REFERRAL OF PROPOSED ACTION

PROPOSED MARTINS CREEK QUARRY EXPANSION PROJECT

STATION STREET MARTINS CREEK

JUNE 2016
REF: 5008

Referral of proposed action

Project title: MARTINS CREEK QUARRY EXPANSION PROJECT

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) and associated geographic information system (GIS) vector (shapefile) dataset showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

1.1 **Short description**

Use 2 or 3 sentences to uniquely identify the proposed action and its location.

The proposal involves the staged extraction of 1.5 million tonnes of material per annum, comprising of andesite hard rock, expansion into new extraction areas and the consolidation of existing operations and approvals. The location of the proposed action is within and directly adjacent to the site of the existing Martins Creek Quarry at Station Street, Martins Creek.

1.2 **Latitude and longitude**

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

Location point	Latitude degrees minutes seconds	Longitude degrees minutes seconds
1	32°32'38.729"S	151°36'54.168"E
2	32°32'37.228"S	151°37'4.078"E
3	32°32'54.148"S	151°37'20.757"E
4	32°32'54.29"S	151°37'21.502"E
5	32°32'50.919"S	151°37'22.233"E
6	32°32'52.345"S	151°37'32.325"E
7	32°32'54.604"S	151°37'31.948"E
8	32°32'56.523"S	151°37'32.234"E
9	32°32'58.163"S	151°37'31.387"E
10	32°33'0.579"S	151°37'33.856"E
11	32°33'4.342"S	151°37'37.051"E
12	32°33'5.31"S	151°37'31.288"E
13	32°33'6.957"S	151°37'31.046"E
14	32°33'8.483"S	151°37'33.823"E
15	32°33'12.572"S	151°37'31.395"E
16	32°33'17.322"S	151°37'30.512"E
17	32°33'18.86"S	151°37'30.621"E
18	32°33'22.442"S	151°37'27.996"E
19	32°33'22.667"S	151°37'27.435"E
20	32°33'22.871"S	151°37'20.273"E
21	32°33'22.945"S	151°37'17.023"E
22	32°33'26.541"S	151°37'13.798"E
23	32°33'26.827"S	151°37'13.039"E
24	32°33'26.18"S	151°37'12.693"E
25	32°33'26.959"S	151°37'10.623"E
26	32°33'26.961"S	151°37'7.605"E
27	32°33'26.185"S	151°37'6.005"E
28	32°33'16.54"S	151°37'15.091"E
29	32°33'16.069"S	151°37'14.547"E
30	32°33'14.4"S	151°37'15.6"E
31	32°33'10.949"S	151°37'16.723"E
32	32°33'13.405"S	151°37'13.87"E
33	32°33'10.699"S	151°37'12.71"E

34	32°33'10.291"S	151°37'15.353"E
35	32°33'7.602"S	151°37'15.489"E
36	32°33'8.752"S	151°37'11.15"E
37	32°33'9.834"S	151°37'11.404"E
38	32°33'8.966"S	151°37'10.489"E
39	32°33'10.363"S	151°37'4.661"E
40	32°33'7.234"S	151°37'2.625"E
41	32°33'4.692"S	151°37'2.101"E
42	32°33'4.513"S	151°36'48.567"E
43	32°33'4.087"S	151°36'52.817"E
44	32°32'54.534"S	151°36'53.87"E
45	32°32'43.107"S	151°36'56.673"E
46	32°32'40.076"S	151°36'55.449"E

The Interactive Mapping Tool may provide assistance in determining the coordinates for your project area.

If the area is less than 5 hectares, provide the location as a single pair of latitude and longitude references. If the area is greater than 5 hectares, provide bounding location points.

There should be no more than 50 sets of bounding location coordinate points per proposal area.

Bounding location coordinate points should be provided sequentially in either a clockwise or anticlockwise direction.

If the proposed action is linear (eg. a road or pipeline), provide coordinates for each turning point.

Also attach the associated GIS-compliant file that delineates the proposed referral area. If the area is less than 5 hectares, please provide the location as a point layer. If greater than 5 hectares, please provide a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer (refer to GIS data supply guidelines at Attachment A).

Do not use AMG coordinates.

1.3 **Locality and property description**

Provide a brief physical description of the property on which the proposed action will take place and the project location (eg. proximity to major towns, or for off-shore projects, shortest distance to mainland).

The property is located within the suburb of Martins Creek. The nearest major town, Patterson, is located approximately 5 km to the south.

1.4 **Size of the development footprint or work area (hectares)** 112.48 (including 55.4 hectares of cleared land)

1.5 **Street address of the site** Station Street and Cory Street, Martins Creek

1.6 **Lot description**

Describe the lot numbers and title description, if known.

- Lots 2, 5 & 6 DP 242210
- Lot 42 DP 815628
- Lot 21 DP 773220
- Lot 1 DP 1006375
- Lot 1 DP 204377

1.7 **Local Government Area and Council contact (if known)**

If the project is subject to local government planning approval, provide the name of the relevant council contact officer.

LGA: Dungog Shire Council
Council Contact: Jacqui Tupper (Manager Planning)

1.8 **Time frame**

Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

The proposed action is expected to commence during 2016 and will be undertaken over approximately 30 years from the date of commencement.

1.9	**Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?	x	**No**
			Yes, you must also complete section 2.2
1.10	**Alternative time frames etc** Does the proposed action include alternative time frames, locations or activities?	x	**No**
			Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant).
1.11	**State assessment** Is the action subject to a state or territory environmental impact assessment?		No
		x	**Yes, you must also complete Section 2.5**
1.12	**Component of larger action** Is the proposed action a component of a larger action?	x	**No**
			Yes, you must also complete Section 2.7
1.13	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?	x	**No**
			Yes, provide details:
1.14	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	x	**No**
			Yes, provide details:
1.15	**Great Barrier Reef Marine Park** Is the proposed action inside the Great Barrier Reef Marine Park?	x	**No**
			Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

2.1 Description of proposed action

This should be a detailed description outlining all activities and aspects of the proposed action and should reference figures and/or attachments, as appropriate.

The proposal includes the extraction of hard rock from the site by completing the extraction of the existing operational areas, expanding the operational area and increasing the depth of extraction in the area where the current processing plant is located.

Mining methods are expected to remain the same as currently used with rock being broken by Drill and Blast techniques in the pit with Run of Mine (ROM) material being trucked to the crushing plant for further processing before being stockpiled and loaded on to road trucks for delivery to market.

The components of the development comprise:-

- extracting up to 1.5 million tonnes of hard rock material per annum;
- expanding into new extraction areas and clearing of vegetation;
- increasing the hours of operation,
  - for quarrying to 6am – 6pm (Monday to Saturday),
  - processing to 6am - 10pm (Monday to Saturday),
  - mixing and binding to 4:30am - 10pm (Monday to Friday) and 4:30am - 6pm (Saturdays),
  - stockpiling, loading and dispatch of road transport to 5:30am - 7pm (Monday to Saturday) and
  - train loading retained at 24 hours per day, 7 days per week,
  - Maintenance works retained at 24 hours per day, 7 days per week,
- consolidating existing operations and approvals; and
- rehabilitating the site.

Locations of current operations and proposed future expansion are shown in Attachment 1 of this report.

2.2 Alternatives to taking the proposed action

This should be a detailed description outlining any feasible alternatives to taking the proposed action (including not taking the action) that were considered but are not proposed (note, this is distinct from any proposed alternatives relating to location, time frames, or activities – see section 2.3).

Martins Creek Quarry has operated since 1914 and has a long history of quarrying activities within the site. Due to the presence of existing quarrying infrastructure within the site, the geographically restricted nature of the resource and the desire to consolidate impacts to the areas surrounding the existing operations, it is considered that the current proposal will enable efficient use of the land for quarrying operations.

Not taking the action proposed is considered to not be a feasible alternative to taking the proposed action.

2.3 Alternative locations, time frames or activities that form part of the referred action

If you have identified that the proposed action includes alternative time frames, locations or activities (in section 1.10) you must complete this section. Describe any alternatives related to the physical location of the action, time frames within which the action is to be taken and alternative methods or activities for undertaking the action. For each alternative location, time frame or activity identified, you must also complete (where relevant) the details in sections 1.2-1.9, 2.4-2.7, 3.3 and 4. Please note, if the action that you propose to take is determined to be a controlled action, any alternative locations, time frames or activities that are identified here may be subject to environmental assessment and a decision on whether to approve the alternative.

Not applicable.

2.4 Context, planning framework and state/local government requirements

Explain the context in which the action is proposed, including any relevant planning framework at the state and/or local government level (e.g. within scope of a management plan, planning initiative or policy framework). Describe any Commonwealth or state legislation or policies under which approvals are required or will be considered against.

Not applicable.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

If you have identified that the proposed action will be or has been subject to a state or territory environmental impact statement (in section 1.11) you must complete this section. Describe any environmental assessment of the relevant impacts of the project that has been, is being, or will be carried out under state or territory legislation. Specify the type and nature of the assessment, the relevant legislation and the current status of any assessments or approvals. Where possible, provide contact details for the state/territory assessment contact officer.

Describe or summarise any public consultation undertaken, or to be undertaken, during the assessment. Attach copies of relevant assessment documentation and outcomes of public consultations (if available).

Type and Nature of State Relevant Assessments

The proposed action is State Significant Development as defined under NSW legislation. The environmental impacts of the project are to be assessed by the preparation of an Environmental Impact Statement prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARS) for the proposal (NSW Department of Planning and Environment 2015).

Following the submission and acceptance of the of the proposal by the NSW Department of Planning and Environment (DPE), an Environmental Assessment Report will be prepared by the DPE with a recommendation to the Minister to either grant or refuse consent. The Minister (or delegate) is the consent authority for the proposed action.

The biodiversity impacts of the proposal are to be assessed via the NSW Framework for Biodiversity Assessment, which is an Approved Bilateral Assessment Process between the Commonwealth of Australia and the State of NSW.

Relevant State Legislation

The proposed action is State Significant Development as identified under Part 4 Division 4.1 Section 89C of the *NSW Environmental and Planning Assessment* (1979). The relevant state legislation and policies under which approvals are required are identified in the Secretary's Environmental Assessment Requirements for the proposal (NSW Department of Planning and Environment 2015).

Current Status of Assessments and Approvals

The Secretary's Environmental Assessment Requirements have been issued for the proposal and the proponent is in the process of preparing an Environmental Impact Statement to be lodged with the NSW Department of Planning and Environment.

Contact Details for Relevant NSW Department of Planning and Environment Officer

Contact Person: Thomas Watt (planner)
Contact Number: 9228 6375
Project application number: SSD 14_6612

2.6 Public consultation (including with Indigenous stakeholders)

Your referral must include a description of any public consultation that has been, or is being, undertaken. Where Indigenous stakeholders are likely to be affected by your proposed action, your referral should describe any consultations undertaken with Indigenous stakeholders. Identify the relevant stakeholders and the status of consultations at the time of the referral. Where appropriate include copies of documents recording the outcomes of any consultations.

Public consultations with the community are ongoing and will be undertaken as part of the Environmental Impact Statement exhibition process.

The following staged consultation process with regard to Aboriginal Cultural Heritage has been undertaken by Niche (2015).

- Stage 1 – Notification of project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

A copy of the final Aboriginal Cultural Heritage Assessment Report (Niche 2015), which is included as an attachment to this Referral, will be available to all Registered Aboriginal Parties during the public exhibition period for the EIS. During this exhibition period all Registered Aboriginal Parties will have the opportunity to review and provide additional comment on the final ACHA report.

2.7 A staged development or component of a larger project

If you have identified that the proposed action is a component of a larger action (in section 1.12) you must complete this section. Provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger proposal (eg. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

The action proposed is not a component of a larger action.

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest.

Your assessment of likely impacts should refer to the following resources (available from the Department's web site):

- specific values of individual World Heritage properties and National Heritage places and the ecological character of Ramsar wetlands;
- profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*; and
- associated sectoral and species policy statements available on the web site, as relevant.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The Minister has prepared four marine bioregional plans (MBP) in accordance with section 176. It is likely that the MBP's will be more commonly relevant where listed threatened species, listed migratory species or a Commonwealth marine area is considered.

Note that even if your proposal will not be taken in a World Heritage area, Ramsar wetland, Commonwealth marine area, the Great Barrier Reef Marine Park or on Commonwealth land, it could still impact upon these areas (for example, through downstream impacts). Consideration of likely impacts should include both direct and indirect impacts.

A Protected Matters Search (DOE 2016), a search of the Bionet Atlas of NSW Wildlife (NSW OEH 2016) and detailed site ecological investigations during 2014 and 2015 were undertaken by Conacher Consulting to determine the presence of matters of national environmental significance within the project area.

3.1 (a) World Heritage Properties

Description

The proposed action is not located within or adjoining a World Heritage Property and no World Heritage Properties were identified of the Protected Matters Search within 10km of the subject site.

Nature and extent of likely impact

Address any impacts on the World Heritage values of any World Heritage property.

The proposed action is not likely to directly or indirectly impact on a World Heritage Property.

3.1 (b) National Heritage Places

Description

The proposed action is not located within or adjoining a National Heritage Place and no National Heritage Places were identified of the Protected Matters Search within 10km of the subject site.

Nature and extent of likely impact

Address any impacts on the National Heritage values of any National Heritage place.

The proposed action is not likely to directly or indirectly impact on a National Heritage Place.

The Historical Heritage Assessment prepared for the proposal by Niche (2015) is provided as an Attachment to this Referral.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)
Description

There are no listed Wetlands of International Importance located within or adjoining the subject site. No Wetlands of International Importance were identified on Protected Matters Search within 10km and the nearest Wetland of International importance (the Hunter Estuary Wetlands) is located approximately 30 km downstream of the subject site.

Nature and extent of likely impact
Address any impacts on the ecological character of any Ramsar wetlands.

The following assessment of the Significant Impact Criteria for Wetlands of International Importance (DOE 2013) has been undertaken to determine whether the action proposed is likely to have a significant impact on the ecological character of a Wetland of International Importance.

Is there a real chance or possibility that the proposal will result in:

Criteria 1: Areas of the wetland being destroyed or substantially modified:
Response 1: No, there are no Wetlands of International Importance located within or adjoining the site and the nearest Wetland of International importance (the Hunter Estuary Wetlands) is located approximately 30 km from the subject site.

Criteria 2: A substantial and measurable change in the hydrological regime of the wetland, for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland.
Response 2: No, the site surface water management and mitigation measures proposed will result in minimal impact on surface water downstream of the quarry and extension of the quarry not likely to affect groundwater flows to the Hunter Estuary.

Criteria 3: The habitat or lifecycle of native species, including invertebrate fauna and fish species dependent upon the wetland being seriously affected.
Response 3: No. Suitable on-site water management measures will be implemented to avoid and mitigate potential impacts to downstream environments.

Criteria 4: A substantial and measurable change in the water quality of the wetland – for example, a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health.
Response 4: No. Suitable on-site water management measures will be implemented to avoid and mitigate potential impacts to downstream environments.

Criteria 5: An invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland.
Response 5: No, the proposal is not a type of development which is likely to result in the spread of invasive species to a Wetland of International Importance.

3.1 (d) Listed threatened species and ecological communities
Description

Threatened Flora Species

A list of the threatened flora species listed within the *EPBC Act* (1999) and known to occur within the locality as identified from the Bionet Atlas of NSW Wildlife (NSW OEH 2016) and the EPBC Protected Matters Search Tool (DOE 2016) is provided in Table 3.1. An assessment of the likely occurrence is provided for each species.

TABLE 3.1
EPBC ACT LISTED THREATENED FLORA SPECIES OF THE LOCALITY

Scientific Name	EP&BC Act Listing Status	Growth Form And Habitat Requirements	Assessment of Likely Occurrence
Asperula asthenes	V	Decumbent perennial herb, trailing to 30cm. Grows in damp sites along river banks from Taree to Bulahdelah (NSW RBG 2016).	No suitable habitat present. Not likely to occur.
Cynanchum elegans	E	Climber or twiner to 1 m. Grows in rainforest gullies, scrub & on scree slopes (NSW RBG 2016).	Suitable habitat present. Not found during targeted searches of suitable habitat. Low likelihood of occurrence.
Eucalyptus glaucina	V	Tree to 30m. Grows in several habitats including shallow soils or stony hillsides (not on poor sandstone), grassy woodland on deep, moderately fertile with moist soils and on gentle slopes near drainage lines in alluvial and clayey soils (DOE 2016).	Suitable habitat present. Present within area of proposed action.
Grevillea parviflora subsp. parviflora	V	Open to erect shrub to 1 metre. Grows in heathy woodland on light clayey soils and may have an affinity with disturbance margins (NSW NPWS 2002).	No suitable habitat present. Not likely to occur.
Persicaria elatior	V	An erect herb to 90cm, growing in damp places especially beside streams and lakes, and occasionally in swamp forest or associated with disturbance (NSW OEH 2016).	No suitable habitat present. Not likely to occur.
Rutidosis heterogama	V	Small perennial herb to 30cm tall. Grows in heaths in clay soils and has been recorded along disturbed roadsides (Harden 1994).	Suitable habitat present. Not found during targeted searches of suitable habitat. Low likelihood of occurrence.
Syzygium paniculatum	V	Small tree. Subtropical and littoral rainforest on sandy soil (Fairley and Moore 1995).	Suitable habitat present. Not found during targeted searches of suitable habitat. Low likelihood of occurrence.
T = Threatened , E = Endangered, CE = Critically Endangered			

The threatened flora species, *Eucalyptus glaucina*, is present within the area of the proposed action (Conacher Consulting 2016). A plan showing the approximate distribution of this species within the subject site is provided in Attachment 2. A plan showing the local area records for this species from the

NSW OEH Bionet Atlas of NSW Wildlife is also provided in Attachment 2.

The *E. glaucina* observed within the subject site was located within the Slaty Red Gum Grassy Woodland on Hinterland Foothills of the Southern North Coast plant community type. A total of thirteen (13) 20x50m quadrats were sampled to determine the average density of this species across this community.

The surveys undertaken determined that the average density of *E. glaucina* was 1.28 specimens per 100m^2. Surveys have identified that approximately 2827 *E. glaucina* trees are present within the study site over approximately 22.09 ha, including approximately 1203 *E. glaucina* trees and/or saplings within the proposed development footprint over an area of 9.4 ha.

Threatened Fauna Species

A list of the threatened fauna species listed within the *EPBC Act* (1999) and known to occur within the locality as identified from the Bionet Atlas of NSW Wildlife (NSW OEH 2016) and the EPBC Protected Matters Search Tool (DOE 2016) is provided in Table 3.1. An assessment of the likely occurrence is provided for each species.

TABLE 3.2
EPBC ACT LISTED THREATENED FAUNA SPECIES OF THE LOCALITY

Common Name Scientific Name	EP&BC Act	Preferred Habitat	Likelihood of Occurrence
Stuttering Frog *Mixophyes balbus*	V	Inhabits freshwater streams in undisturbed rainforest and wet sclerophyll forest (NSW OEH 2016).	No suitable habitat present (not recorded within 20km). Not likely to occur.
Green and Golden Bell Frog *Litoria aurea*	V	Breeding habitat consists of shallow (<1m) ponds or slowly moving waterways which undergo disturbance regimes such as fluctuating water flow or inflow of saline water with both areas of open water and dense low vegetation DEC 2005).	Sub-optimal habitat present. Not observed during targeted surveys. Not likely to occur.
Littlejohn's Tree Frog *Litoria littlejohni*	V	Inhabits upper reaches of permanent rocky streams and upland swamps with thick fringing vegetation associated with eucalypt woodlands and heaths among sandstone outcrops (OEH 2016).	No suitable habitat present. Not likely to occur.
Australasian Bittern *Botaurus poiciloptilus*	E	Inhabits shallow freshwater or brackish wetlands with tall dense beds of reeds, sedges or rush species and swamp edges. Distribution Limit - N-North of Lismore. S-Eden (Marchant and Higgins 1990).	No suitable habitat present. Not likely to occur.
Swift Parrot *Lathamus discolor*	CE	Within NSW inhabits eucalypt forests and woodlands with winter flowering eucalypts (Saunders and Tzaros 2011).	Suitable habitat present. Not observed during targeted surveys. Moderate likelihood of only infrequent occurrence.
Regent Honeyeater *Anthochaera phrygia*	E	Found in temperate eucalypt woodland and open forest including forest edges, wooded farmland and urban areas with mature eucalypts (Higgins e*t al.*, 2001).	Suitable habitat present. Not observed during targeted surveys. Moderate likelihood of only infrequent occurrence.

Spotted-tailed Quoll *Dasyurus maculatus*	E	Inhabits a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Shelters in hollow-bearing trees, fallen logs, small caves and rock crevices (NSW NPWS 1999).	Suitable habitat present. Not observed during targeted surveys. Low to moderate likelihood of occurrence.
Brush-tailed Phascogale *Phascogale tapoatafa*	E	A scansorial mammal most often associated with dry sclerophyll forest and woodland habitats. Also utilises wet sclerophyll forest, rainforest, swamp and heath habitats. Nests in hollow bearing trees (OEH 2016).	Suitable habitat present. Not observed during targeted surveys. Low to moderate likelihood of occurrence.
Koala *Phascolarctos cinereus*	V	Inhabits both wet & dry eucalypt forest on high nutrient soils containing preferred feed trees (Reed *at al*., 1991).	Suitable habitat present. Observed during surveys.
New Holland Mouse Pseudomys novaehollandiae	V	Within NSW occurs in a variety of structural vegetation types including heathland and woodland, dry sclerophyll forest with a dense shrub layer and on vegetated sand dunes (Wilson and Laidlaw 2003).	No suitable habitat present. Not likely to occur.
Grey-headed Flying-fox *Pteropus poliocephalus*	V	Found in a variety of habitats including rainforest, mangroves, paperbark swamp, wet and dry open forest and cultivated areas. Forms camps commonly found in gullies and in vegetation with a dense canopy (Tidemann 1995).	Suitable habitat present. Observed during surveys.
Large-eared Pied Bat *Chalinolobus dwyeri*	V	Warm-temperate to subtropical dry sclerophyll forest and woodland. Roosts in caves, tunnels and tree hollows in colonies (Churchill 2008).	Suitable habitat present. Not observed during targeted surveys. Low to moderate likelihood of occurrence.
T = Threatened , E = Endangered, CE = Critically Endangered			

The following *EPBC Act* (1999) listed threatened species were observed within the subject site during surveys undertaken by Conacher Consulting (2016):

- Koala (*Phascolarctos cinereus*), and
- Grey-headed Flying-fox (*Pteropus Poliocephalus*).

No roost of camp sites for the Grey-headed Flying-fox were observed within the subject site. The locations of EPBC Act Listed threatened species observed during surveys are provided in Attachment 2. A plan of the locations of local records for the threatened biodiversity observed from the NSW OEH Bionet Atlas (2016) is also provided.

Threatened Ecological Communities

The threatened ecological communities listed within the *EPBC Act* (1999) and with potential to occur within the locality are listed in Table 3.3. An assessment of the likelihood of occurrence of each threatened ecological community within the subject site is provided.

TABLE 3.3 EPBC ACT LISTED THREATENED ECOLOGICAL COMMUNITIES OF THE AREA			
Threatened Ecological Communities	**EP&BC Act Listing Status**	**Description**	**Likelihood of Occurrence**
Central Hunter Valley eucalypt forest and woodland	CE	**Location:** Hunter River Catchment. **Dominant / Characteristic Species:** *Eucalyptus crebra, Corymbia maculata, E. dawsonii* and/or *E. molluccana*. *Allocasuarina torulosa, E. acmenoides* and *E. fibrosa* are largely absent. **Topography / Soils:** Occurs on lower slopes, ridges and valley floors on soils derived from Permian sedimentary rocks.	Vegetation present does not correspond to soil requirements as site occurs on carboniferous sediments. Negative diagnostic species are also present. Not observed during surveys.
Hunter Valley Weeping Myall (Acacia pendula) Woodland	CE	**Location:** Hunter Valley geographic region **Dominant / Characteristic Species:** *Acacia pendula*. **Topography / Soils:** heavy brown clay soils on the valley floor below 200m ASL.	Dominant species and topographic / soil requirements are not present. Not observed during surveys.
Lowland Rainforest of Subtropical Australia	CE	**Location:** below 300m ASL within the the NSW North Coast and South Eastern Queensland bioregions. **Dominant / Characteristic Species:** See Listing Advice for diagnostic species and species richness requirements. Does not include littoral rainforest, wet sclerophyll forest or dry rainforest community types. **Topography / Soils:** Occurs on soils derived from basalt or alluvium, enriched rhyolitic soils or basaltically enriched metasediments below 300m ASL.	Dry Rainforest vegetation is present which does not meet the key diagnostic characteristics of this EEC. Not observed during surveys.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	**Location:** Western slopes and tablelands of the Great Dividing Range. **Dominant / Characteristic Species:** Woodland or derived grassland community with a domnance or prior dominance by *Eucalyptus albens*, *E. melliodora* or *E. blakelyi* **Topography / Soils:** moderate to highly fertile soils.	Locational and floristic requirements are not present. Not observed during surveys.
T = Threatened , E = Endangered, CE = Critically Endangered			

No threatened ecological communities listed under the EPBC Act were observed during surveys undertaken by Conacher Consulting (2016).

Nature and extent of likely impact

Address any impacts on the members of any listened threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat.

Eucalyptus glaucina

The proposed action will result in the removal of an estimated 1203 *Eucalyptus glaucina* trees over approximately 9.4 hectares of habitat.

Important Population Criteria

The *E. glaucina* specimens within the site are considered to be part of a larger local population which extends offsite to the adjoining vegetated lands within the Martins Creek area. The local population on the site is one of a collection of several local populations within the Hunter/Central Rivers region.

An important population is a population that is necessary for a species' long term survival and recovery. The following consideration of the Important Population Criteria provided by DOE (2013), has been undertaken to determine whether the *Eucalyptus glaucina* within the site is an important population.

Criteria 1: Identified as important populations in recovery plans.
Response 1: There is no recovery plan for this species.

Criteria 2: Key source populations either for breeding or dispersal.
Response 2: The *E. glaucina* present is considered to form one of several local populations and not constitute a key source population for breeding or dispersal.

Criteria 3: Populations that are necessary for maintaining genetic diversity.
Response 3: The *E. glaucina* present has not been identified as genetically diverse from other populations, or necessary for maintaining the genetic diversity of the species.

Criteria 4: Populations that are near the limit of the species range.
Response 4: This species occurs within the Hunter/Central Rivers and the Northern Rivers regions. It occurs near Casino where it is locally common and further south from Taree to Broke and west of Maitland. The site is not near the limit of the species range.

Significant Impact Criteria

The following assessment of the Significant Impact Criteria for Vulnerable Species provided by DOE (2013), has been undertaken to determine whether the action proposed is likely to have a significant impact on *Eucalyptus glaucina* or its habitats.

Criteria 1: Lead to a long term decrease in the size of an important population of a species.
Response 1: The specimens present do not meet the criteria for an important population.

Criteria 2: Reduce the area of occupancy of an important population of a species.
Response 2: The specimens present do not meet the criteria for an important population.

Criteria 3: Fragment an existing important population into two or more populations.
Response 3: The specimens present do not meet the criteria for an important population.

Criteria 4: Adversely affect habitat critical to the survival of a species.
Response 4: The following consideration is provided in accordance with the criteria for determining habitat critical to the survival of a species provided by DOE (2013).

- The site does not contain habitat necessary for dispersal.
- The site does not contain habitat necessary for the long-term maintenance of the species (including the maintenance of species essential to the survival of the species) as there are several known habitat areas within the known range of this species, where this species is locally common and would continue to survive if the proposed action were to proceed.
- It is considered that the genetic diversity and long-term evolutionary development of this species would continue to be maintained in offsite areas of the locality and region if the proposed action were to proceed.
- The site is not proposed to be part of a re-introduction or recovery program for this species, and is therefore not necessary the reintroduction of populations or recovery of the species.

Criteria 5: Disrupt the breeding cycle of an important population.

Response 5: The specimens present do not meet the criteria for an important population.

Criteria 6: Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
Response 6: The proposal will result in the removal of an estimated 1203 *Eucalyptus glaucina* trees over approximately 9.4 hectares of habitat.

Criteria 7: Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.
Response 7: The proposal is not a type of development which is likely to result in invasive species that are harmful to the vulnerable species becoming established in adjoining and retained *E. glaucina* habitats.

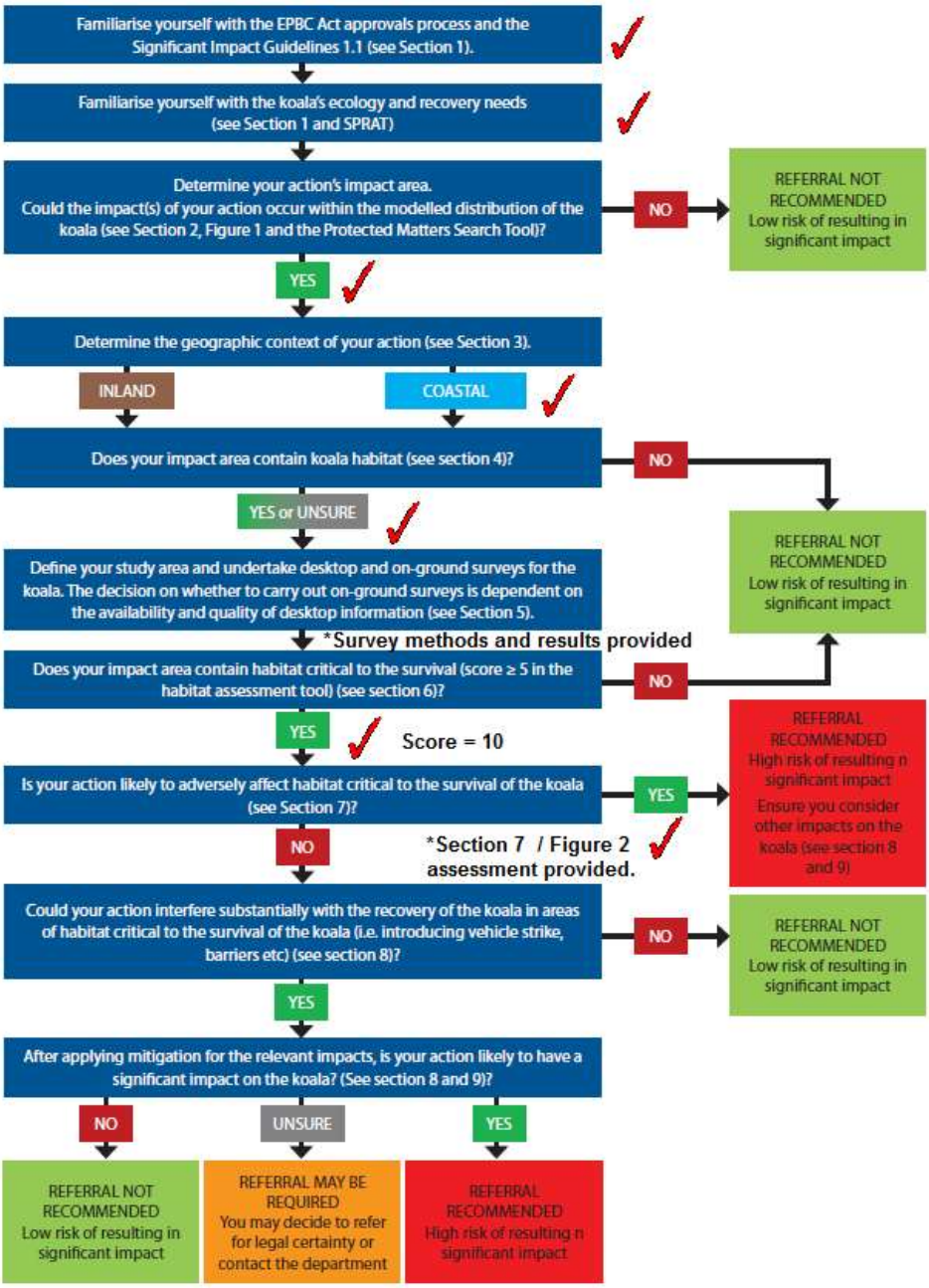
Criteria 8: Introduce disease that may cause the species to decline, or
Response 8: The proposal is not a type of development which is likely to introduce disease that may cause *E. glaucina* to decline.

Criteria 9: Interfere substantially with the recovery of the species.
Response 9: The proposal will result in a decrease in plant numbers within the site. The proposal is not likely to substantially interfere with the recovery of any offsite occurrences of this species.

***Koala* (*Phascolarctos cinereus*)**
The proposed action will result in the removal of approximately 21.61 hectares of low activity level habitat for the Koala.

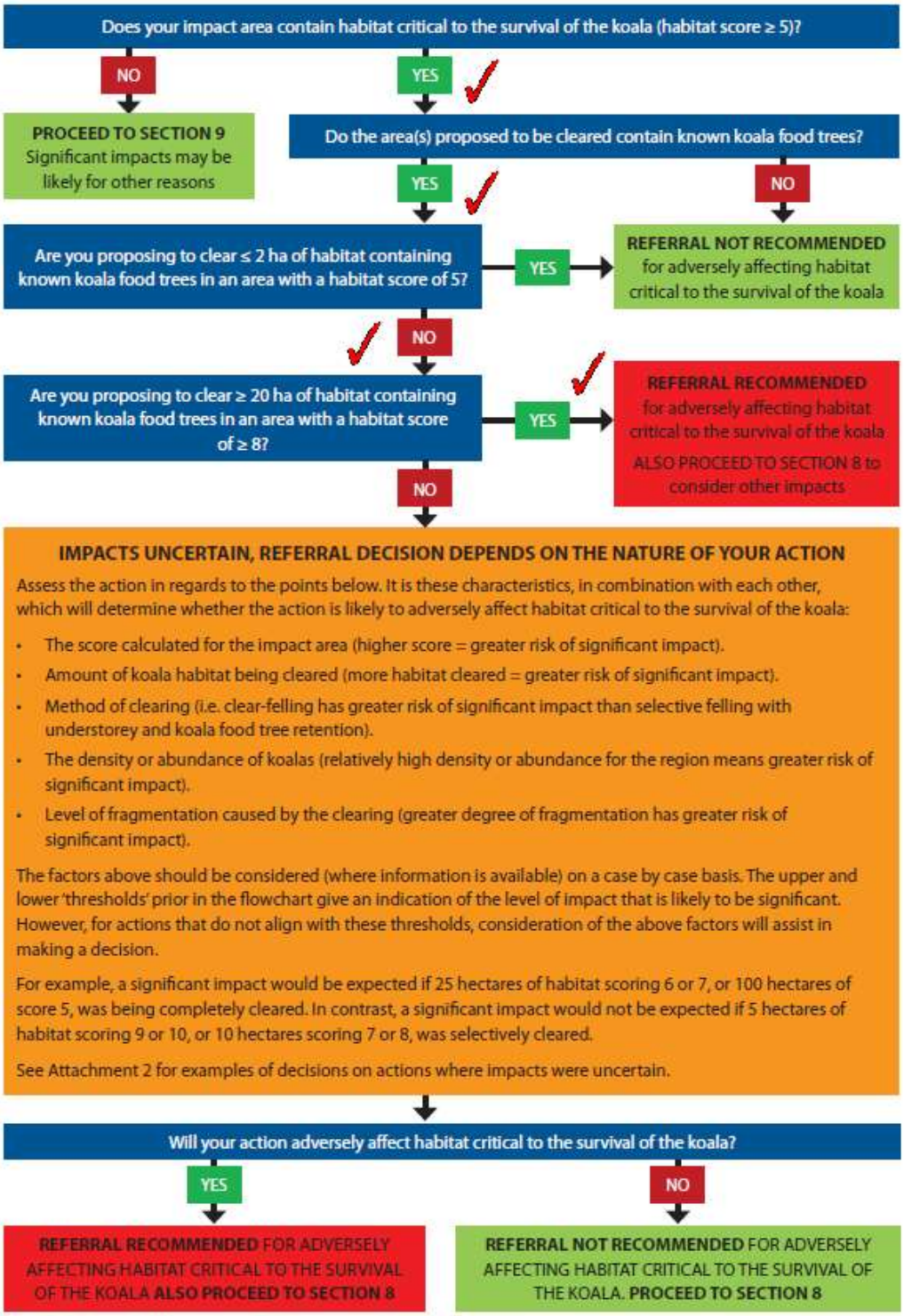
The following consideration of the summary EPBC Act guidelines for the Koala is provided. The red ticks on the flowchart indicate the decisions made. The consideration determined that a referral was recommended.

Figure 1: Summary of the EPBC Act referral guidelines for the koala.



The Following consideration of the assessment of potential for adverse effects on habitat critical to the survival of the Koala is provided. The red ticks on the flowchart indicate the decisions made. The consideration determined that a referral was recommended.

Figure 2: Assessing adverse effects on habitat critical to the survival of the koala



Assessment of potential for proposed action to interfere substantially with the recovery of the Koala

The following consideration is provided in accordance with the criteria provided by DoE (2014) to determine the potential for the proposed action to interfere substantially with the recovery of the Koala.

Impacts which are likely to substantially interfere with the recovery of the koala may include one or more of the following criteria:

Criteria 1: Increasing koala fatalities in habitat critical to the survival of the koala due to dog attacks to a level that is likely to result in multiple, ongoing mortalities.

Consideration: The proposal is for the expansion of an existing quarry and is not likely to result increased koala fatalities in habitat critical to the survival of the koala due to dog attacks to a level that is likely to result in multiple, ongoing mortalities.

Criteria 2: Increasing koala fatalities in habitat critical to the survival of the koala due to vehicle-strikes to a level that is likely to result in multiple, ongoing mortalities.
Consideration: To date there has not been any koala fatalities as a result of quarry operations, in habitat critical to the survival of the koala, due to vehicle-strikes. Spot Assessment Technique surveys across the site identified that the koala activity levels present are low as not scats were recorded. It is therefore considered that the proposed expansion of quarry operations on the site is not likely to increase koala fatalities in habitat critical to the survival of the koala due to vehicle-strikes to a level that is likely to result in multiple, ongoing mortalities.

Criteria 3: Facilitating the introduction or spread of disease or pathogens for example Chlamydia or *Phytophthora cinnamomi*, to habitat critical to the survival of the koala, that are likely to significantly reduce the reproductive output of koalas or reduce the carrying capacity of the habitat.
Consideration: The proposal is not a type of development which is likely to result in the introduction or spread of disease or pathogens for example Chlamydia or *Phytophthora cinnamomi*, to habitat critical to the survival of the koala, that are likely to significantly reduce the reproductive output of koalas or reduce the carrying capacity of the habitat.

Criteria 4: Creating a barrier to movement to, between or within habitat critical to the survival of the koala that is likely to result in a long-term reduction in genetic fitness or access to habitat critical to the survival of the koala.
Consideration: Spot Assessment Technique surveys across the site identified that the koala activity levels present are low as not scats were recorded. The proposal is likely to result in the further fragmentation and isolation of habitats currently located between the North Coast Railway and eastern side of the existing quarry operations. This area of habitat is relatively small and already isolated to the west by the North Coast Railway and the further fragmentation and isolation of this area is unlikely to result in a long-term reduction in the genetic fitness of the Koala.

Criteria 5: Changing hydrology which degrades habitat critical to the survival of the koala to the extent that the carrying capacity of the habitat is reduced in the long-term.
Consideration: A Water Management Plan is currently being prepared for the proposal to mitigate potential hydrological impacts.

It is therefore considered that the proposal is not likely to interfere substantially with the recovery of the Koala.

Grey-headed Flying-fox (*Pteropus poliocephalus*)

Important Population Criteria
The Grey-headed Flying-foxes observed within the site are considered to be part of a larger population which on occasion forages within the site.

An important population is a population that is necessary for a species' long term survival and recovery. The following consideration of the Important Population Criteria provided by DOE (2013), has been undertaken with regard to the Grey-headed Flying-foxes observed within the site.

Criteria 1: Identified as important populations in recovery plans, and/or
Consideration: The Grey-headed Flying-fox Draft National Recovery Plan (DECCW 2009) does not identified any important populations of this species.

Criteria 2: Key source populations either for breeding or dispersal.

Consideration: The site contains suitable foraging habitat for this species, which is utilised on occasion. No roost or camp sites for this species are present within the site. The site of the proposed action does not contain a key source population for breeding or dispersal.

Criteria 3: Populations that are necessary for maintaining genetic diversity.
Consideration: The site contains suitable foraging habitat for this species, which is utilised on occasion. No roost or camp sites for this species are present within the site. The site does not contain a population that is necessary for maintaining genetic diversity.

Criteria 4: Populations that are near the limit of the species range.
Consideration: The Grey-headed Flying-fox is known to occupy the coastal lowlands and slopes of south-eastern Australia from Bundaberg to Geelong and are usually found at altitudes < 200 m. Areas of repeated occupation extend inland to the tablelands and western slopes in northern New South Wales and the tablelands in southern Queensland. Sightings in inland areas of southern New South Wales and Victoria are uncommon. There are rare records of individuals or small groups west to Adelaide, north to Gladstone and south to Flinders Island (DECCW 2009). The site of the proposed action is not near the limit of this species range.

Significant Impact Criteria
The following assessment of the Significant Impact Criteria for Vulnerable Species provided by DOE (2013), has been undertaken to determine whether the action proposed is likely to have a significant impact on the Grey-headed Flying-fox or its habitats.

Criteria 1: Lead to a long term decrease in the size of an important population of a species.
Consideration: The proposal is not likely to have a direct impact on the size of the population of this species and the individuals observed are considered to not form an important population.

Criteria 2: Reduce the area of occupancy of an important population of a species.
Consideration: The Grey-headed Flying-fox is a highly mobile and nomadic species and no roost or camp sites were observed within the subject site during surveys. It is considered that the proposal will not reduce the area of occupancy of an important population of Grey-headed Flying-foxes.

Criteria 3: Fragment an existing important population into two or more populations.
Consideration: This species is mobile and highly nomadic. The proposal is not likely to fragment an existing important population of Grey-headed Flying-foxes into two or more populations.

Criteria 4: Adversely affect habitat critical to the survival of a species.
Consideration: The subject site contains a relatively small proportion of the overall area of habitat available to this species and does not contain any maternity camp or roost sites for this species. It is therefore considered that the proposal is not likely to affect habitat critical to the survival of the species.

Criteria 5: Disrupt the breeding cycle of an important population.
Consideration: The subject site does not contain any maternity roost or camp sites for this species. It is considered that the proposal is not likely to disrupt the breeding cycle of an important population of Grey-headed Flying-foxes.

Criteria 6: Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
Consideration: The subject site contains a relatively small proportion of the overall area of habitat available to this species and does not contain any maternity camp or roost sites for this species. It is therefore considered that the proposal is not likely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Criteria 7: Result in invasive species that are harmful to a vulnerable species becoming established in the

vulnerable species' habitat.
Consideration: The proposal is not a type of development which is likely to result in invasive species that are harmful to the Grey-headed Flying-fox becoming established in adjoining and retained Grey-headed Flying-fox habitats.

Criteria 8: Introduce disease that may cause the species to decline.
Consideration: The proposal is not a type of development which is likely to introduce disease that may cause the Grey-headed Flying-fox to decline.

Criteria 9: Interfere substantially with the recovery of the species.
Consideration: The proposal will result in the extent of Grey-headed Flying-fox habitat within the site. The proposal is not likely to substantially interfere with the recovery of any offsite occurrences of this species or its habitats.

3.1 (e) Listed migratory species

Description
The migratory species listed within the *EPBC Act* (1999) and with potential to occur within the locality are listed in Table 3.4. An assessment of the likelihood of occurrence of each threatened ecological community within the subject site is provided.

TABLE 3.4
LISTED MIGRATORY TERRESTRIAL FAUNA SPECIES OF THE LOCALITY

Common Name ***Scientific Name***	**Preferred Habitat**	**Likelihood of Occurrence**
Fork-tailed Swift (*Apus pacificus*)	Almost exclusively aerial.	Suitable habitat present. Not observed during surveys. Low to moderate likelihood of occasional aerial occurrence.
Great Egret (*Ardea modesta*)	Wetland and estuarine habitats.	No suitable habitat present. Not likely to occur.
Cattle Egret (*Ardea ibis*)	Grazing lands and wetland habitats.	No suitable habitat present. Not likely to occur.
White-bellied Sea-eagle (*Haliaeetus leucogaster*)	Coastal areas and inland rivers and water bodies.	Suitable roost and nest habitat present. Not observed during surveys. Low likelihood of occurrence.
White-throated Needletail (*Hirundapus caudacutus*)	Almost exclusively aerial.	Suitable habitat present. Low to moderate likelihood of occasional aerial occurrence.
Rainbow Bee-eater (*Merops ornatus*)	Open, cleared or lightly timbered areas particularly in close proximity to water bodies.	Suitable habitat present Not observed during surveys. Low to moderate likelihood of occurrence.
Black-faced Monarch (*Monarcha melanopsis*)	Wet sclerophyll and rainforest vegetation.	Suitable habitat present. Observed during surveys.
Spectacled Monarch (*Monarcha trivirgatus*)	Inhabits rainforest, wet sclerophyll forest and mangrove vegetation.	Suitable habitat present. Not observed during surveys. Low to moderate likelihood of occurrence.

Satin Flycatcher (*Myiagra cyanoleuca*)	Heavily vegetated forests. When migrating may be found in more open coastal habitats.	Suitable habitat present. Not observed during surveys. Low to moderate likelihood of occurrence.
Rufous Fantail (*Rhipidura rufifrons*)	Wet sclerophyll and rainforest vegetation.	Suitable habitat present. Observed during surveys.
Latham's Snipe (*Gallinago hardwickii*)	Low dense vegetation within and surrounding freshwater wetlands.	No suitable habitat present. Not likely to occur.
Painted Snipe (*Rostratula australis*)	Shallow freshwater wetlands, and adjoining grassy areas.	No suitable habitat present. Not likely to occur.

The EPBC Act (1999) listed migratory fauna species, Rufous Fantail (*Rhipidura rufifrons*) and Black-faced Monarch (*Monarcha melanopsis*) were observed during surveys undertaken by (Conacher Consulting 2016). A plan showing the observation locations of EPBC Act Listed migratory species observed during surveys is provided as Attachment 2. A plan showing the locations of local records the nationally listed migratory species observed is also provided in Attachment 2.

Nature and extent of likely impact
Address any impacts on the members of any listed migratory species, or their habitat.

The action proposed is likely to result in the removal of approximately 14.8 hectares of suitable habitat for the Rufous Fantail and the Black-faced Monarch. The habitats proposed for removal consist of Whalebone Tree - Red Kamala dry subtropical rainforest of the lower Hunter River and White Mahogany – Spotted Gum – Grey Myrtle semi mesic shrubby open forest of the central and lower Hunter Valley and correspond to the moist gully and rainforest areas of the site.

Rufous Fantail (*Rhipidura rufifrons*)

Important Habitat Criteria
The following consideration of the Important Habitat Criteria provided by DOE (2013), has been undertaken to determine whether the site contains important habitat for the Rufous Fantail.

Criteria 1: Habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species.
Consideration: The Rufous Fantail is not a type of migratory species which congregates in large numbers and an ecologically significant proportion of the population of the migratory species was not observed within the site during surveys.

Criteria 2: Habitat that is of critical importance to the species at particular life-cycle stages.
Consideration: The site contains a relatively small proportion of the overall habitat utilised by this species and does not contain habitat identified as of critical important to the species at particular life stages.
Criteria 3: Habitat utilised by a migratory species which is at the limit of the species range.
Consideration: The habitats within the site are not at the limit of this species range.

Criteria 4: Habitat within an area where the species is declining:
Consideration: This species has not been identified as in decline within the area.

Significant Impact Criteria
The following assessment of the Significant Impact Criteria for Migratory Species provided by DOE (2013), has been undertaken to determine whether the action proposed is likely to have a significant impact on the Rufous Fantail or its habitats.

Criteria 1: Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.
Consideration: The subject site does not contain an area of important habitat for the migratory species.

Criteria 2: Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.
Consideration: The subject site does not contain an area of important habitat for the migratory species. The proposed action is not a type of development which is likely to result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.

Criteria 3: Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.
Consideration: The Rufous Fantail is not a type of migratory species which congregates in large numbers and an ecologically significant proportion of the population of the migratory species was not observed within the site during surveys. The proposed action is not likely to seriously disrupt the lifecycle of an ecologically significant proportion of the population of the migratory species.

Black-faced Monarch (*Monarcha melanopsis*)

Important Habitat Criteria
The following consideration of the Important Habitat Criteria provided by DOE (2013), has been undertaken to determine whether the site contains important habitat for the Rufous Fantail.

Criteria 1: Habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species.
Consideration: The Black-faced Monarch is not a type of migratory species which congregates in large numbers and an ecologically significant proportion of the population of the migratory species was not observed within the site during surveys.

Criteria 2: Habitat that is of critical importance to the species at particular life-cycle stages.
Consideration: The site contains a relatively small proportion of the overall habitat utilised by this species and does not contain habitat identified as of critical important to the species at particular life stages.

Criteria 3: Habitat utilised by a migratory species which is at the limit of the species range.
Consideration: The habitats within the site are not at the limit of this species range.

Criteria 4: Habitat within an area where the species is declining:
Consideration: This species has not been identified as in decline within the area.

Significant Impact Criteria
The following assessment of the Significant Impact Criteria for Migratory Species provided by DOE (2013), has been undertaken to determine whether the action proposed is likely to have a significant impact on the Rufous Fantail or its habitats.

Criteria 1: Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.
Consideration: The subject site does not contain an area of important habitat for the migratory species.

Criteria 2: Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.
Consideration: The subject site does not contain an area of important habitat for the migratory species. The proposed action is not a type of development which is likely to result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.

Criteria 3: Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.
Consideration: The Black-faced Monarch is not a type of migratory species which congregates in large numbers and an ecologically significant proportion of the population of the migratory species was not observed within the site during surveys. The proposed action is not likely to seriously disrupt the lifecycle of an ecologically significant proportion of the population of the migratory species.

3.1 (f) Commonwealth marine area
(If the action is in the Commonwealth marine area, complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)
Description

None identified on the Protected Matters Search within 10km.

Nature and extent of likely impact
Address any impacts on any part of the environment in the Commonwealth marine area.

The proposed action is not likely to directly or indirectly impact on a Commonwealth Marine Area.

3.1 (g) Commonwealth land
If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)
Description
If the action will affect Commonwealth land also describe the more general environment. The Policy Statement titled *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* provides further details on the type of information needed. If applicable, identify any potential impacts from actions taken outside the Australian jurisdiction on the environment in a Commonwealth Heritage Place overseas.

(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)
Description

If the action will affect Commonwealth land also describe the more general environment. The Policy Statement titled *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* provides further details on the type of information needed. If applicable, identify any potential impacts from actions taken outside the Australian jurisdiction on the environment in a Commonwealth Heritage Place overseas.

None identified on Protected Matters Search within 10km.

Nature and extent of likely impact
Address any impacts on any part of the environment in the Commonwealth land. Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:
- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

The proposed action is not likely to directly or indirectly impact on Commonwealth Land.

3.1 (h) The Great Barrier Reef Marine Park
Description

The proposed action does not occur within the Great Barrier Reef Marine park or its catchments.

Nature and extent of likely impact
Address any impacts on any part of the environment of the Great Barrier Reef Marine Park.
Note: If your action occurs in the Great Barrier Reef Marine Park you may also require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If so, section 37AB of the GBRMP Act provides that your referral under the EPBC Act is deemed to be an application under the GBRMP Act and Regulations for necessary permissions and a single integrated process will generally apply. Further information is available at www.gbrmpa.gov.au

The proposed action is not likely to directly or indirectly impact on the Great Barrier Reef Marine Park.

3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development
Description
If the action is a coal seam gas development or large coal mining development that has, or is likely to have, a significant impact on water resources, the draft *Policy Statement Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources* provides further details on the type of information needed.

The proposed action is not a coal seam gas development or large coal mining development.
Nature and extent of likely impact
Address any impacts on water resources. Your assessment of impacts should refer to the draft *Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources*.

Not applicable.

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

You must describe the nature and extent of likely impacts (both direct & indirect) on the whole environment if your project:
- is a nuclear action;
- will be taken by the Commonwealth or a Commonwealth agency;
- will be taken in a Commonwealth marine area;
- will be taken on Commonwealth land; or
- will be taken in the Great Barrier Reef marine Park.

Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:
- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

3.2 (a)	**Is the proposed action a nuclear action?**	x	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	x	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	**x**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))		

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	**x**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))		

3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**	**x**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))		

3.3 Other important features of the environment

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed above). If at Section 2.3 you identified any alternative locations, time frames or activities for your proposed action, you must complete each of the details below (where relevant) for each alternative identified.

3.3 (a) Flora and fauna

Flora Species Observed

The flora species observed within the subject site during surveys are listed in Table 3.5 (Conacher Consulting 2016).

TABLE 3.5
FLORA SPECIES OBSERVED

Family Name	Scientific Name	Common Name
Upper Stratum		
Moraceae	*Ficus rubiginosa*	Rusty Fig
Myrtaceae	*Backhousia myrtifolia*	Grey Myrtle
	Corymbia maculata	Spotted Gum
	Eucalyptus acmenoides	White Mahogany
	Eucalyptus canaliculata	Grey Gum
	Eucalyptus carnea	Thick-leaved Mahogany
	Eucalyptus crebra	Narrow-leaved Ironbark
	Eucalyptus fibrosa	Red Ironbark
	Eucalyptus glaucina [TS1/TS2]	Slaty Red Gum
	Eucalyptus globoidea	White Stringybark
	Eucalyptus moluccana	Grey Box
	Eucalyptus paniculata	Grey Ironbark
	Eucalyptus siderophloia	Grey Ironbark
	Eucalyptus tereticornis	Forest Red Gum
Mid Stratum (upper layer)		

Casuarinaceae	*Allocasuarina torulosa*	Forest Oak
Fabaceae (Mimosoideae)	*Acacia binervata*	Two-veined Hickory
	Acacia implexa	Hickory Wattle
Malvaceae	*Hibiscus heterophyllus*	Native Rosella
Moraceae	*Ficus rubiginosa*	Rusty Fig
	Streblus brunonianus	Whalebone Tree
Myrtaceae	*Backhousia myrtifolia*	Grey Myrtle
	Corymbia maculata	Spotted Gum
	Eucalyptus acmenoides	White Mahogany
	Eucalyptus canaliculata	Grey Gum
	Eucalyptus crebra	Narrow-leaved Ironbark
	Eucalyptus fibrosa	Red Ironbark
	Eucalyptus glaucina [TS1/TS2]	Slaty Red Gum
	Eucalyptus globoidea	White Stringybark
	Eucalyptus paniculata	Grey Ironbark
	Eucalyptus siderophloia	Grey Ironbark
	Eucalyptus tereticornis	Forest Red Gum
	Melaleuca styphelioides	Prickly-leaved Tea Tree
Oleaceae	*Olea europaea* subsp. *cuspidata**	African Olive
Phyllanthaceae	*Glochidion ferdinandi*	Cheese Tree
Rhamnaceae	*Alphitonia excelsa*	Red Ash
Santalaceae	*Exocarpos cupressiformis*	Cherry Ballart
Mid Stratum (lower layer)		
Apocynaceae	*Gomphocarpus fruticosus**	Narrow-leaved Cotton Bush
Araliaceae	*Polyscias sambucifolia* subsp. *Long leaflets*	
Asteraceae	*Cassinia quinquefaria*	
	Ozothamnus diosmifolius	Rice Flower
Bignoniaceae	*Pandorea pandorana*	Wonga Wonga Vine
Capparaceae	*Capparis arborea*	Native Pomegranate
Celastraceae	*Denhamia silvestris*	Narrow-leaved Orangebark
	Elaeodendron australe var. *australe*	Red Olive Plum
Dilleniaceae	*Hibbertia aspera*	Rough Guinea Flower
	Hibbertia diffusa	Wedge Guinea Flower
Ebenaceae	*Diospyros australis*	Black Plum
Ericaceae (Styphelioideae)	*Leucopogon juniperinus*	Prickly Beard-heath
Euphorbiaceae	*Alchornea ilicifolia*	Dovewood
	Claoxylon australe	Brittlewood
	Croton verreauxii	Green Native Cascarilla
Fabaceae (Caesalpinioideae)	*Senna pendula**	
Fabaceae (Faboideae)	*Bossiaea obcordata*	Spiny Bossiaea
	Chorizema parviflorum	Eastern Flame Pea
	Daviesia genistifolia	Broom Bitter Pea
	Indigofera australis	Australian Indigo
	Jacksonia scoparia	Winged Broom-pea

	Podolobium ilicifolium	Prickly Shaggy Pea
Fabaceae (Mimosoideae)	*Acacia binervata*	Two-veined Hickory
	Acacia falcata	Hickory Wattle
	Acacia implexa	Hickory Wattle
	Acacia irrorata	
	Acacia ulicifolia	Prickly Moses
Flacourtiaceae	*Scolopia braunii*	Flintwood
Lamiaceae	*Clerodendrum tomentosum*	Hairy Clerodendrum
Lauraceae	*Neolitsea dealbata*	White Bolly Gum
Malvaceae	*Brachychiton populneus*	Kurrajong
	Hibiscus heterophyllus	Native Rosella
Monimiaceae	*Wilkiea huegeliana*	Veiny Wilkiea
Moraceae	*Ficus coronata*	Sandpaper Fig
	Ficus rubiginosa	Rusty Fig
	Maclura cochinchinensis	Cockspur Thorn
	Streblus brunonianus	Whalebone Tree
Myrsinaceae	*Myrsine variabilis*	
Myrtaceae	*Backhousia myrtifolia*	
	Corymbia maculata	Spotted Gum
	Eucalyptus acmenoides	White Mahogany
	Eucalyptus crebra	Narrow-leaved Ironbark
	Eucalyptus glaucina [TS1/TS2]	Slaty Red Gum
	Eucalyptus moluccana	Grey Box
	Leptospermum polygalifolium	Tantoon
	Sannantha crassa	
Ochnaceae	*Ochna serrulata**	Mickey Mouse Plant
Oleaceae	*Jasminum volubile*	Stiff Jasmine
	Notelaea longifolia	Large Mock-olive
Oleaceae	*Olea europaea* subsp. *cuspidata**	African Olive
Phyllanthaceae	*Breynia oblongifolia*	Coffee Bush
	Glochidion ferdinandi	Cheese Tree
	Phyllanthus gunnii	Scrubby Spurge
	Phyllanthus hirtellus	Thyme Spurge
	Bursaria spinosa	Blackthorn
	Pittosporum multiflorum	Orange Thorn
	Pittosporum revolutum	Wild Yellow Jasmine
	Pittosporum undulatum	Native Daphne
Proteaceae	*Persoonia linearis*	Narrow-leaved Geebung
Putranjivaceae	*Drypetes deplanchei*	Yellow Tulipwood
Rhamnaceae	*Alphitonia excelsa*	Red Ash
Rutaceae	*Boronia polygalifolia*	Dwarf Boronia
	Correa reflexa	Common Correa
	Melicope micrococca	Hairy-leaved Doughwood
	Zieria smithii	Sandfly Zieria
Santalaceae	*Exocarpos cupressiformis*	Cherry Ballart
Sapindaceae	*Alectryon subcinereus*	Native Quince
	Diploglottis australis	Native Tamarind

	Dodonaea triquetra	Large-leaf Hop-bush
	Dodonaea viscosa subsp. *angustifolia*	Sticky Hop-bush
	Dodonaea viscosa subsp. *cuneata*	Wedge-leaf Hop-bush
Ulmaceae	*Trema tomentosa*	Native Peach
Urticaceae	*Dendrocnide excelsa*	Giant Stinging Tree
Verbenaceae	*Lantana camara**	Lantana
Ground Layer		
Ferns and Allies		
Aspleniaceae	*Asplenium australasicum*	Bird's Nest Fern
Blechnaceae	*Doodia aspera*	Prickly Rasp Fern
	Doodia caudata	Small Rasp Fern
Dennstaedtiaceae	*Pteridium esculentum*	Bracken Fern
Lindsaeaceae	*Lindsaea microphylla*	Lacy Wedge Fern
Polypodiaceae	*Dictymia brownii*	Strap Fern
Pteridaceae	*Adiantum aethiopicum*	Common Maidenhair
	Adiantum hispidulum	Rough Maidenhair Fern
	Cheilanthes distans	Bristly Cloak Fern
	Cheilanthes sieberi	
	Pellaea falcata	Sickle Fern
	Pellaea paradoxa	
Polypodiaceae	*Dictymia brownii*	Strap Fern
Dicots (Herbs)		
Acanthaceae	*Brunoniella australis*	Blue Trumpet
	Brunoniella pumilio	Dwarf Brunoniella
	Pseuderanthemum variabile	Pastel Flower
Apiaceae	*Centella asiatica*	Indian Pennywort
	*Cyclospermum leptophyllum**	Slender Celery
	Daucus glochidiatus	Native Carrot
Asteraceae	*Bidens pilosa**	Cobblers Pegs
	*Conyza sumatrensis**	Tall Fleabane
	Euchiton sphaericus	
	*Hypochaeris microcephala**	White Flatweed
	*Hypochaeris radicata**	Flatweed
	Lagenophora stipitata	Blue Bottle-daisy
	*Senecio madagascariensis**	Fireweed
	Solenogyne bellioides	
	*Sonchus oleraceus**	Common Sowthistle
	Vernonia cinerea	
Campanulaceae	*Wahlenbergia gracilis*	Sprawling Bluebell
	*Cerastium glomeratum**	Mouse-ear Chickweed
	Stellaria flaccida	
	*Stellaria media**	Common Chickweed
	Einadia hastata	Berry Saltbush
Clusiaceae	*Hypericum gramineum*	Small St. John's Wort
	Hypericum japonicum	
Convolvulaceae	*Dichondra repens*	Kidney Weed
Dilleniaceae	*Hibbertia diffusa*	Wedge Guinea Flower
Droseraceae	*Drosera peltata*	

Fabaceae (Faboideae)	*Swainsona galegifolia*	Smooth Darling-pea
Iridaceae	*Romulea rosea**	Onion Grass
Lamiaceae	*Plectranthus parviflorus*	Cockspur Flower
	Scutellaria humilis	Dwarf Skullcap
Lobeliaceae	*Pratia purpurascens*	Whiteroot
Malvaceae	*Sida rhombifolia**	Paddy's Lucerne
Myrsinaceae	*Anagallis arvensis**	Scarlet Pimpernel
Oxalidaceae	*Oxalis perennans*	
Peperomiaceae	*Peperomia blanda* var. *floribunda*	
Phyllanthaceae	*Poranthera microphylla*	
Plantaginaceae	*Plantago debilis*	
	*Plantago lanceolata**	Lamb's Tongues
Polygonaceae	*Acetosa sagittata**	Rambling Dock
	Rumex brownii	Swamp Dock
Rubiaceae	*Galium gaudichaudii*	Rough Bedstraw
	Galium leiocarpum	
	Opercularia diphylla	
	Pomax umbellata	
Solanaceae	*Solanum prinophyllum*	Forest Nightshade
	Solanum stelligerum	Devil's Needles
Stackhousiaceae	*Stackhousia viminea*	Slender Stackhousia
Verbenaceae	*Verbena rigida**	Veined Verbena
Violaceae	*Viola hederacea*	
Monocots (Grasses)		
Poaceae	*Aristida ramosa*	Purple Wiregrass
	Aristida vagans	Threeawn Speargrass
	Bothriochloa decipiens	Red Grass
	Capillipedium parviflorum	Scented-top Grass
	*Chloris gayana**	Rhodes Grass
	Chloris ventricosa	Plump Windmill Grass
	Cymbopogon refractus	Barbed Wire Grass
	Digitaria diffusa	Open Summer-grass
	Digitaria parviflora	Small-flowered Finger Grass
	Echinopogon caespitosus	Bushy Hedgehog-grass
	*Ehrharta erecta**	Panic Veldtgrass
	Entolasia stricta	
	Entolasia marginata	Bordered Panic
	Eragrostis brownii	Brown's Lovegrass
	Eragrostis leptostachya	Paddock Lovegrass
	Imperata cylindrica	Blady Grass
	*Megathyrsus maximus**	Guinea Grass
	*Melinis repens**	Red Natal Grass
	Microlaena stipoides	Weeping Grass
	Oplismenus aemulus	Australian Basket Grass
	Oplismenus imbecillis	Creeping Beard Grass
	Panicum effusum	Hairy Panic
	Panicum simile	Two Colour Panic

	Paspalidium distans	
	Poa labillardierei var. *labillardierei*	Tussock
	Sporobolus creber	Western Rat-tail Grass
	Themeda triandra	Kangaroo Grass
Monocots (Other)		
Anthericaceae	*Arthropodium minus*	
Anthericaceae	*Arthropodium* sp. B sensu Harden (1993)	
Araceae	*Gymnostachys anceps*	Settlers' Twine
Commelinaceae	*Aneilema acuminatum*	
Cyperaceae	*Carex inversa*	
	Carex longebrachiata	
	Cyperus enervis	
	*Cyperus flavescens**	
	Gahnia aspera	Rough Saw-sedge
	Lepidosperma gunnii	
	Lepidosperma laterale	Sword-sedge
	Scleria mackaviensis	
Orchidaceae	*Acianthus fornicatus*	Pixie Caps
	Caladenia catenata	White Fingers
	Pterostylis pedunculata	Maroonhood
Lomandraceae	*Lomandra confertifolia*	Mat-rush
	Lomandra filiformis subsp. *filiformis*	Wattle Mat-rush
	Lomandra longifolia	Spiny-headed Mat-rush
	Lomandra multiflora	Many-flowered Mat-rush
Phormiaceae	*Dianella caerulea* var. *cinerascens*	
	Dianella caerulea var. *producta*	
	Dianella longifolia	Blueberry Lily
	Dianella revoluta	Blue Flax-Lily
	Stypandra glauca	Nodding Blue Lily
Xanthorrhoeaceae	*Xanthorrhoea latifolia*	
Climbers / Vines		
Aphanopetalaceae	*Aphanopetalum resinosum*	Gum Vine
Apocynaceae	*Marsdenia flavescens*	Hairy Milk Vine
	Marsdenia rostrata	Milk Vine
	Marsdenia suaveolens	Scented Marsdenia
	Parsonsia straminea	Common Silkpod
	Parsonsia velutina	
Asparagaceae	*Asparagus asparagoides**	Bridal Creeper
Bignoniaceae	*Pandorea pandorana*	Wonga Wonga Vine
Dioscoreaceae	*Dioscorea transversa*	Native Yam
Fabaceae (Faboideae)	*Austrosteenisia blackii* var. *blackii*	Blood Vine
	Desmodium brachypodum	Large Tick-trefoil
	Desmodium gunnii	
	Desmodium rhytidophyllum	
	Desmodium varians	Tick Trefoil
	Glycine clandestina	Love Creeper

	Glycine microphylla	Small-leaf Glycine
	Glycine tabacina	
	Hardenbergia violacea	False Sarsparilla
Loranthaceae	*Amyema miquelii*	
Luzuriagaceae	*Eustrephus latifolius*	Wombat Berry
	Geitonoplesium cymosum	Scrambling Lily
Menispermaceae	*Stephania japonica*	Snake Vine
Pittosporaceae	*Billardiera scandens*	Hairy Apple Berry
Polypodiaceae	*Dictymia brownii*	Strap Fern
Ranunculaceae	*Clematis aristata*	Old Man's Beard
Rosaceae	*Rubus moluccanus*	Molucca Bramble
	Rubus parvifolius	Native Raspberry
Rubiaceae	*Morinda jasminoides*	Sweet Morinda
Smilacaceae	*Smilax australis*	Lawyer Vine
Vitaceae	*Cayratia clematidea*	Native Grape
	Cissus antarctica	Kangaroo Vine
	Clematicissus opaca	Pepper Vine
	Tetrastigma nitens	

Fauna Species Observed

The fauna species observed within the subject site during current and previous surveys are listed in Table 3.6 (Conacher Consulting 2016).

TABLE 3.6
FAUNA OBSERVED WITHIN THE STUDY AREA

Common Name	Scientific Name	Observation Type
Amphibians		
Dusky Toadlet	*Uperoleia fusca*	X
Brown-striped Frog	*Limnodynastes peronii*	W
Bibron's Toadlet	*Pseudophryne bibronii*	X
Red-backed Toadlet	*Pseudophryne coriacea*	OW
Common Eastern Froglet	*Crinia signifera*	W
Eastern Dwarf Tree Frog	*Litoria fallax*	X
Broad-palmed Frog	*Litoria latopalmata*	O
Peron's Tree Frog	*Litoria peronii*	X
Leaf-green Tree Frog	*Litoria phyllochroa*	OW
Lesueur's Tree Frog	*Litoria wilcoxii*	X
Reptiles		
Burton's Snake-lizard	*Lialis burtonis*	X
Southern Rainbow-skink	*Carlia tetradactyla*	X
Eastern Water Dragon	*Physignathus lesueurii*	O
Lace Monitor	*Varanus varius*	O
Dark-flecked Garden Sunskink	*Lampropholis delicata*	O
Eastern Water-skink	*Eulamprus quoyii*	O
Common Tree Snake	*Dendrelaphis punctulatus*	O
Eastern Water Dragon	*Physignathus lesueurii lesueurii*	O
Diamond Python	*Morelia spilota spilota*	X
Birds		
Australian Brush-turkey	*Alectura lathami*	O
Brown Cuckoo-Dove	*Macropygia amboinensis*	X

TABLE 3.6 FAUNA OBSERVED WITHIN THE STUDY AREA		
Common Name	**Scientific Name**	**Observation Type**
Common Bronzewing	*Phaps chalcoptera*	X
Bar-shouldered Dove	*Geopelia humeralis*	X
Wonga Pigeon	*Leucosarcia melanoleuca*	OW
Topknot Pigeon	*Lopholaimus antarcticus*	OW
Tawny Frogmouth	*Podargus strigoides*	X
White-throated Nightjar	*Eurostopodus mystacalis*	W
Australian Owlet-nightjar	*Aegotheles cristatus*	W
Wedge-tailed Eagle	*Aquila audax*	X
Masked Lapwing	Vanellus miles	X
Yellow-tailed Black-Cockatoo	*Calyptorhynchus funereus*	OW
Rainbow Lorikeet	Trichoglossus haematodus	OW
Little Lorikeet[TS1]	***Glossopsitta pusilla***	OW
Australian King-Parrot	*Alisterus scapularis*	OW
Crimson Rosella	*Platycercus elegans*	OW
Eastern Rosella	*Platycercus eximius*	X
Fan-tailed Cuckoo	*Cacomantis flabelliformis*	W
Brush Cuckoo	*Cacomantis variolosus*	X
Powerful Owl[TS1]	***Ninox strenua***	W
Southern Boobook	*Ninox novaeseelandiae*	OW
Laughing Kookaburra	*Dacelo novaeguineae*	OW
Sacred Kingfisher	*Todiramphus sanctus*	X
Dollarbird	*Eurystomus orientalis*	X
White-throated Treecreeper	*Cormobates leucophaea*	OW
Satin Bowerbird	*Ptilonorhynchus violaceus*	OW
Superb Fairy-wren	*Malurus cyaneus*	O
Variegated Fairy-wren	*Malurus lamberti*	X
Pilotbird	*Pycnoptilus floccosus*	X
White-browed Scrubwren	*Sericornis frontalis*	OW
Large-billed Scrubwren	*Sericornis magnirostris*	OW
Speckled Warbler[TS1]	***Chthonicola sagittata***	X
Brown Gerygone	*Gerygone mouki*	OW
Striated Thornbill	*Acanthiza lineata*	X
Brown Thornbill	*Acanthiza pusilla*	OW
Spotted Pardalote	*Pardalotus punctatus*	W
Striated Pardalote	*Pardalotus striatus*	X
Eastern Spinebill	*Acanthorhynchus tenuirostris*	OW
Lewin's Honeyeater	*Meliphaga lewinii*	OW
Yellow-faced Honeyeater	*Lichenostomus chrysops*	OW
Yellow-tufted Honeyeater	*Lichenostomus melanops*	OW
Bell Miner	*Manorina melanophrys*	X
Noisy Miner	*Manorina melanocephala*	X
Red Wattlebird	*Anthochaera carunculata*	OW
Scarlet Honeyeater	*Myzomela sanguinolenta*	OW
Brown-headed Honeyeater	*Melithreptus brevirostris*	X
White-naped Honeyeater	*Melithreptus lunatus*	OW
Noisy Friarbird	*Philemon corniculatus*	OW
Eastern Whipbird	*Psophodes olivaceus*	W

TABLE 3.6 FAUNA OBSERVED WITHIN THE STUDY AREA		
Common Name	**Scientific Name**	**Observation Type**
Varied Sittella [TS1]	***Daphoenositta chrysoptera***	OW
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*	OW
Cicadabird	*Coracina tenuirostris*	X
Golden Whistler	*Pachycephala pectoralis*	OW
Rufous Whistler	*Pachycephala rufiventris*	OW
Grey Shrike-thrush	*Colluricincla harmonica*	OW
Australasian Figbird	*Sphecotheres vieilloti*	OW
Olive-backed Oriole	*Oriolus sagittatus*	OW
Pied Butcherbird	*Cracticus nigrogularis*	OW
Australian Magpie	*Cracticus tibicen*	OW
Pied Currawong	*Strepera graculina*	OW
Rufous Fantail[M]	***Rhipidura rufifrons***	OW
Grey Fantail	*Rhipidura fuliginosa*	OW
Australian Raven	*Corvus coronoides*	OW
Leaden Flycatcher	*Myiagra rubecula*	X
Black-faced Monarch[M]	***Monarcha melanopsis***	OW
Magpie-lark	*Grallina cyanoleuca*	X
White-winged Chough	*Corcorax melanorhamphos*	X
Eastern Yellow Robin	*Eopsaltria australis*	OW
Silvereye	*Zosterops lateralis*	OW
Common Myna	*Sturnus tristis*	X
Mistletoebird	*Dicaeum hirundinaceum*	OW
Double-barred Finch	*Taeniopygia bichenovii*	OW
Red-browed Finch	*Neochmia temporalis*	OW
Mammals		
Short-beaked Echidna	*Tachyglossus aculeatus*	X
Brown Antechinus	*Antechinus stuartii*	X
Long-nosed Bandicoot	*Perameles nasuta*	X
Common Brushtail Possum	*Trichosurus vulpecula*	O
Common Ringtail Possum	*Pseudocheirus peregrinus*	O
Squirrel Glider [TS1]	***Petaurus norfolcensis***	O
Sugar Glider	*Petaurus breviceps*	X
Koala [TS1/TS2]	***Phascolarctos cinereus***	OW
Swamp Wallaby	*Wallabia bicolor*	X
Red-necked Wallaby	*Macropus rufogriseus*	X
Eastern Grey Kangaroo	*Macropus giganteus*	O
Common Wallaroo	*Macropus robustus*	X
Black Rat *	*Rattus rattus*	X
Brown Rat *	*Rattus norvegicus*	X
Rabbit *	*Oryctolagus cuniculus*	X
Brown Hare *	*Lepus capensis*	X
European cattle *	*Bos taurus*	Sc
Fox *	*Vulpes vulpes*	O
Cat *	*Felis catus*	O
Dog *	*Canis lupus familiaris*	Tracks
Large Forest Bat	*Vespadelus darlingtoni*	X
Grey-headed Flying-fox [TS1/TS2]	***Pteropus poliocephalus***	OW

TABLE 3.6 FAUNA OBSERVED WITHIN THE STUDY AREA		
Common Name	**Scientific Name**	**Observation Type**
Eastern Horseshoe-bat	*Rhinolophus megaphyllus*	X
Yellow-bellied Sheathtail-bat [TS1]	***Saccolaimus flaviventris***	X
White-striped Freetail-bat	*Tadarida australis*	X
Eastern Freetail-bat [TS1]	***Mormopterus norfolkensis***	X
Undescribed Freetail Bat	*Mormopterus "Species 2"*	X
Undescribed Freetail Bat	*Mormopterus "Species 4"*	X
Gould's Long-eared Bat	*Nyctophilus gouldi*	X
Lesser Long-eared Bat	*Nyctophilus geoffroyi*	X
Long-eared Bat	*Nyctophilus sp.*	X
Little Bentwing-bat [TS1]	***Miniopterus australis***	X
Eastern Bentwing-bat [TS1]	***Miniopterus schreibersii oceanensis***	T
Gould's Wattled Bat	*Chalinolobus gouldii*	X
Chocolate Wattled Bat	*Chalinolobus morio*	X
Large-footed Myotis [TS1]	***Myotis adversus***	T
Greater Broad-nosed Bat [TS1]	***Scoteanax rueppellii***	X
Eastern Broad-nosed Bat	*Scotorepens orion*	X
Central Eastern Broad-nosed Bat	*Scotorepens sp.*	X
Eastern Forest Bat	*Vespadelus pumilus*	X
Little Forest Bat	*Vespadelus vulturnus*	T

Key to Observation Type

E - Nest / Roost	O - Observed
F - Tracks / Scratchings / Chew Marks	OW - Observed and Heard Call
FB - Burrow	P - Scat
G - Crushed Cones	Q - Camera
H - Hair / Feathers / Skin	T - Trapped
K - Dead	U - Ultrasonic Recording
M - Miscellaneous Record	W - Heard

X – Previous site survey record

Note: * indicates introduced species. [TS1] indicates threatened species TSC Act (1995)
[TS2] indicates threatened species EPBC Act (1999)

3.3 (b) Hydrology, including water flows

The area of the proposed action is located within the Paterson River catchment, which forms part of the Hunter River catchment.

Drainage within the existing quarry site is collected into three sediment dams for treatment and/or discharge as necessary. Water flows up gradient of the existing processing area are drained by an unnamed second order ephemeral stream to the north of the eastern pit and an unnamed third order ephemeral stream to the east of the eastern pit that flow around and converge to the north of the existing processing area. The ephemeral stream would flow after sufficient rainfall to the southwest, passing through a culvert under the main haul road, to the west of Station Street and drain to the Paterson River via an unnamed tributary. A first order ephemeral steam and a second order stream drain storm water up gradient of the western pit and would flow after sufficient rainfall to the west to discharge into the Paterson River (JM Environments 2016).

The proposal will result in the interception of first and second order ephemeral streams by the northward extension of the West Pit; and the interception of a third and second order ephemeral stream by the quarrying the East Pit. These watercourses have relatively small catchments and the

proposal has been assessed as likely to have little impact on environmental flows (JM Environments 2016).

3.3 (c) Soil and Vegetation characteristics

Soil Characteristics

The site occurs mostly on the erosion soil landscape, Ten Mile Road. The eastern sections of the site also occur on the Birdsview colluvial soil landscape and the south-western sections of the site occur on the Brecon residual soil landscape. The site also contains disturbed terrain due to past quarrying activities (Matthei 1995).

The area of the proposed action contains dry sclerophyll forest, moist sclerophyll forest and rainforest vegetation. Further details of the vegetation present are provided in Section 3.3 of this referral.

3.3 (d) Outstanding natural features

No outstanding natural features have been identified within the area of the proposed action during desktop and site inspections

3.3 (e) Remnant native vegetation

Plant Community Types Present

The following remnant native vegetation types (plant community types) were identified by Conacher Consulting (2016):

- White Mahogany – Spotted Gum – Grey Myrtle semi mesic shrubby open forest of the central and lower Hunter Valley
- Spotted Gum – Narrow-leaved Ironbark shrub – grass open forest of the central and lower hunter
- Slaty Red Gum grassy woodland on the hinterland of the southern North Coast
- Whalebone Tree – Red Kamala dry subtropical rainforest of the lower Hunter River

Descriptions of the plant community types observed are provided as follows. The locations of vegetation communities are provided in Attachment 2.

WHITE MAHOGANY – SPOTTED GUM – GREY MYRTLE SEMI MESIC SHRUBBY OPEN FOREST OF THE CENTRAL AND LOWER HUNTER VALLEY

Structure:

Upper Stratum:	To 40 metres high, with 40% Projected Foliage Cover (PFC).
Mid Stratum (upper layer):	To 20 metres high, with 15% PFC
Mid Stratum (lower layer):	To 5 metres high, with 40% PFC.
Lower Stratum:	To 0.4 metres high, with 70% PFC.

Floristics:
(Characteristic Species)

Upper Stratum:	*Eucalyptus acmenoides, Corymbia maculata, Eucalyptus canaliculata*, and *Eucalyptus paniculata.*
Mid Stratum (upper layer):	*Allocasuarina torulosa*, *Eucalyptus paniculata, Backhousia myrtifolia* and *Alphitonia excelsa*.

Mid Stratum (lower layer): *Denhamia silvestris, Acacia implexa, Backhousia myrtifolia, Jasminum volubile, Notelaea longifolia, Pittosporum multiflorum, Pittosporum revolutum* and *Lantana camara.*

Lower Stratum: *Doodia aspera, Adiantum aethiopicum, Brunoniella australis, Dichondra repens, Pratia purpurascens, Imperata cylindrica, Microlaena stipoides, Oplismenus aemulus, Lepidosperma laterale, Lomandra confertifolia*

Exotics: *Lantana camara.*

Variation / Zones:
The canopy species composition is variable throughout this community. It is considered that one zone of this vegetation type is present within the site.

Disturbance:
Disturbances include weed invasion and historical clearing.
Weed Invasion:
Weed invasion is present in the mid stratum and consists predominantly of *Lantana camara* which occurs in varying density throughout this community. Highest densities of weed invasion are on lower south facing slopes.

Location and Distribution:
This community predominantly occurs in the eastern sections of the site. This community occupies approximately 16.05 hectares of the study site, including approximately 9.8 hectares within the development site.

Classification:
This vegetation community corresponds to Plant Community Type 1584 White Mahogany – Spotted Gum – Grey Myrtle semi mesic shrubby open forest of the central and lower Hunter Valley.

The vegetation present does not correspond to any threatened ecological communities listed under the *TSC Act* (1995) or the *EPBC Act* (1999).

SPOTTED GUM – NARROW-LEAVED IRONBARK SHRUB-GRASS OPEN FOREST OF THE CENTRAL AND LOWER HUNTER

Structure:
Upper Stratum: To 25 metres high, with 40% Projected Foliage Cover (PFC).

Mid Stratum: To 4 metres high, with 50% PFC.

Lower Stratum: To 1 metre high, with 75% PFC.

Floristics:
(Characteristic Species)
Upper Stratum: *Corymbia maculata, Eucalyptus crebra* and *Eucalyptus globoidea* and *Eucalyptus acmenoides*.

Mid Stratum: *Denhamia silvestris, Hibbertia diffusa, Acacia implexa, Acacia ulicifolia, Notelaea longifolia, Breynia oblongifolia, Bursaria spinosa, Pittosporum revolutum , Pittosporum undulatum, Persoonia linearis.*
Lower Stratum: *Brunoniella australis, Dichondra repens, Pratia purpurascens, Cymbopogon refractus, Entolasia stricta, Imperata cylindrica,*

Microlaena stipoides, Oplismenus aemulus, Panicum effusum, Themeda triandra, Lomandra confertifolia, Lomandra multiflora.

Exotics: *Lantana camara, Bidens pilosa* and *Olea europaea.*

Variation:
The patch of this community in the eastern section of the site has a high level of weeds in the understorey.

Disturbance:
Disturbances include weed invasion and historical clearing.

Weed Invasion:
Weeds were mostly observed in the mid stratum with low to moderate levels of occurrence.

Location and Distribution:
This community occurs predominantly on north-facing slopes and ridges and occupies approximately 10.5 hectares of the study site, including approximately 3.19 hectares within the development site.

Classification:
This vegetation community corresponds to Plant Community Type ID 1602 Spotted Gum – Narrow-leaved Ironbark shrub-grass open forest of the Central and Lower Hunter as described in the NSW VIS.

The NSW VIS identifies that this vegetation type corresponds to the endangered ecological community Lower Hunter Spotted Gum – Ironbark Forest in the Sydney Basin Bioregion as listed under the *TSC Act* (1995). The subject site is located within the Dungog LGA, which is not within the Sydney Basin Bioregion and is therefore not within the particular area where this community is recognised as an endangered ecological community under the *TSC Act* (1995).

The vegetation present does not correspond to a threatened ecological communities listed under the *EPBC Act* (1999).

SLATY RED GUM GRASSY WOODLAND ON HINTERLAND FOOTHILLS OF THE SOUTHERN NORTH COAST

Structure:

Upper Stratum: To 30 metres high, with 30% PFC.

Mid Stratum (upper layer): To 15 metres high, with 20% PFC

Mid Stratum (lower layer): To 5 metres high, with 45% PFC.

Lower Stratum: To 1 metre high, with 95% PFC.

Floristics:
(Characteristic Species)

Upper Stratum: *Eucalyptus crebra, Eucalyptus glaucina, Corymbia maculata, Eucalyptus globoidea* and *Eucalyptus moluccana*.

Mid Stratum (upper layer): *Acacia binervata, Eucalyptus crebra,* and *Eucalyptus glaucina*.

Mid Stratum (lower layer): *Denhamia silvestris, Leucopogon juniperinus, Acacia falcata, Acacia implexa, Sannantha crassa, Jasminum volubile, Notelaea longifolia,*

	Breynia oblongifolia, Pittosporum revolutum, and *Pittosporum undulatum.*
Lower Layer:	*Aristida vagans, Cymbopogon refractus, Microlaena stipoides, Panicum effusum* and *Themeda triandra.*
Exotics:	*Lantana camara, Olea europaea subsp. cuspidata* and *Bidens pilosa*.

Variation:
The distribution of the dominant canopy species was variable throughout this community such as *Eucalyptus tereticornis* which is present, mostly within the southern sections of the site.

Disturbance:
Historical clearing and weed invasion, particularly in the shrub layer.

Weed Invasion:
Weeds were mostly observed in the mid stratum with low to moderate levels of occurrence.

Location and Distribution:
This community occupies mid to lower slopes particularly within the western section of the site. This community occupies approximately 22.09 hectares of the study site, including approximately 9.4 hectares within the development site.

Classification:
This vegetation community corresponds to Plant Community Type 1178 Slaty Red Gum grassy woodland on hinterland foothills of the southern North Coast

The vegetation present does not correspond to any threatened ecological communities listed under the *TSC Act* (1995) or the *EPBC Act* (1999).

WHALEBONE TREE - RED KAMALA DRY SUBTROPICAL RAINFOREST OF THE LOWER HUNTER RIVER

Structure:
Upper Stratum (upper layer): To 25 metres high, with 5% PFC.

Upper Stratum (lower layer): To 15 metres high, with 80% PFC

Mid Stratum:	To 3 metres high, with 30% PFC.
Lower Stratum:	To 0.2 metre high, with 30% PFC.

Floristics:
(Characteristic Species)

Emergent Trees:	*Corymbia maculata, Eucalyptus acmenoides* and *Eucalyptus paniculata.*
Upper Stratum:	*Ficus rubiginosa, Backhousia myrtifolia* and *Streblus brunonianus*.
Mid Stratum:	*Alchornea ilicifolia, Claoxylon australe, Croton verreauxii, Streblus brunonianus, Backhousia myrtifolia, Jasminum volubile, Notelaea longifolia, Breynia oblongifolia, Pittosporum undulatum.*
Lower Stratum:	*Doodia caudata, Adiantum aethiopicum, Adiantum hispidulum, Pellaea paradoxa, Pseuderanthemum variabile* and *Oplismenus imbecillis.*

Exotics: *Lantana camara*.

Variation:
B. myrtifolia is the dominant upper stratum species, however occurs in lower densities in the deeper gully area in the eastern section of the site.

Disturbance:
Weed invasion of the mid stratum.

Weed Invasion:
Low and present in the mid stratum.

Location and Distribution:
This community occupies in fractured rock lined drainage line areas which are predominantly dry other than times during and immediately following heavy rainfall. This community occupies approximately 8.44 hectares of the study site, including approximately 5 hectares within the development site.

Classification:
Although a poor floristic match, it is considered that this vegetation community is most similar to Plant Community Type 1541 Whalebone Tree - Red Kamala dry subtropical rainforest of the lower Hunter River. The VIS lists this community as corresponding to the Lower Hunter Valley Dry Rainforest in the Sydney Basin and NSW North Coast Bioregions, vulnerable ecological community, as listed under the *TSC Act* (1995).

CLEARED LAND & LANDSCAPE REHABILITATION AREAS

Cleared Land & Landscape Rehabilitation Areas are present within the footprint of the existing quarry development or consist of areas which are undergoing rehabilitation from historical quarrying activities. These areas are not required to be subject to detailed surveys. Cleared Land occupies approximately 60.2 hectares of the study area including approximately 55.4 hectares of the development site. Rehabilitation Areas are not located within the development footprint and cover approximately 8.2 hectares of the study area.

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

The gradient of the natural topography of the site is variable and ranges from approximately 5° to 17°.

3.3 (g) Current state of the environment

Include information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.

The area of the proposed expansion lies adjacent to the existing hard rock quarry which is mostly cleared of vegetation and subject to regular heavy vehicle movements and activities such as drilling and blasting. The areas subject to the proposed expansion contain natural vegetation, regenerating vegetation and disturbed habitats.

Infestations of the exotic flora species *Lantana camara* are present within the site.

The following feral animals have been observed within the site:

- Black Rat
- Brown Rat
- Rabbit

- Brown Hare
- Fox
- Cat
- Dog

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

There are no Commonwealth Heritage Places within the site. Part of the quarry (Lot 1 DP1006375) and associated railway buildings are listed as a heritage item on the Dungog Local Environmental Plan (2014).

3.3 (i) Indigenous heritage values

An Aboriginal Cultural Heritage Assessment (ACHA) was completed for the site by Niche (2016).

Two Aboriginal scarred trees have been previously recorded within the site. One of the trees previously recorded as an Aboriginal scarred tree was determined by Niche (2016) to not be a culturally modified tree. The other Aboriginal scarred tree previously observed was determined by Niche (2016) to be no longer extant.

The Niche (2016) ACHA identified that the proposed activity will not harm any known Aboriginal objects or cultural heritage values and is located within an area of low Aboriginal archaeological potential.

3.3 (j) Other important or unique values of the environment

Describe any other key features of the environment affected by, or in proximity to the proposed action (for example, any national parks, conservation reserves, wetlands of national significance etc).

3.3 (k) Tenure of the action area (eg freehold, leasehold)

Leasehold.

3.3 (l) Existing land/marine uses of area

The site is currently used as a hard rock quarry which has been in operation within the Martins Creek area since 1914. The surrounding area also contains residential and rural-residential land uses.

3.3 (m) Any proposed land/marine uses of area

There are no alternative proposed land uses of the area.

4 Measures to avoid or reduce impacts

Note: If you have identified alternatives in relation to location, time frames or activities for the proposed action at Section 2.3 you will need to complete this section in relation to each of the alternatives identified.

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:

- what the measure is,
- how the measure is expected to be effective, and
- the time frame or workplan for the measure.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

Provide information about the level of commitment by the person proposing to take the action to achieve the proposed environmental outcomes and implement the proposed mitigation measures. For example, if the measures are preliminary suggestions only that have not been fully researched, or are dependent on a third party's agreement (e.g. council or landowner), you should state that, that is the case.

Note, the Australian Government Environment Minister may decide that a proposed action is not likely to have significant impacts on a protected matter, as long as the action is taken in a particular manner (section 77A of the EPBC Act). The particular manner of taking the action may avoid or reduce certain impacts, in such a way that those impacts will not be 'significant'. More detail is provided on the Department's web site.

For the Minister to make such a decision (under section 77A), the proposed measures to avoid or reduce impacts must:

- clearly form part of the referred action (e.g. be identified in the referral and fall within the responsibility of the person proposing to take the action),
- be must be clear, unambiguous, and provide certainty in relation to reducing or avoiding impacts on the matters protected, and
- must be realistic and practical in terms of reporting, auditing and enforcement.

If a proposed action is determined to be a controlled action, the Department may request further details to enable application of the *Outcomes-based Conditions Policy 2016* (http://www.environment.gov.au/epbc/publications/outcomes-based-conditions-policy-guidance), including information about the environmental outcomes to be achieved by proposed avoidance, mitigation, management or offset measures, details of baseline data, milestones, performance criteria, and monitoring and adaptive management to ensure the achievement of outcomes. If this information is available at the time of referral it should be included in the description of the proposed measures.

More general commitments (e.g. preparation of management plans or monitoring), commitments to achieving environmental outcomes and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, if your proposal proceeds to these stages).

Avoidance Measures

The area of the proposed action has been refined as part of the initial project investigations based on the results various studies which have identified constraints and opportunities relevant to the proposal. The refinements have reduced the overall footprint of the proposed action to include only those areas which are likely to be of benefit to future quarry operations.

Further extraction via deepening of the existing pit area is proposed to maximise the amount of resources able to be extracted from within the existing disturbance footprint of the site.

Mitigation Measures

Environmental Management Plan

An Environmental Management Plan (EMP) has been prepared for the proposal and will be implemented to minimise impacts associated with the proposal. The EMP provides for the following:

- Environmental control and monitoring procedures in relation to:
  - Access and traffic management
  - Water quality
  - Air quality
  - Noise and vibration management
  - Vegetation
  - Fauna
  - Contamination management
  - Water minimisation and recycling
  - Heritage
  - Management of local community
  - Unexpected findings
  - Greenhouse gas
  - Fire
  - Flood
- Personnel accountabilities and responsibilities
- Worksite monitoring and inspection
- Non-conformance and corrective actions
- Auditing
- Incident and emergency procedures

Flora and Fauna Management Plan

A Flora and Fauna Management Plan (FFMP) has been prepared for the proposal and will be implemented to mitigate impacts to fauna species and vegetation to be retained. The FFMP provides for the following:

- Ecological Induction of Clearing Personnel;
- Vegetation and Tree Protection Measures;
- Identification of Fauna Habitats and Relocation of Fauna Species;
- Fauna Protection Protocol; and
- Reporting.

Biodiversity Offset Strategy

Biodiversity offsetting is to be undertaken in accordance with the NSW Department of Planning and Environment requirements as assessed under the NSW Biodiversity Offsets Policy for Major Projects and the NSW Framework for Biodiversity Assessment.

5 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (i.e. whether you think that significant impacts on the matters protected under Part 3 of the EPBC Act are likely) and the reasons why.

5.1 Do you THINK your proposed action is a controlled action?

	No, complete section 5.2
x	Yes, complete section 5.3

5.2 Proposed action IS NOT a controlled action.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act.

5.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

	Matters likely to be impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
x	**Listed threatened species and communities (sections 18 and 18A)**
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)
	Commonwealth marine environment (sections 23 and 24A)
	Great Barrier Reef Marine Park (sections 24B and 24C)
	A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

Eucalyptus glaucina

The proposed action will modify, destroy, remove or isolate or decrease the availability or quality of habitat for the threatened flora species, *Eucalyptus glaucina,* within the subject site by approximately 9.4 hectares to the extent that the species is likely to decline by an estimated 1203 individual trees.

Koala

The proposal is likely to adversely affect >20 hectares of habitat for the threatened fauna species, the Koala, scored under the EPBC Act Referral Guidelines of the Vulnerable Koala (DOE 2014) habitat assessment methodology as having a Koala Habitat Assessment Score of 10. It should be recognised however, that Spot Assessment Technique surveys undertaken across the site have identified that the koala activity levels present are low.

6 Environmental record of the responsible party

NOTE: If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

		Yes	No
6.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** Daracon operate under strict Environmental Protection Licence requirements. Any non-compliance issues which arise are taken seriously and addressed promptly to ensure the maintenance of a satisfactory record of responsible environmental management.	**x**	
6.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details**		**x**
6.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework** Details of Environmental Management Policy: **Commitment** Responsible Environmental Management is a corner stone of all our endeavours and is reflected in the conscientious attitude of every Daracon employee. Our Environmental Management System (EMS) provides the framework for guiding performance and ensuring that we: • Comply with relevant legal and other requirements • Establish and review environmental objectives and targets • Strive for continual improvement Recognising our obligations to present and succeeding generations, we are committed to the prevention of pollution, conservation of biodiversity and using precautionary practices to minimise ecological disruption. **Initiatives** Our business covers a broad range of construction activities that can have significant impacts on the environment and includes infrastructure development, mining, soil remediation, landscaping, heavy transport, plant hire and quarry products. Having a comprehensive EMS ensures that we protect the environment by systematically identifying, assessing and controlling all environmental impacts of our work. We make sure that all personnel are trained in environmental awareness and use of our EMS. This also extends to visitors, suppliers and subcontractors through our procedures for site induction, purchasing and subcontractor	**x**	

	management. **Outcomes** Our vision for responsible management of the environment is known and practiced by every Daracon employee. There is a sincere commitment throughout our workforce to maintain a high standard of environmental performance, compliance with legislation and operational best practice. **Planning framework of Environmental Policy:** Relevant framework documents: • AS/NZS ISO 9001 – Quality Management System • AS/NZS 4801 Occupational Health and Safety Management System • AS/NZS 14001 Environmental Management Systems Certifier: Bureau Veritas		
6.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** **Provide name of proposal and EPBC reference number (if known)** 2007/3442 Daracon Quarries/Mining/Murrundi/New South Wales/Ardglen Quarry extension.	**x**	

7 Information sources and attachments

(For the information provided above)

7.1 References

- List the references used in preparing the referral.
- Highlight documents that are available to the public, including web references if relevant.

7.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

Source 1 : EPBC Act Protected Matters Report (SEWPAC 2011)
Date/time: 16/05/16 12:24:21
Information reliability / uncertainties in information: This source provides a general guide only as stated in the search results. For further information regarding uncertainties regarding this source refer to the Caveat section in the Protected Matters Search Report provided in the Attachments section of this referral.

Source 2: Biodiversity Assessment Report prepared by (Conacher Consulting 2016)
Date: Current surveys were undertaken during various dates in 2014 and 2015.
Information reliability / uncertainties in information: Information considered current and reliable

Source 3: Martins Creek Quarry Aboriginal Cultural Heritage Assessment (Niche Environment and Heritage 2016)
Date: 8 June 2016
Information reliability / uncertainties in information: Information considered current and reliable.

Source 4: Martins Creek Quarry Historical Heritage Assessment (Niche Environment and Heritage 2015)
Date: 3 November 2015
Information reliability / uncertainties in information: Information considered current and reliable.

7.3 Attachments

Indicate the documents you have attached. All attachments must be less than three megabytes (3mb) so they can be published on the Department's website. Attachments larger than three megabytes (3mb) may delay the processing of your referral.

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Attachment 1
	GIS file delineating the boundary of the referral area (section 1)		
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important	✓	Attachment 2

	features of the environments (section 3)		
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)		Not relevant
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)	✓	Attachment 3 – Biodiversity Assessment Report Attachment 4 – Aboriginal Cultural Heritage Assessment Attachment 5 – Historical Heritage Assessment
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment 3 – Biodiversity Assessment Report
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Attachment 3 – Biodiversity Assessment Report Attachment 4 – Aboriginal Cultural Heritage Assessment Attachment 5 – Historical Heritage Assessment
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)	✓	Attachment 4 – Aboriginal Cultural Heritage Assessment

8 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[1].

Project title: Martins Creek Quarry Expansion Project

8.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act[2], this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[3].

1. Name and Title:	David Mingay Managing Director
2. Organisation (if applicable):	Buttai Gravel Pty Ltd Organisation name should match entity identified in ABN/ACN search
3. EPBC Referral Number (if known):	Not known
4: ACN / ABN (if applicable):	47 003 386 570
5. Postal address	PO Box 299 Wallsend NSW 2287
6. Telephone:	02 4903 7000
7. Email:	davidm@daracon.com.au
8. Name of proposed proponent (if not the same person at item 1 above and if applicable):	N/A
9. ACN/ABN of proposed	N/A

[1] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Gateway (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

[2] *If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A,* EPBC Act*). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.*

proponent (if not the same person named at item 1 above):	
	COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE
I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:	☐ an individual; OR ☐ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR x **not applicable.**
If you are small business entity you must provide the Date/Income Year that you became a small business entity:	N/A
	Note: You must advise the Department within 10 business days if you cease to be a small business entity. Failure to notify the Secretary of this is an offence punishable on conviction by a fine (regulation 5.23B(3) *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth)).
	COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER
I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:	x **not applicable.**
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence. I agree to be the proponent for this action. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.
Signature	D. Mungay Date 14/06/16

001 Referral of proposed action v April 2016 Page 48 of 49

8.2 Person preparing the referral information (if different from 8.1)

Individual or organisation who has prepared the information contained in this referral form.

Name	Jacob Manners
Title	Senior Ecologist
Organisation	Conacher Consulting Pty Ltd
ACN / ABN (if applicable)	62 166 920 869
Postal address	PO Box 4082 East Gosford NSW 2250
Telephone	0243247888
Email	conacherconsulting@gmail.com
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence.
Signature	 Date 14/06/16