important to remove the bud zone of the root system (about 30 cm below the ground surface). If this is not removed, re-shooting can occur.	
146	Rosaceae	Prunus munsoniana (wild goose plum)	7	31	4	ST/A	Seedlings: Hand pull	
147	Myrtaceae	Psidium guajava and P. guineense (yellow guava and West Indes guava)	4	7	4	ST/AO	N/A	
148	Fabaceae	Pueraria lobata (kudzu)	3	4	4	V,S/O	Slash; Diminish by shading site	
149	Bignoniaceae	Pyrostegia venusta (flame vine)	1	1	4	V/O	N/A	
150	Rosaceae	Rhaphiolepis indica (Indian hawthorn)	3	10	4	ST/O	Seedlings: Hand pull	

= Weed Species Recorded on site

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

References:
Queensland Herbarium Invasive Naturalised Plants in South East Queensland

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E A01_2 EPBC VCFMP B

New Beith Road

EPBC Vegetation Clearing and Fauna Management Plan - APPENDIX A *Weed Treatment and Removal (iii)*

Queensland Herbarium Invasive Naturalised Plants In South East Queensland								
Rk	**Family**	**Scientific and common names**	**Sr**	**R**	**S**	**LFS**	**Non-Chemical Control**	**Chemical Control**
150	Rosaceae	Rhaphiolepis indica (Indian hawthorn)	3	10	4	ST/O	Seedlings: Hand pull	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance
151	Euphorbiaceae	Ricinus communis (castor oil plant)	7	20	4	S/O	Seedlings: Hand pull	
152	Phytolaccaceae	Rivina humilis (baby pepper)	8	61	4	H/O	Hand pull and hang to dry.	
153	Rosaceae	Rubus bellobatus (kittatinny blackberry)	5	22	4	S/O	Slashing hinders growth, giving some control if plants are slashed before they seed	
154	Rosaceae	Rubus discolor (R. fruticosus complex, a blakberry)	4	10	4	S/OA	Slashing hinders growth, giving some control if plants are slashed before they seed	
155	Rosaceae	Rubus ellipticus (yellowberry)	4	26	4	S/O	Slashing hinders growth, giving some control if plants are slashed before they seed	
156	Acanthaceae	Ruellia malacosperma (ruellia)	5	16	4	H/O	N/A	
157	Ruppiaceae	Ruppia maritima (sea tassel)	2	8	4	Ha/F	Hand pull or dig up	
158	Alismataceae	Sagittaria graminea var. platyphylla (sagittaria arrowhead)	3	7	4	Ha/FO	Physical removal of small infestations.	
159	Lamiaceae	Salvia coccinea (red salvia)	9	46	4	H/O	remove small areas by hand or machine	
160	Salviniaceae	Salvinia molesta (salvinia)	8	57	5	Ha/F	Mechanical removal of small infestations; Salvinia weevil (Biological control)	
161	Caprifoliaceae	Sambucus canadensis (American elder)	3	7	3	ST/O	Vines and Runners: hand pull, roll up and hang to dry.	
162	Dracaenaceae	Sansevieria trifasciata (sansevieria)	2	7	3	H/O	Hand pull or dig up	
163	Anacardiaceae	Schinus terebinthifolius (broad-leaf pepper tree)	6	49	5	T/O	Seedlings: Hand pull	
164	Asteraceae	Senecio madagascariensis (fire weed)	6	28	4	H/U	Vines: Hand pull and remove; Runners: Roll up and hang to dry.	
165	Asteraceae	Senecio tamoides (Canary creeper)	3	8	4	V/O	Vines: Hand pull and remove; Runners: Roll up and hang to dry.	
166	Caesalpiniaceae	Senna pendula var. glabrata (Easter cassia)	7	33	4	ST/O	Seedlings: Hand pull	
167	Caesalpiniaceae	Senna septemtrionalis (arsenic bush, was S. floribunda)	6	25	4	S/O	Seedlings: Hand pull	
168	Poaceae	Setaria palmifolia (palm leaf setaria)	5	13	3	H/O	Hand pull or dig up	
169	Poaceae	Setaria sphacelata (South African pigeon grass)	9	41	4	H/A	Hand pull or dig up	
170	Malvaceae	Sida rhombifolia (Paddy`s lucerne)	9	69	4	S/U	Hand pull or dig out.	
171	Asteraceae	Sigesbeckia orientalis (Indian weed)	10	148	4	H/U	Hand pull or cultivation.	
172	Solanaceae	Solanum erianthum (a tobacco bush)	7	19	3	S/O	Hand pull	
173	Solanaceae	Solanum hispidum (giant devil's fig)	5	23	4	S/O	Hand pull	
174	Solanaceae	Solanum mauritianum (wild tobacco tree)	8	30	4	S/O	Seedlings: Hand pull	
175	Solanaceae	Solanum seaforthianum (Brazilian nightshade)	8	78	4	V/O	Hand pull	
176	Solanaceae	Solanum torvum (devil's fig)	6	39	4	S/O	Seedlings: Hand pull	
177	Asteraceae	Solidago canadensis var. scabra (Canadian goldenrod)	7	15	4	H/O	Hand pull and hang to dry.	
178	Bignoniaceae	Spathodea campanulata (African tulip tree)	1	1	3	T/O	N/A	
179	Asteraceae	Sphagneticola trilobata (Singapore daisy)	6	34	5	H/O	Hand pull	
180	Poaceae	Sporobolus africanus (Parramatta grass)	8	48	5	H/U	Hand or mechanical removal of small infestations	
181	Poaceae	Sporobolus fertilis (giant Parramatta grass)	9	27	5	H/U	Hand or mechanical removal of small infestations	
182	Poaceae	Sporobolus pyramidalis and S. natalensis (giant rat's tail grasses)	8	72	5	H/U?	Hand or mechanical removal of small infestations	
183	Poaceae	Stenotaphrum secundatum (buffalo grass)	3	23	3	H/AO	Hand or mechanical removal of small infestations	
184	Fabaceae	Stylosanthes scabra (shrubby stylo)	4	4	4.3	H/A	N/A	
185	Arecaceae	Syagrus romanzoffiana (queen palm)	4	10	4	T/O	Seedlings: Hand pull or crown; Trees: cut below growing point	
186	Asteraceae	Tagetes minuta (stinking roger)	8	32	3	H/U	Hand pull and hang to dry.	
187	Bignoniaceae	Tecoma capensis (Cape honeysuckle)	3	8	4	ST/O	N/A	
188	Bignoniaceae	Tecoma stans (yellow bells)	4	16	4	ST/O	N/A	
189	Poaceae	Themeda quadrivalvis (grader grass)	8	25	4	H/A	Hand pull or dig out small infestations.	
190	Acanthaceae	Thunbergia alata (black eyed susan)	5	22	4	H/O	N/A	
191	Acanthaceae	Thunbergia grandiflora (thunbergia, blue thunbergia)	2	3	5	V/O	N/A	
192	Acanthaceae	Thunbergia laurifolia (laurel clock vine)	1	1	4	V/O	N/A	
193	Fabaceae	Tipuana tipu (tipuana)	2	5	3	T/O	Seedlings: Hand pull	
194	Asteraceae	Tithonia diversifolia (Mexican sunflower)	5	11	4	H/O	N/A	
195	Commelinaceae	Tradescantia fluminensis (Qld use T. albiflora) (wandering jew)	5	9	4	H/O	N/A	
196	Commelinaceae	Tradescantia zebrina (zebrina)	3	12	4	H/O	N/A	
197	Tiliaceae	Triumfetta rhomboidea (Chinese burr)	7	44	4	H/U	Hand pull	
198	Asteraceae	Verbesina encelioides (crownbeard)	7	34	4	H/U	Vines: Hand pull and remove; Runners: Roll up and hang to dry.	
199	Iridaceae	Watsonia meriana var. bulbilifera (bulbil watsonia)	2	3	3	H/O	Dig up, bag and remove	
200	Asteraceae	Zinnia peruviana (wild zinnia)	6	33	3	H/O	Seedlings: Hand pull	

Explanatory notes.

Sub-region (Sr): Number of the ten sub-regions of the Southeast Queensland bioregion (Young and Dillewaard 1999) within which species recorded (Queensland Herbarium data).
Rec no. (R): Total number of records for species within study area, Queensland Herbarium CORVEG and HERBRECS data.
Scores (S): Based on panel data of invasiveness, 5 (highest) to 3 (moderate). ? indicate doubtful scores.

Life forms (LFS): T-tree (woody plant >5m), ST-small tree (2-5m), S-shrub (woody <2m), H-herb (grasses & forbes), Ha-aquatic herbs.
Source: A-agriculture, O-ornamental and landscaping, F-fish aquarium, U-unintentional introduction and/or contaminant.

Abbreviations: Control Methods

CS&P = cut scrape and paint

S&P = scrape and paint

C&P = cut and paint

F/I = frill or inject stem

Abbreviations: Herbicides

G = Glyphosate, eg. Roundup Biactive, Weedmaster Duo

MM = Metsulfuron methyl, eg, Brushoff

F = Fluroxypyr, eg. Starane

Abbreviations: Herbicide Dilution Rates for High Concentration Applications

GU = Glyphosate undiluted

G1 = 1 part water to 1 part glyhphosate

G1.5 = 1.5 parts water to 1 part glyphosate

G4 = 4 parts water to 1 part glyphosate

Abbreviations: Herbicide Spray Concentrations

G100 = 100mL glyphosate per 10L of water + surfuctant, eg 20mL LI 700 per 10L
G200 = 200mL glyphosate per 10L of water + surfuctant, eg 50mL LI 700 per 10L

G100 + MM = 100mL glyphosate + 1.5g metsulfuron methyl per 10L of water + wetting agent, eg. 2mL Agral per 10L water
G200 + MM = 200mL glyphosate + 1.5g metsulfuron methyl per 10L of water + wetting agent, eg. 2mL Agral per 10L water

MM = 1.5g metsulfuron methyl per 10L water + wetting agent, eg. 2mL Agral per 10L water

F100 = 100mL fluroxypyr per 10L water

F150 = 150mL fluroxypyr per 10L water

Other Abbreviations

= Locally non-indigenous native species

Ref. 1. Big Scrub Rainforest Landcare Group (2008), 'Common Weeds of Subtropical Rainforests of Eastern Australia: A practical manual on their identification and control'

Ref. 2. Department of Primary Industries and Fisheries (QLD), 'Weeds and pest animals and ants'.

Ref. 3. Holland et al. (1996), 'Suburban Weeds', DPI QLD.

Ref 4. Port Stephens Council (NSW), 'Weed Busters'.
Ref 5. Department of Primary Industries (NSW), 'Noxious and Environmental Weed Handbook, 3rd Edition'.
Ref 6. Department of Environment and Conservation, 'Florabase', (DEC- WA)

Ref 7. Vitelli, J.S. and Madigan, B.A. and Van Haaren, P.E. and Setter, S. and Logan, P. (2009) Control of the invasive liana, Hiptage benghalensis. Weed Biology and Management, 9 (1). pp. 54-62.

= Weed Species Recorded on site

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

References:
Queensland Herbarium Invasive Naturalised Plants in South East Queensland

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/10/2025	CLIENT DRAFT	TF	AD
B	10/11/2025	DEPARTMENT ISSUE	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC VEGETATION CLEARING & FAUNA MANAGEMENT PLAN

DRAWING NO.
8418 E A01_3 EPBC VCFMP B

Appendix 02. EPBC VCFMP Tree Schedule - J8418
New Beith Road (PEET Flagstone City Pty Ltd)
Date: 2025/11/10

Specimen Details											Canopy Condition Details							Trunk Condition Details					Fauna Details and Habitat Value						Additional Details	
Tree ID	Botanical Name	Common Name	Trunk DBH (mm)	Additional Trunks DBH (mm)	Total DBH (mm) [AS 4970-2009]	Trunk Circumference (cm) [AS 4970-2009]	Height (m)	Spread (m)	Tree Protection Zone (m)	Structural Root Zone (m)	Canopy Form	Spreading	Thinning	Die-Back	Epicormic Growth	Lopped	Canopy Health	Leaning	Vines	Trunk Damage	Fire Damage	Trunk Health	Scats	Scratches	Hollows	Nest	Termite Nest	Habitat Value	Retention	Additional Notes
39	*Eucalyptus tereticornis*	Forest Red Gum	1100		1100	346	25.0	13.0	13.2	3.4	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows, 1 Medium Hollows	-	-	-	Retention subject to future works	-
52	*Corymbia intermedia*	Pink Bloodwood	520		520	163	20.0	6.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Retention subject to future works	-
192	*Eucalyptus tereticornis*	Forest Red Gum	670		670	210	26.0	13.0	8.0	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
223	*Corymbia citriodora*	Spotted Gum	640		640	201	14.0	4.0	7.7	2.7	Regular	-	-	-	-	Lopped	Typical	-	-	-	-	Typical	-	-	1 Large Hollows, 2 Medium Hollows	-	-	-	Retention subject to future works	-
228	*Eucalyptus acmenoides*	White Mahogany	550		550	173	17.0	9.0	6.6	2.6	Regular	-	Thinning	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Retention subject to future works	-
233	*DEAD/STAG*		760		760	239	20.0	9.0	9.1	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Medium Hollows, 4 Small Hollows	-	-	-	Retention subject to future works	-
234	*Eucalyptus tereticornis*	Forest Red Gum	600		600	188	23.0	12.0	7.2	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Retention subject to future works	-
240	*Eucalyptus crebra*	Narrow-leaved Ironbark	600		600	188	17.0	9.0	7.2	2.7	Regular	-	Thinning	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Retention subject to future works	-
244	*Corymbia citriodora*	Spotted Gum	600		600	188	18.0	8.0	7.2	2.7	Regular	-	-	-	-	-	Typical	-	-	Trunk Dmg.	-	Typical	-	-	1 Medium Hollows, 1 Small Hollows	-	-	-	Retention subject to future works	-
313	*Eucalyptus tereticornis*	Forest Red Gum	1480		1480	465	34.0	22.0	15.0	3.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	New	2 Medium Hollows, 1 Small Hollows	-	-	-	Retention subject to future works	-
315	*Eucalyptus tereticornis*	Forest Red Gum	1120		1120	352	38.0	26.0	13.4	3.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Retention subject to future works	-
316	*Eucalyptus microcorys*	Tallowwood	920		920	289	17.0	2.0	11.0	3.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Retention subject to future works	-
325	*DEAD/STAG*		920		920	289	20.0	14.0	11.0	3.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Medium Hollows, 1 Small Hollows	-	-	-	Retention subject to future works	-
326	*Eucalyptus crebra*	Narrow-leaved Ironbark	580		580	182	19.0	9.0	7.0	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Retention subject to future works	-
345	*Eucalyptus tereticornis*	Forest Red Gum	580		580	182	28.0	16.0	7.0	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
358	*Corymbia intermedia*	Pink Bloodwood	610		610	192	22.0	14.0	7.3	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 1 Small Hollows	-	-	-	Retention subject to future works	-
362	*Eucalyptus tereticornis*	Forest Red Gum	0		0	0	32.0	14.0	0.0	0.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Retention subject to future works	-
375	*Eucalyptus tereticornis*	Forest Red Gum	670		670	210	24.0	13.0	8.0	2.8	Regular	-	-	-	-	Lopped	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Retention subject to future works	-
403	*Corymbia citriodora*	Spotted Gum	500		500	157	14.0	5.0	6.0	2.5	Regular	-	-	-	-	Lopped	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Retention subject to future works	-
528	*Eucalyptus tereticornis*	Forest Red Gum	350		350	110	21.0	2.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
546	*Corymbia citriodora*	Spotted Gum	370		370	116	22.0	3.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
547	*Corymbia citriodora*	Spotted Gum	420		420	132	22.0	3.0	5.0	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
549	*Eucalyptus tereticornis*	Forest Red Gum	480		480	151	22.0	3.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
552	*Eucalyptus tereticornis*	Forest Red Gum	1000		1000	314	24.0	5.0	12.0	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
553	*Eucalyptus tereticornis*	Forest Red Gum	750		750	236	21.0	5.0	9.0	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
554	*Eucalyptus tereticornis*	Forest Red Gum	660		660	207	23.0	4.0	7.9	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
561	*Eucalyptus tereticornis*	Forest Red Gum	300		300	94	20.0	2.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
567	*Eucalyptus tereticornis*	Forest Red Gum	450		450	141	21.0	3.0	5.4	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
609	*Corymbia citriodora*	Spotted Gum	800		800	251	22.0	3.0	9.6	3.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
610	*Eucalyptus tereticornis*	Forest Red Gum	700		700	220	21.0	3.0	8.4	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
622	*Eucalyptus tereticornis*	Forest Red Gum	320		320	101	21.0	2.0	3.8	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
658	*Eucalyptus tereticornis*	Forest Red Gum	700		700	220	25.0	13.0	8.4	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
745	*Eucalyptus tereticornis*	Forest Red Gum	700		700	220	17.0	15.0	8.4	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
804	*Eucalyptus tereticornis*	Forest Red Gum	430		430	135	17.0	9.0	5.2	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
815	*Eucalyptus tereticornis*	Forest Red Gum	540		540	170	22.0	13.0	6.5	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
826	*Eucalyptus tereticornis*	Forest Red Gum	500	100	510	160	22.0	8.0	6.1	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
857	*Eucalyptus tereticornis*	Forest Red Gum	360		360	113	17.0	4.0	4.3	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
871	*Corymbia citriodora*	Spotted Gum	310		310	97	18.0	11.0	3.7	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
873	*DEAD/STAG*		210		210	66	12.0	2.0	2.5	1.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Remove as part of this application	-
878	*Eucalyptus tereticornis*	Forest Red Gum	640		640	201	23.0	12.0	7.7	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
897	*Eucalyptus tereticornis*	Forest Red Gum	310		310	97	18.0	6.0	3.7	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
900	*Eucalyptus tereticornis*	Forest Red Gum	360		360	113	15.0	6.0	4.3	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
902	*Eucalyptus tereticornis*	Forest Red Gum	380		380	119	25.0	9.0	4.6	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
903	*Eucalyptus tereticornis*	Forest Red Gum	650		650	204	26.0	15.0	7.8	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
904	*Eucalyptus tereticornis*	Forest Red Gum	470		470	148	24.0	10.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1013	*Eucalyptus tereticornis*	Forest Red Gum	320		320	101	18.0	14.0	3.8	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1017	*Eucalyptus tereticornis*	Forest Red Gum	1100		1100	346	30.0	15.0	13.2	3.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1183	*Eucalyptus tereticornis*	Forest Red Gum	450		450	141	11.0	8.0	5.4	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1339	*Eucalyptus tereticornis*	Forest Red Gum	680		680	214	18.0	12.0	8.2	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1359	*DEAD/STAG*		890		890	280	22.0	6.0	10.7	3.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	4 Medium Hollows	-	Present	-	Retention subject to future works	-
1373	*Eucalyptus tereticornis*	Forest Red Gum	830		830	261	24.0	11.0	10.0	3.1	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	Present	-	Remove as part of this application	-
1409	*Eucalyptus tereticornis*	Forest Red Gum	960		960	302	26.0	13.0	11.5	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1414	*Eucalyptus tereticornis*	Forest Red Gum	680		680	214	26.0	13.0	8.2	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1416	*Angophora leiocarpa*	Smooth-barked Apple	640		640	201	26.0	11.0	7.7	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Small Hollows	-	-	-	Remove as part of this application	-
1442	*Eucalyptus tereticornis*	Forest Red Gum	1150		1150	361	28.0	9.0	13.8	3.5	One-sided	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Medium Hollows	-	-	-	Remove as part of this application	-
1444	*Eucalyptus tereticornis*	Forest Red Gum	720		720	226	24.0	11.0	8.6	2.9	Regular	-	Thinning	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Medium Hollows	-	-	-	Remove as part of this application	-
1450	*Angophora leiocarpa*	Smooth-barked Apple	640		640	201	19.0	13.0	7.7	2.7	Regular	-	-	-	-	-	Typical	Major	-	-	-	Typical	-	-	2 Medium Hollows	-	-	-	Remove as part of this application	-
1477	*Eucalyptus tereticornis*	Forest Red Gum	1050		1050	330	32.0	16.0	12.6	3.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-

Specimen Details											Canopy Condition Details							Trunk Condition Details					Fauna Details and Habitat Value						Additional Details	
Tree ID	Botanical Name	Common Name	Trunk DBH (mm)	Additional Trunks DBH (mm)	Total DBH (mm) [AS 4970-2009]	Trunk Circumference (cm) [AS 4970-2009]	Height (m)	Spread (m)	Tree Protection Zone (m)	Structural Root Zone (m)	Canopy Form	Spreading	Thinning	Die-Back	Epicormic Growth	Lopped	Canopy Health	Leaning	Vines	Trunk Damage	Fire Damage	Trunk Health	Scats	Scratches	Hollows	Nest	Termite Nest	Habitat Value	Retention	Additional Notes
1494	*Angophora leiocarpa*	Smooth-barked Apple	440		440	138	19.0	5.0	5.3	2.3	Regular	-	-	-	-	-	Poor	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
1528	*DEAD/STAG*		390		390	123	17.0	2.0	4.7	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
1556	*Eucalyptus tereticornis*	Forest Red Gum	700		700	220	21.0	10.0	8.4	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1557	*Eucalyptus tereticornis*	Forest Red Gum	460		460	145	21.0	9.0	5.5	2.4	One-sided	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1564	*Eucalyptus tereticornis*	Forest Red Gum	1150		1150	361	24.0	13.0	13.8	3.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1566	*Eucalyptus tereticornis*	Forest Red Gum	470		470	148	21.0	8.0	5.6	2.4	Regular	-	Thinning	Die-back	Epicormic	-	Poor	-	-	Trunk Dmg.	-	Poor	-	-		-	-	-	Remove as part of this application	-
1574	*Eucalyptus tereticornis*	Forest Red Gum	490		490	154	19.0	12.0	5.9	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1575	*Eucalyptus tereticornis*	Forest Red Gum	560		560	176	23.0	12.0	6.7	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1578	*Eucalyptus tereticornis*	Forest Red Gum	740		740	232	25.0	14.0	8.9	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		Small	-	-	Remove as part of this application	-
1588	*Eucalyptus tereticornis*	Forest Red Gum	475		475	149	22.0	7.0	5.7	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1593	*Eucalyptus tereticornis*	Forest Red Gum	920		920	289	27.0	14.0	11.0	3.2	Regular	-	Thinning	Die-back	Epicormic	-	Poor	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1605	*Eucalyptus tereticornis*	Forest Red Gum	560		560	176	21.0	9.0	6.7	2.6	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1615	*Eucalyptus tereticornis*	Forest Red Gum	390		390	123	23.0	7.0	4.7	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1666	*Corymbia citriodora*	Spotted Gum	1500		1500	471	28.0	12.0	15.0	3.9	Regular	-	Thinning	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	5 Large Hollows	-	-	-	Remove as part of this application	-
1685	*DEAD/STAG*		1020		1020	320	22.0	8.0	12.2	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	6 Medium Hollows	-	-	-	Remove as part of this application	-
1687	*Eucalyptus siderophloia*	Northern Grey Ironbark	460		460	145	19.0	7.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	Present	-	Remove as part of this application	-
1743	*Eucalyptus tereticornis*	Forest Red Gum	360		360	113	19.0	7.0	4.3	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1876	*Eucalyptus tereticornis*	Forest Red Gum	440		440	138	21.0	9.0	5.3	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1928	*Eucalyptus tereticornis*	Forest Red Gum	590		590	185	22.0	9.0	7.1	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1933	*Eucalyptus tereticornis*	Forest Red Gum	690		690	217	27.0	12.0	8.3	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1942	*Eucalyptus tereticornis*	Forest Red Gum	350		350	110	17.0	7.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
1953	*Eucalyptus tereticornis*	Forest Red Gum	360		360	113	19.0	7.0	4.3	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2007	*Eucalyptus tereticornis*	Forest Red Gum	710		710	223	23.0	12.0	8.5	2.9	Regular	-	-	Die-back	Epicormic	-	Typical	-	-	Trunk Dmg.	-	Typical	-	-		-	-	-	Remove as part of this application	-
2013	*Eucalyptus tereticornis*	Forest Red Gum	335		335	105	19.0	8.0	4.0	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2018	*Eucalyptus tereticornis*	Forest Red Gum	350		350	110	21.0	11.0	4.2	2.1	Regular	-	Thinning	Die-back	Epicormic	-	Poor	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2037	*Eucalyptus tereticornis*	Forest Red Gum	510		510	160	22.0	13.0	6.1	2.5	Regular	-	-	-	-	-	Typical	-	-	Trunk Dmg.	-	Typical	-	-		-	-	-	Remove as part of this application	-
2040	*Eucalyptus tereticornis*	Forest Red Gum	300		300	94	17.0	2.0	3.6	2.0	Regular	-	Thinning	Die-back	Epicormic	-	Poor	-	-	Trunk Dmg.	Fire Dmg.	Poor	-	-		-	-	-	Remove as part of this application	-
2042	*Eucalyptus tereticornis*	Forest Red Gum	380		380	119	22.0	7.0	4.6	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2060	*Eucalyptus tereticornis*	Forest Red Gum	720		720	226	25.0	9.0	8.6	2.9	Regular	-	-	-	-	-	Typical	Minor	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2074	*Eucalyptus tereticornis*	Forest Red Gum	630		630	198	22.0	9.0	7.6	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2087	*Eucalyptus tereticornis*	Forest Red Gum	480	130	497	156	23.0	11.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2094	*Eucalyptus tereticornis*	Forest Red Gum	640		640	201	26.0	14.0	7.7	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2102	*Eucalyptus tereticornis*	Forest Red Gum	370		370	116	22.0	7.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2103	*Eucalyptus tereticornis*	Forest Red Gum	590		590	185	22.0	11.0	7.1	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2106	*Eucalyptus tereticornis*	Forest Red Gum	380		380	119	21.0	9.0	4.6	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2108	*Corymbia citriodora*	Spotted Gum	300	140, 180, 140	402	126	19.0	8.0	4.8	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2111	*Eucalyptus tereticornis*	Forest Red Gum	420		420	132	22.0	9.0	5.0	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2143	*Corymbia citriodora*	Spotted Gum	410		410	129	21.0	9.0	4.9	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2144	*Corymbia citriodora*	Spotted Gum	420		420	132	21.0	9.0	5.0	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2162	*Eucalyptus tereticornis*	Forest Red Gum	380		380	119	22.0	8.0	4.6	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2164	*Corymbia citriodora*	Spotted Gum	630		630	198	23.0	9.0	7.6	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2176	*Eucalyptus tereticornis*	Forest Red Gum	720		720	226	24.0	11.0	8.6	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2180	*Eucalyptus tereticornis*	Forest Red Gum	580	360, 490	840	264	25.0	12.0	10.1	3.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2181	*Eucalyptus tereticornis*	Forest Red Gum	460		460	145	23.0	9.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2187	*DEAD/STAG*		680		680	214	11.0	13.0	8.2	2.8	Regular	-	-	-	-	-	Typical	Major	-	Trunk Dmg.	-	Poor	-	-	3 Medium Hollows	-	-	-	Remove as part of this application	-
2190	*Eucalyptus tereticornis*	Forest Red Gum	690		690	217	26.0	11.0	8.3	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2199	*Eucalyptus tereticornis*	Forest Red Gum	460		460	145	23.0	11.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2200	*Eucalyptus tereticornis*	Forest Red Gum	460		460	145	25.0	11.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2220	*Eucalyptus tereticornis*	Forest Red Gum	650		650	204	23.0	12.0	7.8	2.8	Regular	-	Thinning	Die-back	Epicormic	-	Poor	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2226	*Eucalyptus tereticornis*	Forest Red Gum	680		680	214	22.0	9.0	8.2	2.8	Regular	-	Thinning	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2228	*DEAD/STAG*		360		360	113	19.0	5.0	4.3	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2235	*Eucalyptus tereticornis*	Forest Red Gum	430		430	135	22.0	11.0	5.2	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2236	*Corymbia intermedia*	Pink Bloodwood	960		960	302	21.0	9.0	11.5	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Medium Hollows	-	-	-	Remove as part of this application	-
2239	*DEAD/STAG*		960		960	302	22.0	11.0	11.5	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	6 Medium Hollows	-	-	-	Remove as part of this application	-
2240	*Eucalyptus tereticornis*	Forest Red Gum	480		480	151	21.0	11.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2242	*DEAD/STAG*		890		890	280	18.0	9.0	10.7	3.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Large Hollows	-	-	-	Remove as part of this application	-
2243	*Eucalyptus tereticornis*	Forest Red Gum	450	260	520	163	21.0	11.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2244	*Eucalyptus tereticornis*	Forest Red Gum	350		350	110	19.0	9.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2246	*Eucalyptus tereticornis*	Forest Red Gum	980		980	308	23.0	11.0	11.8	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Medium Hollows	-	-	-	Remove as part of this application	-
2248	*Eucalyptus tereticornis*	Forest Red Gum	460		460	145	18.0	6.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2256	*Eucalyptus tereticornis*	Forest Red Gum	890		890	280	27.0	12.0	10.7	3.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-

Specimen Details											Canopy Condition Details							Trunk Condition Details					Fauna Details and Habitat Value						Additional Details	
Tree ID	Botanical Name	Common Name	Trunk DBH (mm)	Additional Trunks DBH (mm)	Total DBH (mm) [AS 4970-2009]	Trunk Circumference (cm) [AS 4970-2009]	Height (m)	Spread (m)	Tree Protection Zone (m)	Structural Root Zone (m)	Canopy Form	Spreading	Thinning	Die-Back	Epicormic Growth	Lopped	Canopy Health	Leaning	Vines	Trunk Damage	Fire Damage	Trunk Health	Scats	Scratches	Hollows	Nest	Termite Nest	Habitat Value	Retention	Additional Notes
2434	*Corymbia citriodora*	Spotted Gum	360		360	113	13.0	6.0	4.3	2.2	Regular	-	-	Die-back	-	Lopped	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2538	*Eucalyptus tereticornis*	Forest Red Gum	500		500	157	17.0	14.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Retention subject to future works	-
2552	*Eucalyptus tereticornis*	Forest Red Gum	420		420	132	16.0	9.0	5.0	2.3	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2559	*Eucalyptus tereticornis*	Forest Red Gum	335		335	105	15.0	8.0	4.0	2.1	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2562	*DEAD/STAG*		255		255	80	14.0	7.0	3.1	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2568	*DEAD/STAG*		470		470	148	16.0	8.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Remove as part of this application	-
2571	*DEAD/STAG*		170		170	53	5.0	1.0	2.0	1.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Remove as part of this application	-
2575	*Eucalyptus tereticornis*	Forest Red Gum	315		315	99	16.0	7.0	3.8	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2577	*DEAD/STAG*		270		270	85	14.0	6.0	3.2	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2579	*Eucalyptus tereticornis*	Forest Red Gum	395		395	124	16.0	10.0	4.7	2.2	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2599	*DEAD/STAG*		545		545	171	15.0	9.0	6.5	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 1 Small Hollows	-	-	-	Remove as part of this application	-
2601	*Eucalyptus tereticornis*	Forest Red Gum	475		475	149	19.0	13.0	5.7	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2604	*Eucalyptus tereticornis*	Forest Red Gum	1050		1050	330	21.0	16.0	12.6	3.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	4 Medium Hollows, 5 Small Hollows	-	-	-	Remove as part of this application	-
2607	*Eucalyptus tereticornis*	Forest Red Gum	580		580	182	18.0	11.0	7.0	2.6	Regular	-	Thinning	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2608	*Eucalyptus tereticornis*	Forest Red Gum	655		655	206	24.0	15.0	7.9	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2609	*Eucalyptus tereticornis*	Forest Red Gum	470		470	148	17.0	9.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2617	*Eucalyptus tereticornis*	Forest Red Gum	580		580	182	23.0	15.0	7.0	2.6	Regular	-	-	Die-back	-	-	Typical	-	-	Trunk Dmg.	-	Typical	-	-		-	-	-	Remove as part of this application	-
2640	*Eucalyptus tereticornis*	Forest Red Gum	355		355	112	25.0	16.0	4.3	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2644	*Corymbia citriodora*	Spotted Gum	330		330	104	14.0	4.0	4.0	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Remove as part of this application	-
2648	*Eucalyptus tereticornis*	Forest Red Gum	515		515	162	17.0	9.0	6.2	2.5	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	2 Medium Hollows, 3 Small Hollows	-	-	-	Remove as part of this application	-
2664	*Eucalyptus tereticornis*	Forest Red Gum	350		350	110	15.0	7.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2727	*Eucalyptus tereticornis*	Forest Red Gum	495		495	156	16.0	9.0	5.9	2.5	Regular	-	-	Die-back	-	-	Typical	-	-	Trunk Dmg.	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Retention subject to future works	-
2769	*Eucalyptus tereticornis*	Forest Red Gum	370		370	116	23.0	14.0	4.4	2.2	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2772	*DEAD/STAG*		265		265	83	15.0	6.0	3.2	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Retention subject to future works	-
2775	*Corymbia citriodora*	Spotted Gum	415		415	130	21.0	10.0	5.0	2.3	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2784	*Corymbia citriodora*	Spotted Gum	400		400	126	21.0	13.0	4.8	2.3	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2787	*Corymbia citriodora*	Spotted Gum	485		485	152	23.0	13.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2796	*Corymbia citriodora*	Spotted Gum	395		395	124	16.0	11.0	4.7	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2801	*Eucalyptus tereticornis*	Forest Red Gum	560		560	176	24.0	6.0	6.7	2.6	Regular	-	Thinning	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2803	*Eucalyptus tereticornis*	Forest Red Gum	680		680	214	22.0	6.0	8.2	2.8	Regular	-	Thinning	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2847	*Eucalyptus tereticornis*	Forest Red Gum	630		630	198	22.0	6.0	7.6	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2848	*Eucalyptus tereticornis*	Forest Red Gum	520		520	163	21.0	5.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2849	*Eucalyptus tereticornis*	Forest Red Gum	640		640	201	22.0	6.0	7.7	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2850	*Eucalyptus tereticornis*	Forest Red Gum	680		680	214	22.0	6.0	8.2	2.8	Regular	-	Thinning	Die-back	-	-	Typical	-	-	Trunk Dmg.	-	Poor	-	-	1 Large Hollows, 2 Medium Hollows, 2 Small Hollows	-	-	-	Remove as part of this application	-
2866	*Eucalyptus tereticornis*	Forest Red Gum	500		500	157	21.0	6.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2869	*Eucalyptus tereticornis*	Forest Red Gum	570		570	179	20.0	6.0	6.8	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2878	*Eucalyptus tereticornis*	Forest Red Gum	550		550	173	21.0	6.0	6.6	2.6	Regular	-	Thinning	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2879	*Corymbia citriodora*	Spotted Gum	550		550	173	21.0	6.0	6.6	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2881	*Eucalyptus tereticornis*	Forest Red Gum	500		500	157	20.0	6.0	6.0	2.5	Regular	-	Thinning	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2883	*Eucalyptus tereticornis*	Forest Red Gum	1120		1120	352	19.0	8.0	13.4	3.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Medium Hollows, 3 Small Hollows	-	-	-	Remove as part of this application	-
2884	*Eucalyptus tereticornis*	Forest Red Gum	500		500	157	18.0	5.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2886	*Eucalyptus tereticornis*	Forest Red Gum	550		550	173	20.0	5.0	6.6	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2887	*Eucalyptus tereticornis*	Forest Red Gum	500		500	157	20.0	6.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2888	*Eucalyptus tereticornis*	Forest Red Gum	500		500	157	21.0	6.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2889	*Eucalyptus tereticornis*	Forest Red Gum	620		620	195	21.0	5.0	7.4	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
2900	*Eucalyptus tereticornis*		1380	0	1380	434	28.0	8.0	15.0	3.8	Regular	-	-	Die-back	Epicormic	-	Poor	-	-	Trunk Dmg.	-	Typical	-	-	3 Large Hollows	-	-	-	Remove as part of this application	-
2901	*Angophora leiocarpa*		570	0	570	179	20.0	10.0	6.8	2.6	Regular	-	-	Die-back	-	-	Typical	Major	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2902	*Corymbia citriodora*		1690	0	1690	531	0.0	0.0	15.0	4.1	Regular	-	-	Die-back	Epicormic	-	Poor	-	-	-	-	Typical	-	-	5 Large Hollows	-	-	-	Remove as part of this application	-
2903	*DEAD/STAG*		850	0	850	267	10.0	6.0	10.2	3.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Large Hollows	-	-	-	Remove as part of this application	-
2904	*Lophostemon suaveolens*		750	0	750	236	18.0	8.0	9.0	2.9	Regular	-	-	Die-back	Epicormic	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2905	*Corymbia intermedia*		740	0	740	232	14.0	8.0	8.9	2.9	One-sided	-	-	-	-	-	Typical	Major	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2906	*DEAD/STAG*		870	0	870	273	14.0	7.0	10.4	3.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2907	*Eucalyptus tereticornis*		900	0	900	283	28.0	14.0	10.8	3.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Large Hollows	-	-	-	Remove as part of this application	-
2908	*Eucalyptus tereticornis*		520	0	520	163	20.0	8.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Retention subject to future works	-
2909	*Lophostemon suaveolens*		450	0	450	141	20.0	8.0	5.4	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2910	*Eucalyptus tereticornis*		780	0	780	245	24.0	12.0	9.4	3.0	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2911	*DEAD/STAG*		350	0	350	110	14.0	5.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2912	*Eucalyptus tereticornis*		1200	0	1200	377	18.0	14.0	14.4	3.6	Regular	-	-	Die-back	-	-	Poor	-	-	Trunk Dmg.	Fire Dmg.	Typical	-	-	3 Small Hollows	-	-	-	Remove as part of this application	-
2913	*Eucalyptus tereticornis*		670	0	670	210	22.0	10.0	8.0	2.8	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2914	*DEAD/STAG*		280	0	280	88	17.0	4.0	3.4	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2915	*DEAD/STAG*		350	0	350	110	18.0	4.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-

Specimen Details											Canopy Condition Details							Trunk Condition Details					Fauna Details and Habitat Value						Additional Details	
Tree ID	Botanical Name	Common Name	Trunk DBH (mm)	Additional Trunks DBH (mm)	Total DBH (mm) [AS 4970-2009]	Trunk Circumference (cm) [AS 4970-2009]	Height (m)	Spread (m)	Tree Protection Zone (m)	Structural Root Zone (m)	Canopy Form	Spreading	Thinning	Die-Back	Epicormic Growth	Lopped	Canopy Health	Leaning	Vines	Trunk Damage	Fire Damage	Trunk Health	Scats	Scratches	Hollows	Nest	Termite Nest	Habitat Value	Retention	Additional Notes
2916	*DEAD/STAG*		470	0	470	148	16.0	5.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2917	*Corymbia citriodora*		470	0	470	148	16.0	13.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2918	*DEAD/STAG*		460	0	460	145	16.0	6.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2919	*DEAD/STAG*		510	0	510	160	13.0	4.0	6.1	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2920	*DEAD/STAG*		270	0	270	85	16.0	9.0	3.2	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2921	*Corymbia citriodora*		410	0	410	129	21.0	5.0	4.9	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2922	*DEAD/STAG*		600	0	600	188	18.0	11.0	7.2	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2923	*Angophora leiocarpa*		480	0	480	151	17.0	9.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2924	*DEAD/STAG*		920	0	920	289	15.0	2.0	11.0	3.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2925	*DEAD/STAG*		540	0	540	170	16.0	11.0	6.5	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2926	*DEAD/STAG*		490	0	490	154	13.0	3.0	5.9	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2927	*Angophora leiocarpa*		600	0	600	188	18.0	7.0	7.2	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2928	*Eucalyptus tereticornis*		410	0	410	129	17.0	5.0	4.9	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2929	*Angophora woodsiana*		880	0	880	276	15.0	12.0	10.6	3.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2930	*Angophora woodsiana*		530	0	530	167	22.0	16.0	6.4	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	Large	-	-	Remove as part of this application	-
2931	*DEAD/STAG*		400	0	400	126	12.0	5.0	4.8	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2932	*Eucalyptus tereticornis*		520	510	728	229	25.0	18.0	8.7	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2933	*Angophora leiocarpa*		650	0	650	204	18.0	8.0	7.8	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2934	*DEAD/STAG*		800	0	800	251	21.0	13.0	9.6	3.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	7 Large Hollows	-	-	-	Remove as part of this application	-
2935	*Eucalyptus tereticornis*		530	0	530	167	18.0	9.0	6.4	2.5	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-	5 Large Hollows	-	-	-	Remove as part of this application	-
2936	*Eucalyptus tereticornis*		720	0	720	226	16.0	14.0	8.6	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	5 Large Hollows	-	-	-	Remove as part of this application	-
2937	*Angophora leiocarpa*		580	0	580	182	9.0	3.0	7.0	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	4 Large Hollows	-	-	-	Remove as part of this application	-
2938	*Angophora leiocarpa*		540	0	540	170	15.0	9.0	6.5	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	4 Large Hollows	-	-	-	Retention subject to future works	-
2939	*DEAD/STAG*		860	0	860	270	15.0	4.0	10.3	3.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2940	*DEAD/STAG*		730	0	730	229	16.0	8.0	8.8	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	6 Large Hollows	-	-	-	Remove as part of this application	-
2941	*Corymbia intermedia*		660	0	660	207	14.0	8.0	7.9	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2942	*DEAD/STAG*		530	0	530	167	13.0	2.0	6.4	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2943	*Eucalyptus tereticornis*		750	0	750	236	21.0	11.0	9.0	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Large Hollows	-	-	-	Retention subject to future works	-
2944	*DEAD/STAG*		670	0	670	210	17.0	8.0	8.0	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Retention subject to future works	-
2945	*Eucalyptus tereticornis*		570	0	570	179	23.0	12.0	6.8	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2946	*Eucalyptus tereticornis*		800	0	800	251	21.0	9.0	9.6	3.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2947	*Eucalyptus tereticornis*		600	0	600	188	19.0	9.0	7.2	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2948	*Angophora leiocarpa*		400	0	400	126	14.0	5.0	4.8	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2949	*Angophora leiocarpa*		500	0	500	157	20.0	10.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Large Hollows	-	-	-	Remove as part of this application	-
2950	*DEAD/STAG*		370	0	370	116	13.0	4.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2951	*DEAD/STAG*		320	0	320	101	13.0	4.0	3.8	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2952	*Corymbia tessellaris*		350	0	350	110	18.0	7.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Small Hollows	-	-	-	Remove as part of this application	-
2953	*Angophora leiocarpa*		330	0	330	104	17.0	6.0	4.0	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2954	*Eucalyptus tereticornis*		820	0	820	258	23.0	11.0	9.8	3.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2955	*Angophora leiocarpa*		280	0	280	88	17.0	6.0	3.4	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2957	*DEAD/STAG*		980	0	980	308	19.0	7.0	11.8	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	6 Large Hollows	-	-	-	Remove as part of this application	-
2959	*Eucalyptus tereticornis*		390	0	390	123	16.0	6.0	4.7	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2961	*Eucalyptus crebra*		430	0	430	135	20.0	9.0	5.2	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	Termite nest	-	Remove as part of this application	-
2962	*Eucalyptus tereticornis*		460	0	460	145	17.0	9.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2963	*DEAD/STAG*		470	0	470	148	17.0	7.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2964	*DEAD/STAG*		450	0	450	141	16.0	6.0	5.4	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	Termite nest	-	Remove as part of this application	-
2967	*DEAD/STAG*		310	0	310	97	14.0	4.0	3.7	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2970	*Eucalyptus tereticornis*		1020	0	1020	320	23.0	12.0	12.2	3.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		Large	-	-	Remove as part of this application	-
2972	*Angophora leiocarpa*		380	0	380	119	18.0	7.0	4.6	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2973	*Angophora leiocarpa*		670	0	670	210	21.0	9.0	8.0	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	-	-	Remove as part of this application	-
2974	*Angophora leiocarpa*		450	0	450	141	16.0	7.0	5.4	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2975	*DEAD/STAG*		520	0	520	163	15.0	5.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	4 Large Hollows	-	-	-	Remove as part of this application	-
2976	*Eucalyptus tereticornis*		580	0	580	182	18.0	7.0	7.0	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	6 Large Hollows	-	-	-	Remove as part of this application	-
2977	*Eucalyptus tereticornis*		420	0	420	132	16.0	6.0	5.0	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	Old	2 Large Hollows	-	-	-	Remove as part of this application	-
2978	*Eucalyptus tereticornis*		410	0	410	129	17.0	6.0	4.9	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2979	*Angophora leiocarpa*		350	0	350	110	16.0	6.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
2980	*Angophora leiocarpa*		300	0	300	94	15.0	5.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
2982	*DEAD/STAG*		480	0	480	151	16.0	5.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Large Hollows	-	Termite nest	-	Remove as part of this application	-
2983	*Angophora leiocarpa*		580	0	580	182	18.0	9.0	7.0	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollows	-	-	-	Remove as part of this application	-
2984	*Angophora leiocarpa*		580	0	580	182	17.0	7.0	7.0	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
3058	*Eucalyptus tereticornis*	Forest Red Gum	630		630	198	17.0	12.0	7.6	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-

Specimen Details											Canopy Condition Details							Trunk Condition Details					Fauna Details and Habitat Value						Additional Details	
Tree ID	Botanical Name	Common Name	Trunk DBH (mm)	Additional Trunks DBH (mm)	Total DBH (mm) [AS 4970-2009]	Trunk Circumference (cm) [AS 4970-2009]	Height (m)	Spread (m)	Tree Protection Zone (m)	Structural Root Zone (m)	Canopy Form	Spreading	Thinning	Die-Back	Epicormic Growth	Lopped	Canopy Health	Leaning	Vines	Trunk Damage	Fire Damage	Trunk Health	Scats	Scratches	Hollows	Nest	Termite Nest	Habitat Value	Retention	Additional Notes
3097	*Eucalyptus tereticornis*	Forest Red Gum	450		450	141	21.0	12.0	5.4	2.4	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3429	*Eucalyptus tereticornis*	Forest Red Gum	740		740	232	23.0	16.0	8.9	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Retention subject to future works	-
3455	*Eucalyptus siderophloia*	Northern Grey Ironbark	500		500	157	23.0	18.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	Present	-	Retention subject to future works	-
3485	*Eucalyptus tereticornis*	Forest Red Gum	460	400	610	192	21.0	16.0	7.3	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3487	*Eucalyptus tereticornis*	Forest Red Gum	340		340	107	18.0	10.0	4.1	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3488	*Eucalyptus tereticornis*	Forest Red Gum	430		430	135	17.0	9.0	5.2	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3489	*Eucalyptus tereticornis*	Forest Red Gum	470		470	148	23.0	16.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3491	*Corymbia citriodora*	Spotted Gum	470		470	148	21.0	13.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
3493	*Corymbia citriodora*	Spotted Gum	410		410	129	20.0	16.0	4.9	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3494	*Corymbia citriodora*	Spotted Gum	400		400	126	18.0	12.0	4.8	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3495	*Corymbia citriodora*	Spotted Gum	660		660	207	26.0	18.0	7.9	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
3496	*Corymbia citriodora*	Spotted Gum	440		440	138	18.0	15.0	5.3	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-	-	-	Remove as part of this application	-
3501	*Eucalyptus tereticornis*	Forest Red Gum	440		440	138	21.0	15.0	5.3	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3540	*Eucalyptus tereticornis*	Forest Red Gum	420		420	132	16.0	6.0	5.0	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3542	*Eucalyptus tereticornis*	Forest Red Gum	450		450	141	16.0	5.0	5.4	2.4	Regular	-	-	Die-back	-	-	Typical	-	-	Trunk Dmg.	-	Typical	-	-		-	-	-	Remove as part of this application	-
3544	*DEAD/STAG*		490		490	154	10.0	0.0	5.9	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
3548	*Eucalyptus tereticornis*	Forest Red Gum	520		520	163	20.0	9.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3550	*Eucalyptus tereticornis*	Forest Red Gum	510		510	160	16.0	7.0	6.1	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3573	*Eucalyptus tereticornis*	Forest Red Gum	350		350	110	18.0	6.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3580	*Eucalyptus tereticornis*	Forest Red Gum	450		450	141	18.0	7.0	5.4	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3628	*Eucalyptus tereticornis*	Forest Red Gum	370		370	116	20.0	8.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3662	*Eucalyptus tereticornis*	Forest Red Gum	470		470	148	24.0	11.0	5.6	2.4	Regular	-	-	Die-back	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3714	*Eucalyptus tereticornis*	Forest Red Gum	370		370	116	22.0	9.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3742	*Eucalyptus tereticornis*	Forest Red Gum	470		470	148	26.0	16.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3745	*Eucalyptus tereticornis*	Forest Red Gum	360		360	113	22.0	11.0	4.3	2.2	Regular	-	Thinning	Die-back	Epicormic	-	Poor	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3797	*Eucalyptus tereticornis*	Forest Red Gum	730		730	229	26.0	18.0	8.8	2.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Retention subject to future works	-
3862	*Corymbia citriodora*	Spotted Gum	510		510	160	26.0	18.0	6.1	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 2 Small Hollows	-	-	-	Remove as part of this application	-
3863	*Angophora leiocarpa*	Smooth-barked Apple	480		480	151	19.0	12.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows	-	-	-	Remove as part of this application	-
3865	*Angophora leiocarpa*	Smooth-barked Apple	390		390	123	18.0	14.0	4.7	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Medium Hollows	-	-	-	Retention subject to future works	-
3866	*Angophora leiocarpa*	Smooth-barked Apple	470		470	148	21.0	18.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-	-	-	Remove as part of this application	-
3890	*Eucalyptus tereticornis*	Forest Red Gum	350		350	110	21.0	13.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-	-	-	Remove as part of this application	-
3918	*DEAD/STAG*		700		700	220	12.0	5.0	8.4	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollows, 1 Small Hollows	-		-	Retention subject to future works	-
3921	*Eucalyptus tereticornis*	Forest Red Gum	400		400	126	14.0	4.0	4.8	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
3934	*DEAD/STAG*		475		475	149	19.0	13.0	5.7	2.4	Regular	-	-	-	Epicormic	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-		-	Retention subject to future works	-
3935	*DEAD/STAG*		420		420	132	14.0	8.0	5.0	2.3	Regular	-	-	-	-	-	Typical	Major	-	-	-	Typical	-	-	1 Small Hollows	-		-	Retention subject to future works	-
3936	*Eucalyptus seeana*	Narrow-leaved Red Gum	515		515	162	26.0	16.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-		-	Retention subject to future works	-
3961	*DEAD/STAG*		670		670	210	26.0	14.0	8.0	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Medium Hollows	-		-	Retention subject to future works	-
3977	*Eucalyptus tereticornis*	Forest Red Gum	1080		1080	339	28.0	17.0	13.0	3.4	Regular	-	-	Die-back	-	-	Poor	-	-	-	-	Typical	-	-	1 Medium Hollows, 1 Small Hollows	-		-	Retention subject to future works	-
3983	*Eucalyptus tereticornis*	Forest Red Gum	460		460	145	16.0	9.0	5.5	2.4	Regular	-	-	Die-back	-	-	Typical	-	-	Trunk Dmg.	-	Typical	-	-		-		-	Remove as part of this application	-
4013	*Eucalyptus seeana*	Narrow-leaved Red Gum	450	360, 340	669	210	19.0	15.0	8.0	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-		-	Retention subject to future works	-
4015	*DEAD/STAG*		470		470	148	22.0	12.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Small Hollows	-		-	Retention subject to future works	-
4120	*Eucalyptus tereticornis*	Forest Red Gum	470		470	0	26.0	12.0	5.6	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4166	*Corymbia citriodora*	Spotted Gum	480		480	0	26.0	14.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4167	*Corymbia citriodora*	Spotted Gum	370		370	0	28.0	14.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4168	*Corymbia citriodora*	Spotted Gum	450		450	0	28.0	14.0	5.4	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4169	*Corymbia citriodora*	Spotted Gum	330		330	0	26.0	10.0	4.0	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4171	*Corymbia citriodora*	Spotted Gum	370		370	0	28.0	16.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4174	*Corymbia citriodora*	Spotted Gum	380		380	0	24.0	14.0	4.6	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4175	*Corymbia citriodora*	Spotted Gum	420		420	0	20.0	19.0	5.0	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4178	*DEAD/STAG*		540		540	0	18.0	8.0	6.5	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollows	-		-	Remove as part of this application	-
4203	*Corymbia citriodora*	Spotted Gum	440		440	0	28.0	14.0	5.3	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4307	*Eucalyptus tereticornis*	Forest Red Gum	380		380	119	17.0	9.0	4.6	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4317	*Corymbia citriodora*	Spotted Gum	480		480	151	24.0	16.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4333	*Eucalyptus tereticornis*	Forest Red Gum	340		340	107	22.0	7.0	4.1	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4342	*DEAD/STAG*		170	160	233	73	9.0	2.0	2.8	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Small Hollow	-		-	Remove as part of this application	-
4366	*DEAD/STAG*		250		250	79	5.0	1.0	3.0	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Large Hollow	-		-	Retention subject to future works	-
4384	*DEAD/STAG*		800		800	251	14.0	2.0	9.6	3.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	1 Medium Hollow, 1 Large Hollows	-		-	Remove as part of this application	-
4565	*Eucalyptus tereticornis*	Forest Red Gum	610		610	192	16.0	12.0	7.3	2.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-		-		-	Remove as part of this application	-
4588	*Angophora leiocarpa*	Smooth-barked Apple	480		480	151	18.0	9.0	5.8	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows	-		-	Remove as part of this application	-
4589	*Angophora leiocarpa*	Smooth-barked Apple	540		540	170	16.0	11.0	6.5	2.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	3 Small Hollows	-		-	Remove as part of this application	-
4592	*DEAD/STAG*		520		520	163	18.0	8.0	6.2	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	2 Small Hollows, 1 Medium Hollow	-		-	Remove as part of this application	-

Appendix A15

EPBC Fauna Crossing Plan

NEW BEITH ROAD

EPBC Fauna Crossing Plan

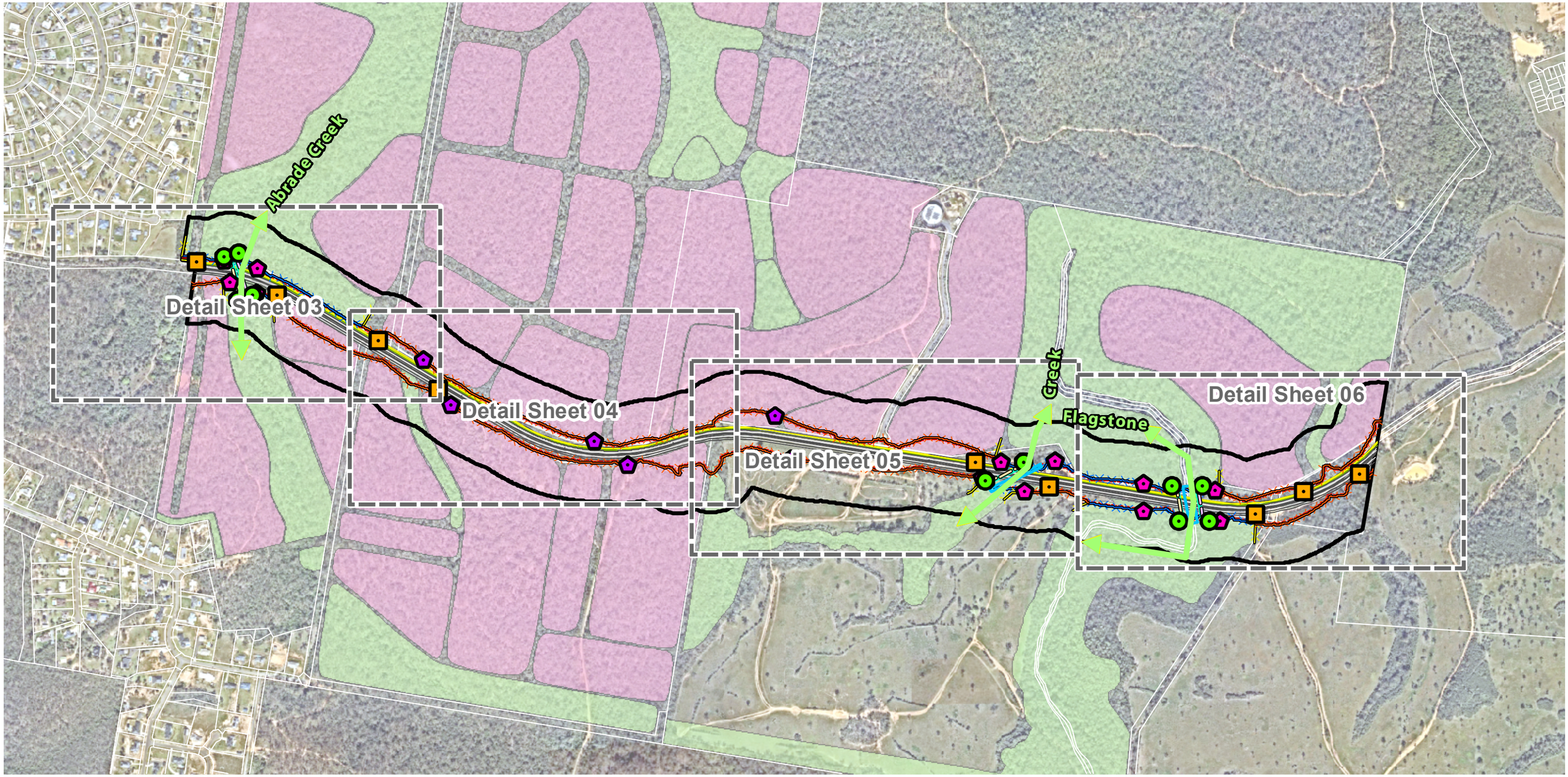
DWG NO.	DRAWING TITLE	ISSUE	DATE
8418 E 01 EPBC FCP A	COVER SHEET	A	15/10/2025
8418 E 02 EPBC FCP A	SITE CONTEXT	A	15/10/2025
8418 E 03 EPBC FCP A	SITE DETAIL/S	A	15/10/2025

Saunders Havill

PATHWAYS TO SUCCESS

NEW BEITH ROAD

EPBC Fauna Crossing Plan - *Site Context*



LEGEND

- Qld DCDB
- Referral Area

Indicative Precinct Design

- Residential/Industrial Uses
- Open Space Precincts
- Connectivity (indicative)

Indicative Engineering Detail

- Road Design
- Batters
- Cycle Path
- Footpath
- Linemarking

Indicative Fauna Crossing Infrastructure

- Indicative flood culvert arrays
- Indicative fauna culvert cells
- Indicative future permanent fauna exclusion fencing
- Indicative permanent fauna exclusion fencing
- Indicative temporary fauna exclusion fencing
- Indicative interconnected logs
- Indicative ledges
- Indicative permanent escape poles
- Indicative temporary escape poles
- Indicative fauna signage
- Indicative refuge poles

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTEXTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

N

SCALE 1:10,000 @A3

0 25 50 100 150 200 250 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	15/10/2025	CLIENT DRAFT	TF	AD

CLIENT: PEET Flagstone City Pty Ltd

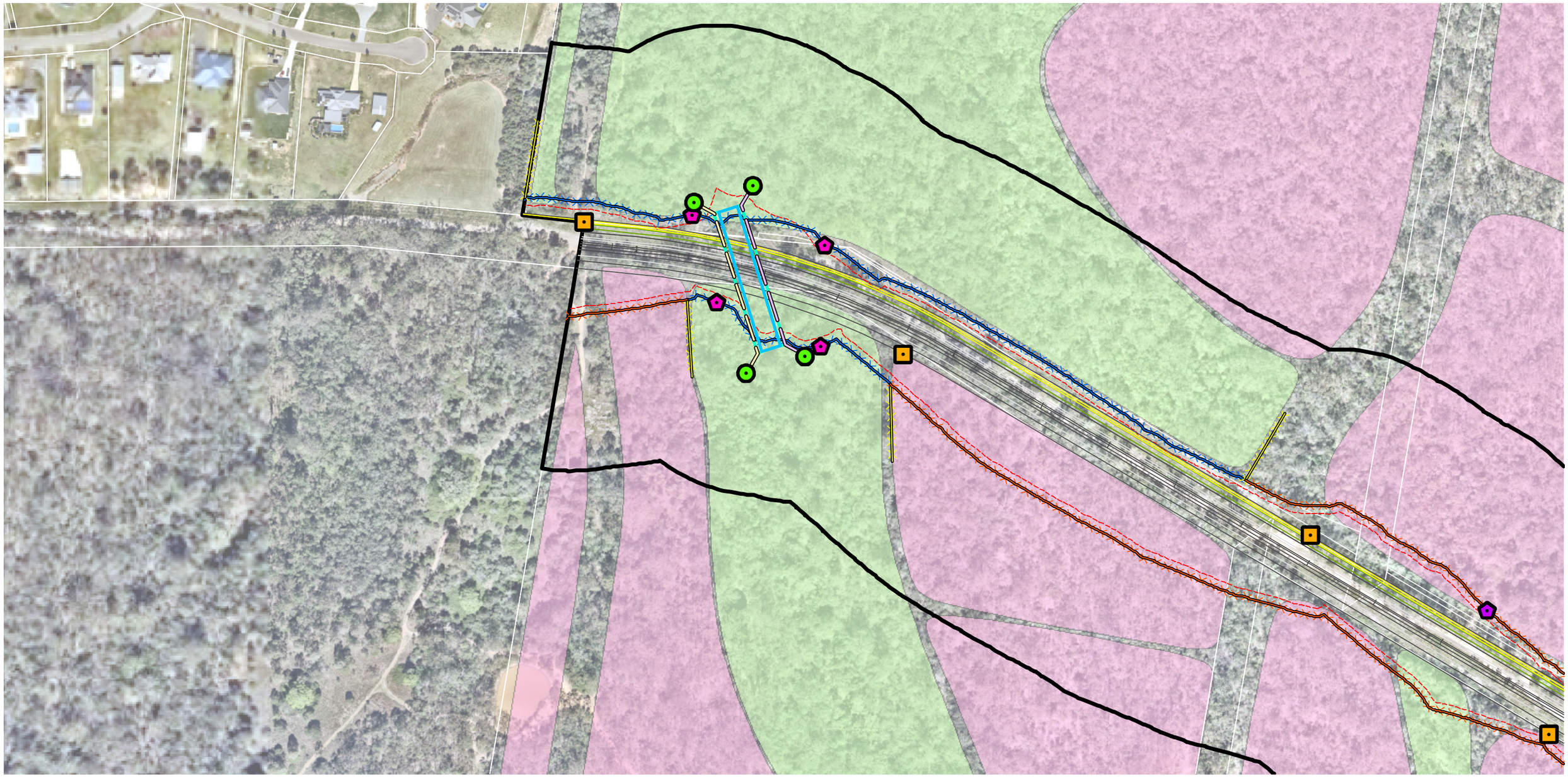
PROJECT: New Beith Road

DRAWING TITLE: EPBC FAUNA CROSSING PLAN

DRAWING NO.: 8418 E 02 EPBC FCP A

NEW BEITH ROAD

EPBC Fauna Crossing Plan - *Site Detail*



LEGEND

- Qld DCDB
- Referral Area

Indicative Precinct Design

- Residential/Industrial Uses
- Open Space Precincts
- Connectivity (indicative)

Indicative Engineering Detail

- Road Design
- Batters
- Cycle Path
- Footpath
- Linemarking

Indicative Fauna Crossing Infrastructure

- Indicative flood culvert arrays
- Indicative fauna culvert cells
- Indicative future permanent fauna exclusion fencing
- Indicative permanent fauna exclusion fencing
- Indicative temporary fauna exclusion fencing
- Indicative interconnected logs
- Indicative ledges
- Indicative permanent escape poles
- Indicative temporary escape poles
- Indicative fauna signage
- Indicative refuge poles

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTEXTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE 1:2,500 @A3

0 10 20 40 60 80 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	15/10/2025	CLIENT DRAFT	TF	AD

CLIENT: PEET Flagstone City Pty Ltd

PROJECT: New Beith Road

DRAWING TITLE: EPBC FAUNA CROSSING PLAN

DRAWING NO.: 8418 E 03 EPBC FCP A

NEW BEITH ROAD

EPBC Fauna Crossing Plan - *Site Detail*

LEGEND

- Qld DCDB
- Referral Area

Indicative Precinct Design

- Residential/Industrial Uses
- Open Space Precincts
- Connectivity (indicative)

Indicative Engineering Detail

- Road Design
- Batters
- Cycle Path
- Footpath
- Linemarking

Indicative Fauna Crossing Infrastructure

- Indicative flood culvert arrays
- Indicative fauna culvert cells
- Indicative future permanent fauna exclusion fencing
- Indicative permanent fauna exclusion fencing
- Indicative temporary fauna exclusion fencing
- Indicative interconnected logs
- Indicative ledges
- Indicative permanent escape poles
- Indicative temporary escape poles
- Indicative fauna signage
- Indicative refuge poles

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTEXTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE 1:2,500 @A3

0 10 20 40 60 80 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	15/10/2025	CLIENT DRAFT	TF	AD

CLIENT: PEET Flagstone City Pty Ltd

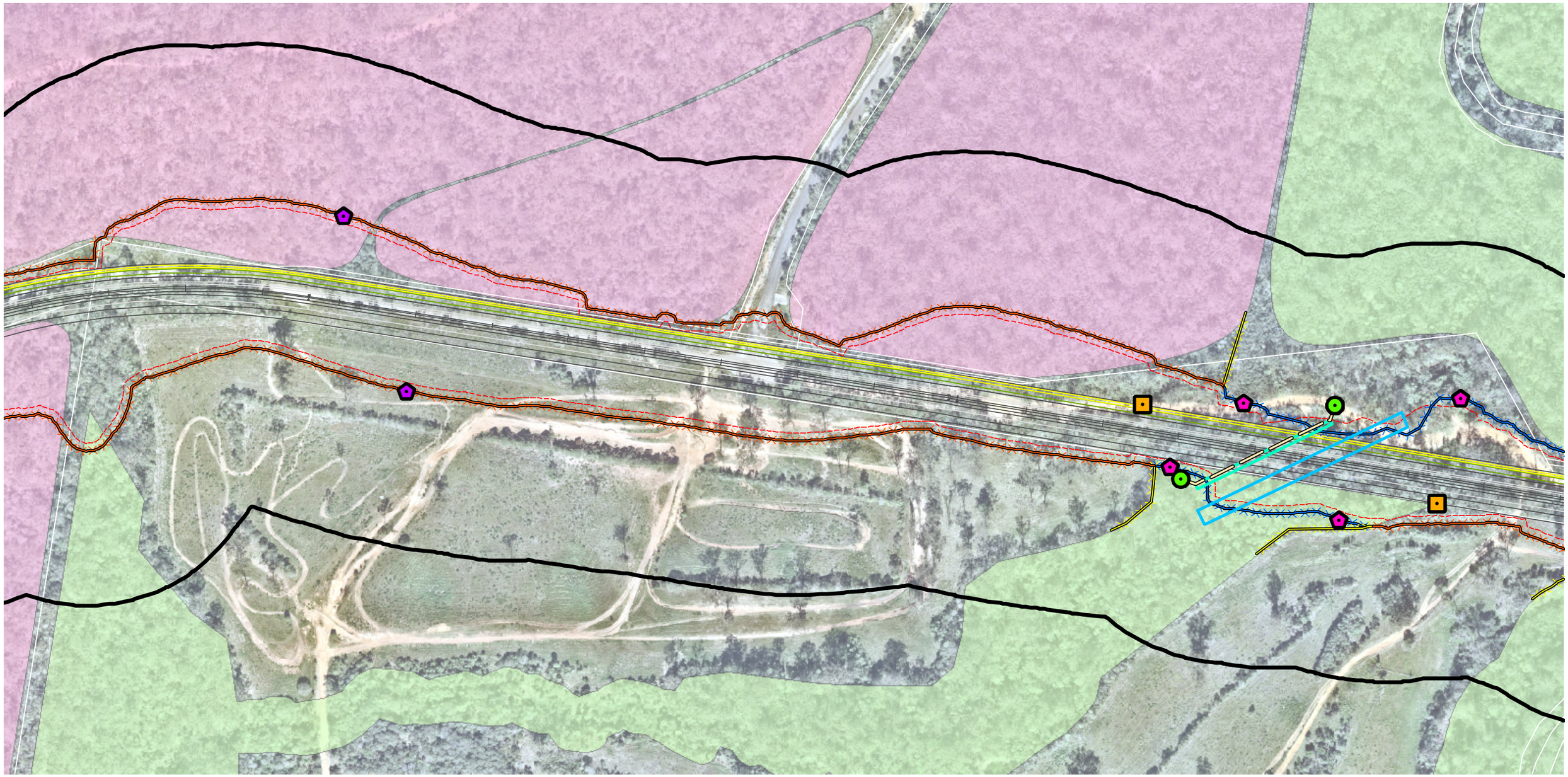
PROJECT: New Beith Road

DRAWING TITLE: EPBC FAUNA CROSSING PLAN

DRAWING NO.: **8418 E 04 EPBC FCP A**

NEW BEITH ROAD

EPBC Fauna Crossing Plan - *Site Detail*



LEGEND

- Qld DCDB
- Referral Area

Indicative Precinct Design

- Residential/Industrial Uses
- Open Space Precincts
- Connectivity (indicative)

Indicative Engineering Detail

- Road Design
- Batters
- Cycle Path
- Footpath
- Linemarking

Indicative Fauna Crossing Infrastructure

- Indicative flood culvert arrays
- Indicative fauna culvert cells
- Indicative future permanent fauna exclusion fencing
- Indicative permanent fauna exclusion fencing
- Indicative temporary fauna exclusion fencing
- Indicative interconnected logs
- Indicative ledges
- Indicative permanent escape poles
- Indicative temporary escape poles
- Indicative fauna signage
- Indicative refuge poles

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER

DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTEXTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE 1:2,500 @A3

0 10 20 40 60 80 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	15/10/2025	CLIENT DRAFT	TF	AD

CLIENT: PEET Flagstone City Pty Ltd

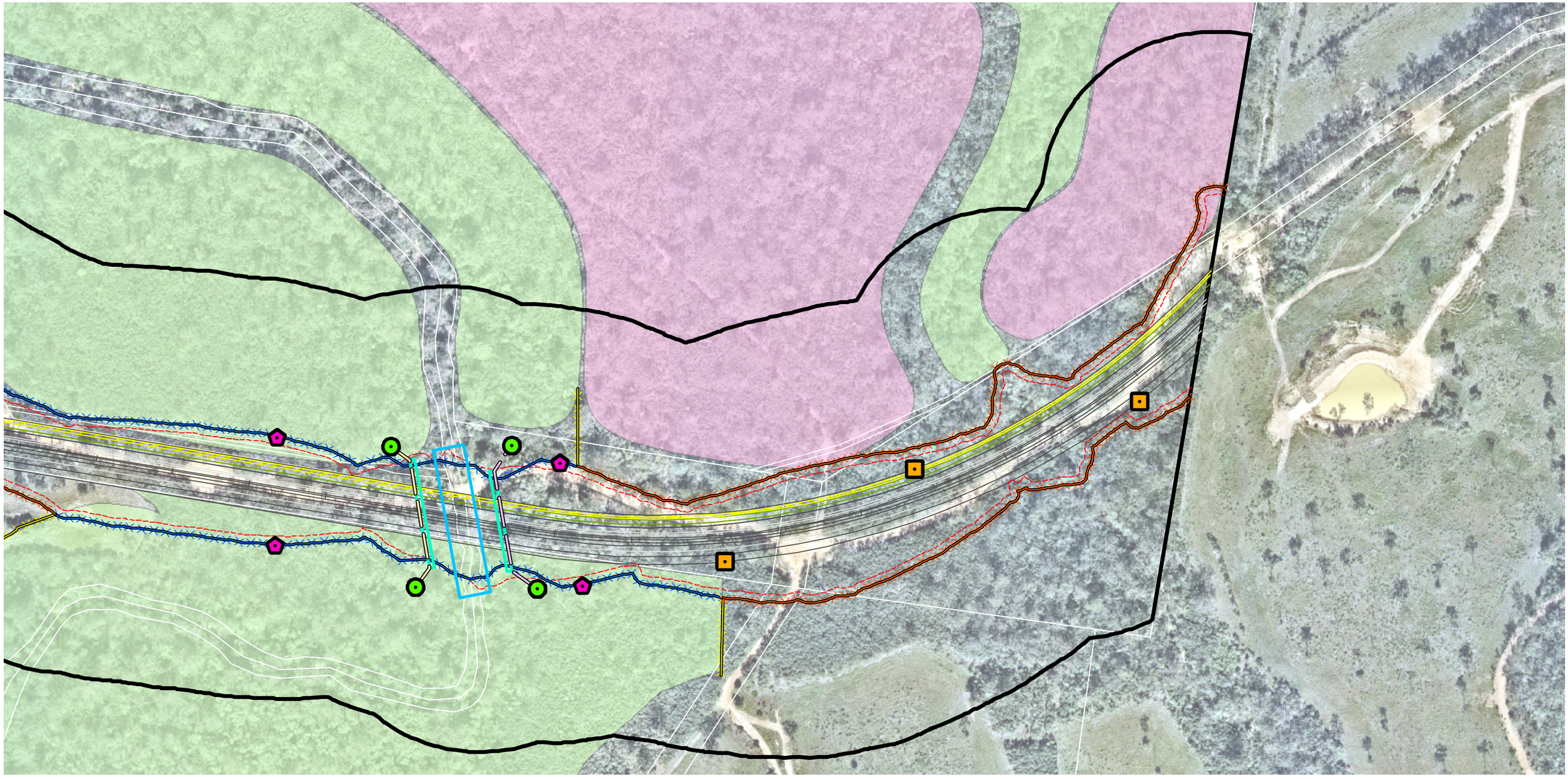
PROJECT: New Beith Road

DRAWING TITLE: EPBC FAUNA CROSSING PLAN

DRAWING NO.: **8418 E 05 EPBC FCP A**

NEW BEITH ROAD

EPBC Fauna Crossing Plan - *Site Detail*



LEGEND

- Qld DCDB
- Referral Area

Indicative Precinct Design

- Residential/Industrial Uses
- Open Space Precincts
- Connectivity (indicative)

Indicative Engineering Detail

- Road Design
- Batters
- Cycle Path
- Footpath
- Linemarking

Indicative Fauna Crossing Infrastructure

- Indicative flood culvert arrays
- Indicative fauna culvert cells
- Indicative future permanent fauna exclusion fencing
- Indicative permanent fauna exclusion fencing
- Indicative temporary fauna exclusion fencing
- Indicative interconnected logs
- Indicative ledges
- Indicative permanent escape poles
- Indicative temporary escape poles
- Indicative fauna signage
- Indicative refuge poles

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

DISCLAIMER
DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL AND ARE NOT FOR REPRODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL DO NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTEXTS OF THESE DRAWINGS BY ANY THIRD PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

SCALE
1:2,500 @A3

0 10 20 40 60 80 m

AMENDMENTS

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	15/10/2025	CLIENT DRAFT	TF	AD

CLIENT
PEET Flagstone City Pty Ltd

PROJECT
New Beith Road

DRAWING TITLE
EPBC FAUNA
CROSSING PLAN

DRAWING NO.
8418 E 06 EPBC FCP A