ORDINARY MEETING

AGENDA

9 MAY 2017

Your attendance is required at an Ordinary meeting of Council to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 9 May 2017 commencing at 9.00am for transaction of the enclosed business.

ACTING CHIEF EXECUTIVE OFFICER
4 May 2017

Next Meeting Date: 23.05.17

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

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1 OPENING

The opening prayer presented by Father Bryan Hanifin from Catholic Parish of Rockhampton South.

2 PRESENT

Members Present:

The Mayor, Councillor M F Strelow (Chairperson)
Councillor R A Swadling
Councillor N K Fisher
Councillor C E Smith
Councillor C R Rutherford
Councillor M D Wickerson
Councillor S J Schwarten

In Attendance:

Mr E Pardon – Chief Executive Officer

3 APOLOGIES AND LEAVE OF ABSENCE

Leave of absence granted to Councillor Tony Williams as he is attending the LGAQ Disaster Management Conference in Mackay.

4 CONFIRMATION OF MINUTES

Minutes of the Ordinary Meeting held 26 April 2017

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

Nil

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 PRESENTATION OF PETITIONS

Nil

9 COMMITTEE REPORTS

9.1 PLANNING AND REGULATORY COMMITTEE MEETING - 2 MAY 2017

RECOMMENDATION

THAT the Minutes of the Planning and Regulatory Committee meeting, held on 2 May 2017 as circulated, be received and that the recommendations contained within these minutes be adopted.

(**Note**: The complete minutes are contained in the separate Minutes document)

Recommendation of the Planning and Regulatory Committee, 2 May 2017

9.1.1 MONTHLY OPERATIONS REPORT FOR PLANNING AND REGULATORY SERVICES FOR MARCH 2017

File No:	**1464**
Attachments:	**1. Traffic Light Report for March 2017** **2. Financial Matters Report for March 2017** **3. Monthly Operations Report for Planning, Building and Plumbing - March 2017** **4. Monthly Operations Report for Health & Environment - March 2017** **5. Monthly Operations for Local Laws - March 2017**
Authorising Officer:	**Michael Rowe - General Manager Community Services**
Author:	**Steven Gatt - Manager Planning & Regulatory Services**

SUMMARY

The monthly operations report for the Planning and Regulatory Services Department as at 31 March 2017 is presented for Councillors information.

COMMITTEE RECOMMENDATION

THAT the Planning and Regulatory Services Monthly Operations Report for March 2017 be 'received'.

Recommendation of the Planning and Regulatory Committee, 2 May 2017

9.1.2 COMMITTEE REPORT DELEGATIONS - MARCH 2017

File No:	**7028**
Attachments:	**Nil**
Authorising Officer:	**Steven Gatt - Manager Planning & Regulatory Services** **Michael Rowe - General Manager Community Services**
Author:	**Tarnya Fitzgibbon - Coordinator Development Assessment**

SUMMARY

This report outlines the development applications received in March 2017 and whether they will be decided under delegation or decided by Council.

COMMITTEE RECOMMENDATION

THAT the Committee Report Delegations – March 2017 be received.

Recommendation of the Planning and Regulatory Committee, 2 May 2017

9.1.3 D/6-2017 - DEVELOPMENT APPLICATION FOR OPERATIONAL WORKS FOR AN ADVERTISING DEVICE (BILLBOARD)

File No:	**D/6-2017**
Attachments:	**1. Locality Plan** **2. Site Plan** **3. Plan and Elevation**
Authorising Officer:	**Tarnya Fitzgibbon - Coordinator Development Assessment** **Steven Gatt - Manager Planning & Regulatory Services** **Michael Rowe - General Manager Community Services**
Author:	**Thomas Gardiner - Planning Officer**

SUMMARY

Development Application Number:	*D/6-2017*
Applicant:	*Bishopp Outdoor Advertising Pty Ltd*
Real Property Address:	*Lot 8 on RP603507 and Lot 9 on RP603507, Parish of Murchison*
Common Property Address:	*870-886 Yaamba Road, Parkhurst*
Area of Site:	*8.094 hectares*
Planning Scheme:	*Rockhampton Region Planning Scheme 2015*
Planning Scheme Zone:	*Low Density Residential Zone*
Planning Scheme Overlays:	*Steep Land Overlay – 15-20% slope*
Existing Development:	*Short-term accommodation units and caravan park*
Existing Approvals:	*Town Planning Consent for Multiple Holiday Villas (eight) and Overnight Units*
Approval Sought:	*Development Permit for Operational Works for an Advertising Device (Billboard)*
Level of Assessment:	*Impact Assessable*
Submissions:	*TBA*
Infrastructure Charges Area:	*Charge Area 1*

Application Progress:

Application Lodged:	*20 January 2017*
Acknowledgment Notice issued:	*23 January 2017*
Request for Further Information sent:	*7 February 2017*
Request for Further Information responded to:	*17 February 2017*
Submission period commenced:	*21 February 2017*
Submission period end:	*14 March 2017*
Council request for additional time:	*20 March 2017*
Last receipt of information from applicant:	*15 March 2017*
Statutory due determination date:	*15 May 2017*

COMMITTEE RECOMMENDATION

RECOMMENDATION A

THAT in relation to the application for a Development Permit for Operational Works for an Advertising Device (Billboard), made by Bishopp Outdoor Advertising Pty Ltd on land described as Lot 8 and Lot 9 on RP603507, Parish of Murchison, located at 870-886 Yaamba Road, Parkhurst, Council resolves to Approve the application despite its conflict with the planning scheme and provide the following grounds to justify the decision despite the conflict:

a) The proposal is for the replacement and relocation of an existing Billboard and will not adversely affect the visual amenity of Yaamba Road as a main transport entrance into Rockhampton's urban areas nor the surrounding area;

b) The Billboard is not located in proximity to any existing residential development and will not compromise the purpose of the Low Density Residential Zone from providing predominantly single detached Dwelling Houses;

c) The proposed use does not compromise the strategic framework in the *Rockhampton Region Planning Scheme 2015*;

d) Assessment of the development against the relevant zone purpose, planning scheme codes and planning scheme policies demonstrates that the proposed development will not cause significant adverse impacts on the surrounding natural environment, built environment and infrastructure, community facilities, or local character and amenity; and

e) The proposed development does not compromise the relevant State Planning Policy.

RECOMMENDATION B

That in relation to the application for a Development Permit for Operational Works for an Advertising Device (Billboard), made by Bishopp Outdoor Advertising Pty Ltd on land described as Lot 8 and Lot 9 on RP603507, Parish of Murchison, located at 870-886 Yaamba Road, Parkhurst, Council resolves to Approve the application subject to the following conditions:

1.0 ADMINISTRATION

1.1 The Developer and his employee, agent, contractor or invitee is responsible for ensuring compliance with the conditions of this development approval.

1.2 Where these Conditions refer to "Council" in relation to requiring Council to approve or to be satisfied as to any matter, or conferring on the Council a function, power or discretion, that role may be fulfilled in whole or in part by a delegate appointed for that purpose by the Council.

1.3 All conditions this approval must be undertaken and completed to the satisfaction of Council, at no cost to Council.

1.4 The following further Development Permits must be obtained prior to the commencement of any works associated with their purposes:

1.4.1 Building Works.

1.5 All works must be designed, constructed and maintained in accordance with the relevant Council policies, guidelines and standards, unless otherwise stated.

2.0 APPROVED PLANS AND DOCUMENTS

2.1 The approved development must be completed and maintained generally in accordance with the approved plans and documents, except where amended by any condition of this development approval:

Plan/Document Name	Plan/Document Reference	Dated
Site Plan	470206AB	18 January 2017
Plan & Elevation	17019.01, Revision A	14 February 2017
Footing Detail	17019.01, Revision A	16 February 2017

2.2 A set of the above approved plans are returned to you as the Consultant. The Consultant is to supply one (1) Approved set to the contractor to be retained on site at all times during construction.

2.3 Where there is any conflict between the conditions of this development approval and the details shown on the approved plans and documents, the conditions of this development approval must prevail.

2.4 Where conditions require the above plans or documents to be amended, the revised document(s) must be submitted for approval by Council prior to the submission of an application for a Development Permit for Building Works.

3.0 ILLUMINANCE AND LUMINANCE

3.1 Any lighting devices associated with the signage, such as sensory lighting, must be positioned on the site and shielded so as not to cause glare or other nuisance to nearby residents or motorists. Night lighting must be designed, constructed and operated in accordance with '*Australian Standard AS4282 – Control of the obtrusive effects of outdoor lighting'.*

3.2 Luminance levels of the Advertising Device must not exceed the applicable levels listed in Table 1 below.

Table 1: Luminance levels Advertising Device

			All Colours		Bailey's Sign Nit Setting	
Ambient Condition Description	Dimming Level	Advertising Device Illuminance Vertical Component (lx)	Screen Luminance (Cd/m²) Max	Screen Luminance (Cd/m²) Min	Max (nit)	Min (nit)
Sunny Day	5	40,000	6,300	2,800	6,000	2,800
Cloudy Day	4	4,000	1,100	500	1,100	500
Twilight	3	400	480	260	480	260
Dusk	2	40	380	120	380	120
Night	1	< 4	340	80	270	80

Note: I/luminance refers to the intensity of light falling at a given place on a lighted surface when measured by a *lux meter and expressed as luminous flux per unit area (otherwise known as lux (lx)). Luminance refers to the intensity of light per unit area of its source when measured by a luminance meter and expressed as candela per square metre (cd/m2). It is often used to describe the perceived brightness of a light source.*

4.0 ASSET MANAGEMENT

4.1 Any alteration necessary to electricity, telephone, water mains, sewerage mains, and/or public utility installations resulting from the development or in connection with the development, must be undertaken and completed at no cost to Council.

5.0 OPERATING PROCEDURES

5.1 All construction materials, waste, waste skips, machinery and contractors' vehicles must be located and stored or parked within the site.

5.2 Any proposed works within the vicinity (or zone of influence) of existing Council infrastructure will not adversely affect the integrity of the infrastructure. Any restoration works required on existing Council infrastructure as a result of the proposed works will be at the Developer's expense.

5.3 The Advertising Device (Billboard) must be designed and constructed in accordance with the Ergon Energy policy document *Electricity Entity Requirements: Working Near Overhead and Underground Electrical Lines'*.

5.4 The Advertising Device (Billboard) must be designed and certified by a Registered Professional Engineer of Queensland and constructed in accordance with the requirements of the *Queensland Development Code* and the *Building Code of Australia*.

5.5 The Advertising must meet applicable wind loading requirements as specified in '*Australian Standard AS 1170.2: 2011 – Structural Design Actions Part 2 – Wind Actions*'.

5.6 All signage must be maintained at all times on the premises by the owner of the premises to the same standard as it was when it was installed.

5.7 The Advertising Device (Billboard) must be maintained in a safe, clean, tidy and sightly condition at all times.

10 COUNCILLOR/DELEGATE REPORTS

10.1 REQUEST FOR FINANCIAL ASSISTANCE FROM MAYOR STRELOW'S COUNCILLOR DISCRETIONARY FUND - ROCKHAMPTON MUSICAL UNION

File No:	**8295**
Attachments:	**1. Quotation for renovations to Rockhampton Musical Union Choir Hall**
Authorising Officer:	**Evan Pardon - Chief Executive Officer**
Author:	**Nicole Semfel - Administration Officer**

SUMMARY

Mayor Margaret Strelow is requesting approval to donate $2,350 from her Councillor Discretionary Fund to the Rockhampton Musical Union Choir.

OFFICER'S RECOMMENDATION

THAT approval be granted to donate $2,350 from Mayor's Councillor Discretionary Fund to the Rockhampton Musical Union Choir.

BACKGROUND

Mayor Margaret Strelow is requesting approval to donate $2,350 from her Councillor Discretionary Fund to the Rockhampton Musical Union Choir to assist with renovations to the choir hall.

The Rockhampton Musical Union Choir was established in 1888 and is the second oldest choral body in Queensland. The Choir in 2017 continues to work within the local community to foster a love of music, singing and theatre arts within the wider Central Queensland community.

The choir members, adults, children and youth use the hall facilities for rehearsals and also concerts and choral presentations and the committee is mindful of providing a safe and healthy environment for its members and also members of the general public.

The choir hall is very versatile, as it has rehearsal space and is equipped with a small stage that is used for concerts and performances. The committee have commissioned local contractor Mick Walton – Mxrigging to build and supply stage extension risers to improve performance space of the stage with extensions to the front steps and an extended stage.

REQUEST FOR FINANCIAL ASSISTANCE FROM MAYOR STRELOW'S COUNCILLOR DISCRETIONARY FUND - ROCKHAMPTON MUSICAL UNION

Quotation for renovations to Rockhampton Musical Union Choir Hall

Meeting Date: 9 May 2017

Attachment No: 1

8211289 - 31/03/2017

Quotation

Mxrigging
Mick Walton
1/88 Glenmore Road, Park Avenue
QLD, 4701
Mobile: 0488213399
Email: mxrigging@gmail.com

Date: 22/12/2016
Quote No: 001

Bill To: Rockhampton Musical Union

Description	Quantity	Total
6 x Stage Extension Risers (Including Legs)		
Materials		$1,350.00
Labour		$800.00
Admin		$200.00
		$2,350.00

Comments/Special Instructions

This quote includes delivery. If you have any questions please contact me.

Signature:

Quotation valid for 30 days

11 OFFICERS' REPORTS

11.1 D/34-2017 - DEVELOPMENT APPLICATION FOR A MATERIAL CHANGE OF USE FOR ANIMAL KEEPING

File No: **D/34-2017**

Attachments:
1. **Locality Plan**
2. **Site Plan**
3. **Floor Plan**
4. **Elevations**
5. **Roof Plan**

Authorising Officer: **Tarnya Fitzgibbon - Coordinator Development Assessment**
Steven Gatt - Manager Planning & Regulatory Services
Michael Rowe - General Manager Community Services

Author: **Brandon Diplock - Planning Officer**

SUMMARY

Development Application Number:	*D/34-2016*
Applicant:	*Rockhampton Regional Council*
Real Property Address:	*Lot 20 on SP206688, Lot 21 on SP206688, Lot 22 on SP206688 and Lot 23 on SP206688, Parish of Gracemere*
Common Property Address:	*158 Foster Street, Gracemere*
Area of Site:	*2.05 hectares*
Planning Scheme:	*Rockhampton Region Planning Scheme 2015*
Planning Scheme Zone:	*Medium Impact Industry Zone*
Planning Scheme Overlays:	*Creek Catchment Flood Overlay*
Existing Development:	*Vacant Land*
Existing Approvals:	*Nil*
Approval Sought:	*Development Permit for a Material Change of Use for Animal Keeping*
Level of Assessment:	*Impact Assessable*
Submissions:	*Twenty-two (22)*
Referral Agency(s):	*Nil*
Infrastructure Charges Area:	*Charge Area 1*

Application Progress:

Application Lodged:	*17 March 2017*
Acknowledgment Notice issued:	*17 March 2017*
Submission period commenced:	*22 March 2017*
Submission period end:	*12 April 2017*
Last receipt of information from applicant (Notice of Compliance to Public Notification):	*18 April 2017*
Statutory due determination date:	*16 May 2017*

OFFICER'S RECOMMENDATION

RECOMMENDATION A

THAT in relation to the application for a Development Permit for a Material Change of Use for Animal Keeping, made by Rockhampton Regional Council at 158 Foster Street, Gracemere, on land formally described as Lot 20 on SP206688, Lot 21 on SP206688, Lot 22 on SP206688 and Lot 23 on SP206688, Parish of Gracemere, Council resolves to Approve the application subject to the following conditions:

1.0 ADMINISTRATION

1.1 The Developer and his employee, agent, contractor or invitee is responsible for ensuring compliance with the conditions of this development approval.

1.2 Where these Conditions refer to "Council" in relation to requiring Council to approve or to be satisfied as to any matter, or conferring on the Council a function, power or discretion, that role may be fulfilled in whole or in part by a delegate appointed for that purpose by the Council.

1.3 All conditions, works, or requirements of this development approval must be undertaken, completed, and be accompanied by a Compliance Certificate for any operational works required by this development approval:

1.3.1 to Council's satisfaction;

1.3.2 at no cost to Council; and

1.3.3 prior to the commencement of the use unless otherwise stated.

1.4 Infrastructure requirements of this development approval must be contributed to the relevant authorities, where applicable, at no cost to Council, prior to the commencement of the use unless otherwise stated.

1.5 The following further Development Permits must be obtained prior to the commencement of any works associated with their purposes:

1.5.1 Operational Works:

(i) Access and Parking Works;

(ii) Sewerage Works;

(iii) Stormwater Works;

(iv) Site Works;

1.5.2 Building Works; and

1.5.3 Plumbing and Drainage Works.

1.6 All Development Permits for Operational Works and Plumbing and Drainage Works must be obtained prior to the issue of a Development Permit for Building Works.

1.7 All works must be designed, constructed and maintained in accordance with the relevant Council policies, guidelines and standards, unless otherwise stated.

1.8 All engineering drawings/specifications, design and construction works must be in accordance with the requirements of the relevant *Australian Standards* and must be approved, supervised and certified by a Registered Professional Engineer of Queensland.

1.9 Lots 20, 21 and 22 must be amalgamated and registered as one lot prior to the commencement of the use.

2.0 APPROVED PLANS AND DOCUMENTS

2.1 The approved development must be completed and maintained generally in accordance with the approved plans and documents, except where amended by any condition of this development approval:

Plan/Document Name	Plan/Document Reference	Dated
Site Plan: Rev A	1026-26-MCU1	15 March 2017
Ground Floor – Buildings Stage 1	AF-01 Revision 04	10 August 2016
Roof Plan	AF-02 Revision 04	10 August 2016
Elevations	AF-03 Revision 04	10 August 2016

2.2 Where there is any conflict between the conditions of this development approval and the details shown on the approved plans and documents, the conditions of this development approval must prevail.

2.3 Where conditions require the above plans or documents to be amended, the revised document(s) must be submitted for approval by Council prior to the submission of an application for a Development Permit for Operational Works.

3.0 STAGED DEVELOPMENT

3.1 This development approval is for a development to be undertaken in discrete stages, namely:

3.1.1 Carpark, Administration Building and Kennels (Stage One);

3.1.2 Kennels (Stage Two); and

3.1.3 Kennels (Stage Three),

in accordance with the approved plan (refer to condition 2.1).

Stage one must be completed prior to any other stage. All other stages are not required to be undertaken in any chronological order.

3.2 Unless otherwise expressly stated, the conditions must be read as being applicable to all stages.

4.0 ACCESS AND PARKING WORKS

4.1 A Development Permit for Operational Works (access and parking works) must be obtained prior to the commencement of any access and parking works on the development site.

4.2 All access and parking works must be designed and constructed in accordance with the approved plans (refer to condition 2.1), *Capricorn Municipal Development Guidelines*, and *Australian Standard AS2890 "Parking facilities"* and the provisions of a Development Permit for Operational Works (access and parking works).

4.3 All car parking and access areas must be paved or sealed to Council's satisfaction. Design and construction must be in accordance with the provisions of a Development Permit for Operational Works (access and parking works).

4.4 All vehicles must ingress and egress the development in a forward gear.

4.5 Universal access parking spaces must be provided on-site in accordance with *Australian Standard AS2890.6 "Parking facilities - Off-street parking for people with disabilities".*

4.6 Parking spaces must be line-marked in accordance with the approved Site Plan (refer to condition 2.1) and in accordance with the *Australian Standard AS2890 "Parking facilities"* and the provisions of a Development Permit for Operational Works (access and parking works).

4.7 Any application for a Development Permit for Operational Works (access and parking works) must be accompanied by detailed and scaled plans, which demonstrate the turning movements/swept paths of the largest vehicle to access the development site including refuse collection vehicles.

4.8 All vehicle operations associated with the development must be directed by suitable directional, informative, regulatory or warning signs in accordance with *Australian Standard AS1742.1 "Manual of uniform traffic control devices"* and *Australian Standard AS2890.1 "Parking facilities – Off-street car parking"*.

5.0 SEWERAGE WORKS

5.1 A Development Permit for Operational Works (sewerage works) must be obtained prior to the commencement of any sewerage works on the development site.

5.2 All sewerage works must be designed and constructed in accordance with the approved plans (refer to condition 2.1), *Capricorn Municipal Development Guidelines*, *Water Supply (Safety and Reliability) Act 2008*, and *Plumbing and Drainage Act 2002* and the provisions of a Development Permit for Operational Works (sewerage works).

5.3 The existing sewerage access chamber and connection point for Lot 21 must be relocated adjacent to the new eastern boundary of the proposed development to avoid any conflicts with the proposed kennel of Stage two. This will include removing a section of redundant sewerage main. The new sewerage access chamber and connection point must be located within the lot it serves.

5.4 Sewerage trade waste permits must be obtained for the discharge of any non-domestic waste into Council's reticulated sewerage network. Arrestor traps must be provided where commercial or non-domestic waste is proposed to be discharged into the sewer system.

6.0 WATER WORKS

6.1 The development must be connected to Council's reticulated water network.

6.2 The existing water service connection provided to the site may require an upgrade. Fitzroy River Water can provide a quote for the works upon request if required. All costs associated with these works will be the responsibility of the developer.

6.3 The existing fire hydrant must be relocated as per the approved plans (refer to condition 2.1) to be clear of the proposed driveway.

6.4 Adequate domestic and fire fighting protection must be provided to the development and must be certified by a hydraulic engineer or other suitably qualified person.

7.0 PLUMBING AND DRAINAGE WORKS

7.1 A Development Permit for Plumbing and Drainage Works must be obtained for the removal and/or demolition of any existing structure on the development site.

7.2 All internal plumbing and drainage works must be designed and constructed in accordance with the approved plans (refer to condition 2.1), *Capricorn Municipal Development Guidelines*, *Water Supply (Safety and Reliability) Act 2008, Plumbing and Drainage Act 2002*, and Council's Plumbing and Drainage Policies and the provisions of a Development Permit for Plumbing and Drainage Works.

8.0 STORMWATER WORKS

8.1 A Development Permit for Operational Works (stormwater works) must be obtained prior to the commencement of any stormwater works required by this development approval.

8.2 A Stormwater Management Plan must be submitted with any application for Operational Works that addresses quantity and quality.

8.3 All stormwater drainage works must be designed and constructed in accordance with the approved plans (refer to condition 2.1), *Queensland Urban Drainage Manual*, *Capricorn Municipal Development Guidelines*, and sound engineering practice and the provisions of a Development Permit for Operational Works (stormwater works).

8.4 All stormwater must drain to a demonstrated lawful point of discharge and must not adversely affect surrounding land or infrastructure in comparison to the pre-

development conditions, including but not limited to blocking, altering or diverting existing stormwater runoff patterns or having the potential to cause damage to other infrastructure.

8.5 The development must not increase peak stormwater runoff for a selected range of storm events up to and including a one per cent (1%) Annual exceedance probability storm event, for the post-development conditions.

8.6 The stormwater inlet inside Lot 21 must be relocated adjacent to the new eastern boundary of the proposed development to avoid any conflict with the proposed kennel of stage two. The inter-allotment drainage west of this inlet must be made redundant. The new inlet must be located within the lot it serves.

9.0 SITE WORKS

9.1 A Development Permit for Operational Works (site works) must be obtained prior to the commencement of any site works on the development site.

9.2 All earthworks must be undertaken in accordance with *Australian Standard AS3798 "Guidelines on earthworks for commercial and residential developments".*

9.3 Site works must be constructed such that they do not, at any time, in any way restrict, impair or change the natural flow of runoff water, or cause a nuisance or worsening to surrounding land or infrastructure.

10.0 BUILDING WORKS

10.1 All external elements, such as air conditioners must be adequately screened from public view, to Council's satisfaction.

10.2 Any lighting devices associated with the development, such as sensory lighting, must be positioned on the development site and shielded so as not to cause glare or other nuisance to nearby residents and motorists. Night lighting must be designed, constructed and operated in accordance with *Australian Standard AS4282 "Control of the obtrusive effects of outdoor lighting"*.

11.0 LANDSCAPING WORKS

11.1 All landscaping must be established generally in accordance with the approved plans (refer to condition 2.1). The landscaping must be constructed and/or established prior to the commencement of the use and the landscape areas must predominantly contain plant species that are locally native to the Central Queensland region due to their low water dependency.

11.2 The landscaped areas must be subject to:

11.2.1 a watering and maintenance plan during the establishment moment; and

11.2.2 an ongoing maintenance and replanting programme.

12.0 ELECTRICITY

12.1 Electricity services must be provided to the development in accordance with the standards and requirements of the relevant service provider.

13.0 TELECOMMUNICATIONS

13.1 Telecommunications services must be provided to the development in accordance with the standards and requirements of the relevant service provider. Unless otherwise stipulated by telecommunications legislation at the time of installation, this includes all necessary pits and pipes, and conduits that provide a connection to the telecommunications network.

14.0 ASSET MANAGEMENT

14.1 Any alteration necessary to electricity, telephone, water mains, sewerage mains, and/or public utility installations resulting from the development or in connection with the development, must be undertaken and completed at no cost to Council.

14.2 Any damage to existing stormwater, water supply and sewerage infrastructure, kerb and channel, pathway or roadway (including removal of concrete slurry from public land and Council infrastructure), that occurs while any works are being carried out in association with this development approval must be repaired at full cost to the developer. This includes the reinstatement of any existing traffic signs or pavement markings that may have been removed or damaged.

14.3 'As Constructed' information pertaining to assets to be handed over to Council and those which may have an impact on Council's existing and future assets must be provided prior to the commencement of the use. This information must be provided in accordance with the *Guideline for the Creation and Submission of Asset Design As-Constructed Files*.

15.0 ENVIRONMENTAL

15.1 Any application for a Development Permit for Operational Works must be accompanied by a detailed Environmental Management Plan that addresses, but is not limited to, the following:

(i) noise and dust suppression; and

(ii) waste management.

15.2 Any application for a Development Permit for Operational Works must be accompanied by an Erosion and Sediment Control Plan that addresses, but is not limited to, the following:

(i) objectives;

(ii) site location and topography;

(iii) vegetation;

(iv) top soil management;

(v) site drainage and an interim drainage plan during construction which also addresses water quality;

(vi) soils;

(vii) erosion susceptibility, silt and sedimentation management;

(viii) erosion risk;

(ix) concept;

(x) design; and

(xi) implementation,

for the construction and post-construction phases of work.

15.3 The Environmental Management Plan approved as part of a Development Permit for Operational Works must be part of the contract documentation for the development works.

15.4 The Erosion Control and Stormwater Control Management Plan prompt prepared by a Registered Professional Engineer of Queensland in accordance with the *Capricorn Municipal Design Guidelines*, must be implemented, monitored and maintained for the duration of the development works, and until all exposed soil areas are permanently stabilised (for example, turfed, hydromulched, concreted, landscaped). The plan must be available on-site for inspection by Council Officers whilst all works are being carried out.

16.0 ENVIRONMENTAL HEALTH

16.1 Noise emitted from the activity must not cause an environmental nuisance.

16.2 When requested by Council, noise monitoring must be undertaken and recorded within

three (3) months, to investigate any genuine complaint of nuisance caused by noise. The monitoring data, an analysis of the data and a report, including noise mitigation measures, must be provided to Council within fourteen (14) days of the completion of the investigation. Council may require any noise mitigation measures identified in the assessment to be implemented within appropriate timeframes. Noise measurements must be compared with the acoustic quality objectives specified in the most recent edition of the *Environmental Protection (Noise) Policy 2008*.

16.3 Any spillage of environmentally hazardous liquids or other materials must be cleaned up as quickly as practicable. Any spillage of waste and/or contaminants must not be hosed or swept to any stormwater drainage system, roadside gutter or waters.

16.4 Regulated waste and any other waste must not be released to the environment, stored, transferred or disposed of in such a manner that it will or may cause environmental harm or nuisance. This includes any waste being burnt or incinerated at the premises.

17.0 OPERATING PROCEDURES

17.1 All construction materials, waste, waste skips, machinery and contractors' vehicles must be located and stored or parked within the development site. Storage of materials or parking of construction machinery or contractors' vehicles must not occur within Foster Street.

ADVISORY NOTES

NOTE 1. Aboriginal Cultural Heritage

It is advised that under section 23 of the *Aboriginal Cultural Heritage Act 2003*, a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the "cultural heritage duty of care"). Maximum penalties for breaching the duty of care are listed in the Aboriginal cultural heritage legislation. The information on Aboriginal cultural heritage is available on the Department of Aboriginal and Torres Strait Islander and Partnerships website www.datsip.qld.gov.au.

NOTE 2. General Environmental Duty

General environmental duty under the *Environmental Protection Act 1994* prohibits unlawful environmental nuisance caused by noise, aerosols, particles, dust, ash, fumes, light, odour or smoke beyond the boundaries of the development site during all stages of the development including earthworks, construction and operation.

NOTE 3. General Safety Of Public During Construction

The *Work Health and Safety Act 2011* and *Manual of Uniform Traffic Control Devices* must be complied with in carrying out any construction works, and to ensure safe traffic control and safe public access in respect of works being constructed on a road.

RECOMMENDATION B

That in relation to the application for a Development Permit for a Material Change of Use for Animal Keeping, made by Rockhampton Regional Council at 158 Foster Street, Gracemere, on land formally described as Lot 20 on SP206688, Lot 21 on SP206688, Lot 22 on SP206688 and Lot 23 on SP206688, Parish of Gracemere, Council resolves not to issue an Infrastructure Charges Notice.

BACKGROUND

PROPOSAL IN DETAIL

The proposal is for the relocation of the existing Rockhampton Regional Pound (currently located at 503 Quay Street, Depot Hill) to a better suited location as the current site is heavily impacted by flooding. The proposal will incorporate a staged design and construction for a purpose built animal management facility. The facility will comprise of an administration

area, cat holding area, veterinarian assessment rooms, secure covered loading, kennels and a stock yard. The proposal also makes provision for twenty-three (23) on-site car parks with access proposed off Foster Street.

The key objectives for the new animal management facility are to:

- Provide an improved facility that will meet contemporary animal control and management standards;
- Reduce kennel borne infections and diseases;
- Improve operating efficiency (including reducing maintenance cost and service regimes);
- Improve site and staff security;
- Be more environmentally friendly by reducing noise and odour pollution;
- Improve services to customers;
- Provide a full time accessible site;
- Provide an ability for future expansion;
- Be central to the region; and
- Be able to accommodate future stock (for example horses and cattle).

SITE AND LOCALITY

The subject site is vacant and measures approximately 2.05 hectares in size. The site is located on the southern side of the Capricorn Highway, within the Gracemere Industrial Area. The site is zoned Medium Impact Industry and is connected to all necessary infrastructure and services. The area is dominated by industrial related activities with immediate allotments to the east and west consisting of vacant industrial allotments. Immediately to the north of the site consists of mostly vehicle depots used for the storage of trucks and machinery whilst immediately to the south of the site is a creek.

A small portion of the subject site along the eastern boundary is impacted by Creek Flooding. This portion of the site is however covered with a drainage easement. The proposed development will therefore not be impacted by the creek catchment flooding.

PLANNING ASSESSMENT

MATTERS FOR CONSIDERATION

This application has been assessed by relevant Council planning, engineering, environmental health, and other technical officers as required. The assessment has been in accordance with the Integrated Development Assessment System provisions of the *Sustainable Planning Act 2009*, based on consideration of the relevant State Planning Policy; State Government guidelines; the Council's Town Planning Scheme, Planning Policies and other general policies and procedures, as well as other documents as considered relevant.

Development Engineering Comments – *10 April 2017*

Support, subject to conditions / comments.

Public and Environmental Health Comments – *21 March 2017*

Support, subject to conditions / comments.

Other Staff Technical Comments -

Not applicable as the application was not referred to any other technical staff.

TOWN PLANNING COMMENTS

Central Queensland Regional Plan 2013

The *Central Queensland Regional Plan 2013* is a statutory document which came into effect on 18 October 2013. The development is not required to be assessed against the regional plan if this document is appropriately reflected in the local planning scheme. It is considered that the regional plan is appropriately reflected in the current local planning scheme.

State Planning Policy 2014

This policy came into effect on 2 December 2013 (amended in July 2014 and April 2016) and replaced all former State Planning Policies. This policy requires development applications to be assessed against its requirements until the identified state interests have been appropriately reflected in the local planning scheme.

Liveable communities

Not Applicable. The application is not for contributing to a diverse supply of housing.

Mining and extractive resources

Not Applicable. The application is not for an extractive resource industry and is not within a Key Resource Area.

Biodiversity

Not Applicable. The proposal does not relate to a matter of state environmental significance.

Coastal environment

Not Applicable. The site is not within a coastal management district.

Water quality

Not Applicable. The site is not related to any receiving waters or water supply catchment in South East Queensland.

Natural hazard, risk and resilience

Not Applicable. Although the subject site abuts a natural creek, the site is not impacted by any flooding.

Emissions and hazardous activities

Not Applicable. The proposal will not have any adverse impacts from emissions and hazardous materials.

State transport infrastructure

Not Applicable. The site is not within 400 metres to a public or future public passenger transport facility.

Strategic airports and aviation facilities

Not Applicable. The proposal is not affected by a strategic airport.

Rockhampton Region Planning Scheme 2015

Strategic framework This application is situated within the Industrial Area designation under the scheme's strategic framework map. The strategic framework themes and their strategic outcomes, as identified within Part 3 of the *Rockhampton Region Planning Scheme 2015* are applicable:

(i) **Settlement pattern**

(1) The pattern of settlement is reinforced in accordance with the Strategic framework – settlement pattern maps (SFM-1 to SFM-4) and as defined in Table 3.3.2.2 – Strategic map designations and descriptions. Sufficient land has been allocated for residential, commercial, industrial and community uses to meet the needs of the region for at least twenty-five (25) years.

(2) Residential development within Rockhampton and Gracemere will occur in urban areas, urban infill and intensification areas and new urban areas (greenfield areas). These areas are shown on the strategic framework maps SFM-2 to SFM-3.

(3) Urban development in Mount Morgan will only occur within the urban area and local centre as shown on strategic framework map SFM-4.

(4) Residential development is compact, encourages strong neighbourhoods with attractive places for residents, makes efficient use of land and optimises the delivery and use of infrastructure and services. Expansion beyond these identified areas will not occur to ensure a focus on urban infill and intensification areas and to avoid further encroachment on natural assets and ecologically vulnerable areas.

(5) Sufficient land for employment growth has been identified in industrial areas, new industrial areas and centres (including proposed centres) at locations that can be most efficiently serviced with infrastructure and facilities.

(6) Future urban areas and future industrial areas are the preferred location for greenfield development beyond 2026.

(7) The settlement pattern provides for a diverse range of housing to meet changing demographic needs, and creates opportunities for more affordable living close to services and facilities. These housing options will help stimulate centres and community focal points, and assist in making the most efficient use of infrastructure and other public investment.

(8) Higher density development is focussed around centres and public transport nodes and corridors. Increased residential densities will be encouraged in the urban infill and intensification areas in a range of dwelling types that are located to make public transport, walking and cycling more convenient, safe and viable.

(9) The design of the built environment (including buildings, streets and public spaces) is consistent with the existing or desired character of the area and buildings are oriented to the street and public places. Development is undertaken in accordance with urban design principles.

(10) Centres provide for employment, retail, accommodation, entertainment and community services that meet the needs of residential communities that are well connected by the public transport network.

(11) Centres are based on a hierarchy that ensures the scale and form of development is appropriate to the location, and that the centres' roles and functions are appropriate within the wider planning scheme area.

(12) Centres are consolidated within designated areas, and expansion does not occur into adjoining residential areas.

(13) An integrated and high quality public open space network caters for the needs of residents, particularly in and around centres and higher density areas.

(14) The continuing viability of areas that provide for economic development such as industrial and specific use areas is protected from incompatible land uses.

(15) Limited rural residential areas provide for semi-rural living; however, these areas do not expand beyond the areas designated.

(16) The productive capacity of all rural land is protected.

(17) Rural lands and natural areas are maintained for their rural and landscape values.

(18) The scenic and environmental values of areas identified as nature conservation or natural corridor link are protected.

(19) The cultural heritage of Rockhampton is conserved for present and future communities.

(20) Development responds to natural hazards (flooding, bushfire, steep land, storm tide inundation and coastal erosion) by avoiding, mitigating, adapting and building resilience to natural hazards in areas mapped as being susceptible.

Complies. The proposed development will allow for the continuing viability of the surrounding industrial uses within the Gracemere Industrial Area. It is recognised that an animal management facility shares similar characteristics and external impacts with medium impact industrial uses, therefore the proposal can be considered consistent with the strategic framework in allowing for the continuing viability of areas that provide for economic development.

(ii) **Natural environment and hazards**

(1) The natural environment and landscape are highly valued by the community for their contribution to the planning scheme area's biodiversity, economic prosperity, culture, character and sense of place. These areas are to be protected from incompatible development.

(2) Development does not create unsustainable impacts on:

(a) the natural functioning of floodplains;

(b) environmentally significant areas, including areas of state and locally significant vegetation, which provide fauna habitat and support biodiversity; and

(c) the quality of water entering waterways, wetlands and local catchments.

(3) Development does not increase the risk to human life and property in areas that are affected, or potentially affected, by storm-surge, erosion, sea-level rise or other coastal processes, flooding, bushfire, or landslide. This occurs through the avoidance of natural hazards in new development areas, particularly greenfield areas and the mitigation of risks in existing built up areas.

(4) Strategic and iconic scenic and landscape values are protected from potential adverse impacts of development.

Complies. The proposed animal management facility is located within an established Industrial Area which is far removed from any environmentally significant areas. Further, the proposal is not located in an area affected by natural hazards and will not increase the risk to human life and property.

(iii) **Community identity and diversity**

(1) The quality of life of residents is enhanced through equitable access to social infrastructure, community services and facilities necessary to support community health and well-being.

(2) The community is self-sufficient and does not rely on services and facilities located in other regions. Development contributes to the provision of new social infrastructure, including land.

(3) Cultural heritage including character housing and heritage buildings are conserved and enhanced.

(4) Public places are safe, functional, characterised by good urban design, and include a range of facilities to encourage healthy and active lifestyles.

(5) Crime prevention through environmental design is achieved in urban areas including public spaces to improve public safety.

Complies. The proposed use is for an Animal Keeping (pound) facility and will provide support to the general community. Further, the proposed Animal Keeping (pound) is considered to be an important component to Council which services and supports the

community within the Rockhampton Region. The proposed facility has been strategically located within a well-established industrial area where it will share similar characteristics and external impacts to its surrounding uses. In addition, the proposal incorporates an appropriate level of insulation for acoustic and thermal purposes that meet the relevant Australian Standards.

(iv) **Access and mobility**

(1) Connectivity is achieved between residential uses, employment centres and services through the provision of active transport infrastructure integrated with efficient public transport services.

(2) The trunk transport network (as shown on the strategic framework maps SFM-9 to SFM-12 and in plans for trunk infrastructure in the local government infrastructure plan) supports the settlement pattern and the local economy by facilitating the efficient and safe movement of people and goods both within the planning scheme area (especially between the main urban centres of Rockhampton and Gracemere), and to and from other locations.

(3) The transport network encourages and supports active living in centres by providing for integrated walking, cycling, and public transport infrastructure to support a progressive reduction in car dependency.

(4) The safety and efficiency of transport infrastructure, including the Bruce and Capricorn highways and other state and local roads, rail, airport and seaports, are not compromised by development.

Complies. The subject site will gain access from Capricorn Highway via service roads. All required road infrastructure is existing and it is not envisaged that the proposal will negatively impact upon the existing road network.

(v) **Infrastructure and services**

(1) Infrastructure and services are planned and delivered in a logical and cost efficient manner in support of the planned settlement pattern. It is fit for purpose and is sensitive to cultural and environmental values. In particular:

(a) efficient, affordable, reliable, timely and lasting infrastructure makes best use of public resources;

(b) the long-term needs of the community, industry and business are met; and

(c) the desired standards of service in Part 4 — Local government infrastructure plan are achieved.

Complies. The proposal will be able to connect to all applicable infrastructure and services.

(vi) **Natural resources and economic development**

(1) The economy of the planning scheme area continues to grow and provides the community with diverse and new employment opportunities. Rockhampton continues to strengthen as the retail, service, cultural and administrative centre for both the planning scheme area and the wider Central Queensland region.

(2) The strategic importance of Rockhampton for transport and logistics industries is fostered, given its central location at the junction of the Bruce Highway, the Capricorn Highway (through to the Landsborough Highway) and the Burnett Highway (through to the Leichhardt Highway).

(3) The local community continues to value its traditional economic assets and natural resources and protects and conserves them and the contribution they make to maintaining and growing the region's economic prosperity, culture, character and sense of place. The region's traditional economic sectors of tourism and agriculture (including the iconic beef industry) continue to strengthen.

(4) Development protects and, where possible, leverages the intrinsic economic value of the region's natural resources, including productive grazing, agricultural and forestry land, extractive and mineral resources, marine and coastal resources, and existing and planned water resources, including watercourses, water bodies and groundwater.

(5) Natural assets identified by this planning scheme are protected as they underpin current and emerging tourism opportunities and important lifestyle values for residents.

Not Applicable. The proposal will not have any impacts on the natural resources and economic development within Rockhampton Region.

The performance assessment of the proposal demonstrates that the development will not compromise the strategic outcomes as highlighted within the *Rockhampton Region Planning Scheme 2015*.

Medium Impact Industry Zone

The subject site is situated within the Medium Impact Industry Zone under the *Rockhampton Region Planning Scheme 2015*. The purpose of the Medium Impact Industry Zone identifies that:

(1) The purpose of the medium impact industry zone code is to provide for medium impact industry uses. ***It may include non-industrial and business uses that support the industrial activities*** *where they do not compromise the long-term use of the land for industrial purposes. Activities considered appropriate in this zone are defined as medium impact industry in the schedule of definitions.*

(2) The local government purpose of the zone code is to:

(a) ensure that ***adequate, serviced and accessible land*** *for medium impact industry* ***is provided*** *and developed* ***in accordance with acceptable environmental standards and with minimal impacts on nearby sensitive land uses****; and*

(b) provide for medium impact industry zoned land in a number of locations throughout the region including Parkhurst, Park Avenue, and the Gracemere industrial area.

(3) The purpose of the zone will be achieved through the following outcomes:

(a) the zone accommodates a wide range of industrial uses that are likely to have off-site impacts, including manufacturing, transport and the like and require larger sites located away from sensitive land uses;

(b) existing industrial uses which are not low or medium impact industry *in nature continue to operate and expand in accordance with industry changes and demands, provided that any material changes in the intensity or scale of these uses do not worsen impacts. Should these industries cease to operate, new uses develop in accordance with the purpose for the zone;*

(c) the following uses are not located in the zone:

(i) high impact industries;

(ii) special industries; and

(iii) uses which are more appropriately located in centres including shops, stand-alone office, shopping centre, showrooms and retail hardware*;*

(d) ***sensitive land uses are not supported within the zone****;*

(e) in the Parkhurst and Park Avenue medium impact industry zoned areas, service industry *and* low impact industry *may be located within 250 metres of*

a residential or emerging community zone or an existing sensitive land use *within a zone other than industrial;*

(f) ***a limited range of non-industry uses that are ancillary to and support industrial uses and people employed in the area are located in the zone****. The scale of these uses does not compromise the role and function of existing or future planned centres and includes:*

(i) caretaker's accommodation *and ancillary administration offices associated with industrial uses;*

(ii) warehousing and retail associated with, but ancillary to industrial uses carried out on the same site*;*

(iii) small-scale food and drink outlets servicing the day-to-day needs of the industrial zone;

(iv) non-resident workforce accommodation *only when associated with an industrial use on the same* site *and located on an urban sub-arterial road or higher order road;*

(v) service station*;*

(vi) uses which would be incompatible in a centres zone as a result of the size or nature of goods sold or the fitting services provided (for example agricultural supplies store*, and bulk landscape supplies); and*

(vii) ***uses that share similar characteristics and external impacts with low or*** **medium impact industry** ***uses such as hours of operation or the nature of the use (for example indoor sport and recreation facilities)****;*

(g) the viability of existing and future medium impact industry uses is not affected by the intrusion of incompatible uses;

(h) large land holdings are provided to accommodate for large land consumptive industries;

(i) development is located, designed and managed to maintain safety to people, and to avoid significant adverse effects on the natural environment;

(j) development minimises adverse impacts on nearby non-industrial zoned land and sensitive land uses through building design, hours of operation, screening and landscaping;

(k) the scale, siting and form of development, including car parking areas and landscaping contributes to a high standard of amenity;

(l) development maximises the use of existing transport infrastructure and has safe and practical access to all modes of transport infrastructure and facilities, including airports and seaports;

(m) development is designed to incorporate sustainable practices including maximising opportunities for energy efficiency, water conservation, public and active transport *use;*

(n) development responds to land constraints, including but not limited to topography, bushfire and flooding constraints;

(o) development is connected to all infrastructure services available in the area; and

(p) the establishment of one (1) precinct within the zone where particular requirements are identified:

(i) Gracemere saleyards precinct.

The Animal Keeping facility shares similar characteristics and external impacts with medium impact industrial uses, therefore the proposal can be considered consistent with the purpose of the zone.

Rockhampton Regional Planning Scheme Codes

The following codes are applicable to this application: -

- Medium Impact Industry Zone Code;
- Flood Hazard Overlay Code;
- Access, Parking and Mobility Code'
- Landscaping Code;
- Stormwater Management Code;
- Waste Management Code; and
- Water and Sewer Code.

An assessment has been made against the requirements of the abovementioned codes and the proposed development generally complies with the relevant Performance Outcomes and Acceptable Outcomes. An assessment of the Performance Outcome which the application is in conflict with, is outlined below:

Medium Impact Industry Zone Code		
Performance Outcome/s		**Officer's Response**
PO5	Where located within 250 metres of either a residential zone or existing sensitive land use not located within an industrial zone, development does not create adverse impacts by way of noise, dust, hours of operation or unsightly activities.	The southwestern corner of the subject site is approximately 200 metres from a Low Density Residential Zone, located southeast of the site, opposite Capricorn Street. However, the proposed Animal Keeping facility will be located more than 340 metres away from the closest building located within the Low Density Residential Zone. There is also a densely vegetated creek between the subject site and the residential zone, with a width of approximately 140 metres which will screen the site completely. Furthermore, the Animal Keeping facility will incorporate additional sound control by insulating the facility for acoustic and thermal purposes. It will also be conditioned that the proposed development must achieve the noise generation levels set out in the *Environmental Protection (Noise) Policy 2008*. The proposed Animal Keeping facility will also incorporate additional landscaping along boundary fences to uplift the amenity of the area.

Based on a performance assessment of the above mentioned codes, it is determined that the proposal is acceptable and generally complies with the relevant Performance Outcomes and where there is deviation from the codes, sufficient justification has been provided.

INFRASTRUCTURE CHARGES

Adopted Infrastructure Charges Resolution (No. 5) 2015 for non-residential development applies to the application and it falls within Charge Area 1. The Infrastructure Charges are as follows:

Column 1 Use Schedule		**Column 2 Charge Area**	**Column 3 Adopted Infrastructure Charge**		**Column 4 Adopted Infrastructure Charge for stormwater network**		**Calculated Charge**
			($)	**Unit**	**($)**	**Unit**	
Specialised Uses	All other uses as per AICN 5/15 Table 2.2.1	All Areas	Decided by *Local Government* at time of assessment				
					TOTAL CHARGE		**N/A**

The proposed Animal Keeping is defined as being a Specialised Use in accordance with the Adopted Infrastructure Charges Resolution (No. 5) 2015 and all charges are to be decided by the Local Government at the time of assessment. Therefore, in this instance, no additional charges will be applicable.

CONSULTATION

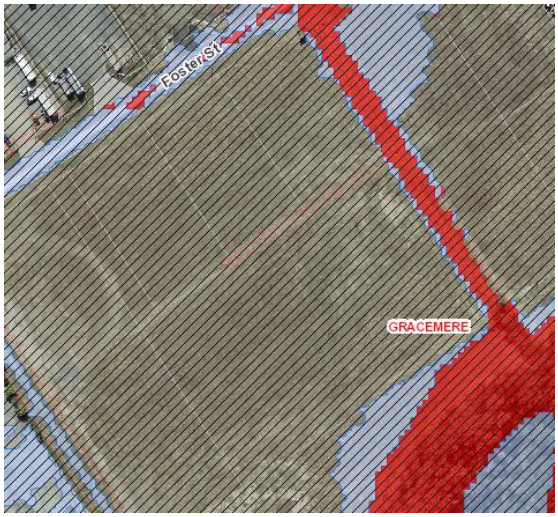
The proposal was the subject of public notification between 22 March 2017 and 12 April 2017, as per the requirements of the *Sustainable Planning Act 2009*, where fifteen (15) properly made submissions and seven (7) not properly made submissions were received. It is also noted that there was a petition including thirty-two (32) signatures received outside of the notification period.

The following is a summary of the submissions lodged, with Council officer comments:

Issue	**Officer's Response**
Planning Scheme	
• The proposed development is not consistent with Strategic Framework 3.8.2.1 (1) given that a pound is not considered a compatible use.	Section 3.8.2.1 (1) of the Strategic Framework outlines the protection of key economic assets which includes the Gracemere Industrial Area. The proposed animal management facility will allow for the continuing viability of the surrounding industrial uses within the Gracemere Industrial Area. It is recognised that an animal management facility shares similar characteristics and external impacts with medium impact industrial uses, therefore the proposal can be considered compatible development that will allow for continual growth of the industrial area.
• The proposed development is not consistent with Strategic Framework 3.8.3.1 given that it is clear that it is not the intent of industrial land to be used for a pound.	Section 3.8.3.1 of the Strategic Framework outlines specific outcomes for Industrial Development within the region. Specifically, the strategic framework aims to ensure the encroachment of uses other than industrial, do not limit their operation and expansion. It is considered that the development of the

Issue	Officer's Response
	animal management facility will not compromise the day to day operations and future expansion of the existing industrial uses located within the Gracemere Industrial Area. As identified, the proposed facility will have similar characteristics and impacts as the existing industrial uses within the area and as such, will allow for the ongoing viability of these uses.
• The proposed development is not consistent with the purpose of the Medium Impact Industry Zone Code given that animal keeping or a pound are not listed in 6.6.2.2.(3) (f) and are not considered an acceptable use for this land.	The proposed Animal Keeping facility is considered consistent with section 6.6.2.2.(3) (f)(iv) given that it shares similar characteristics and external impacts to a medium impact industry use.
• The proposed development does not comply with Acceptable Outcome AO15.2 of the Medium Impact Industry Zone Code given that the potential selling of animals is not consistent and it would set a precedence for other industrial uses to commence sales direct to the public.	The proposal is for a new Animal Keeping facility within the Rockhampton Region. The primary purpose of the Animal Keeping facility is the keeping of animals. Animals will from time to time be rehomed which may include the sale of the animals. The sale of animals is not the primary purpose of the facility and no precedent will be set for the sale of goods direct to the public.
• The proposed development does not comply with Performance Outcome PO16 of the Medium Impact Industry Zone Code given that it is unclear how the facility will deal with waste and it is likely that existing sewerage and stormwater infrastructure will be used. • The proposed development does not comply with Performance Outcome PO16 of the Medium Impact Industry Zone Code given that it is unclear how health and safety risks to the community in the form of disease control will be managed.	As per condition 1.5 of the proposed approval, the applicant will be required to address sewerage and stormwater works as part of an Operational Works application. In addition to this, condition 12.1, requires that any application for a Development Permit for Operational Works must be accompanied by a detailed Environmental Management Plan that addresses, but is not limited to, the following: (iii) noise and dust suppression; and (iv) waste management.
Environmental Health Issues The proposed pound will potentially cause potential Environmental Health Issues during day and night like: • Noise nuisances; • Smells; and • Disease probability Council cannot guarantee suitable noise abatement measures for barking dogs.	The proposed Animal Keeping facility achieves compliance with Performance Outcome 11 of the Medium Impact Industry Zone Code by maintaining the noise generation levels set out in the *Environmental Protection (Noise) Policy 2008* and air quality design objectives set out in the *Environmental Protection (Air) Policy 2008*. All appropriate measures have been undertaken within the design stages of the project to ensure Environmental Health Issues do not arise from the proposed development. In addition to this, condition 12.1, requests

Issue	Officer's Response
	that: • any application for a Development Permit for Operational Works must be accompanied by a detailed Environmental Management Plan that addresses, but is not limited to, the following: (v) noise and dust suppression; and (vi) waste management. Council has in place procedures to manage diseases in the unlikely event of any outbreak. There is no risk to the community. Therefore, it is noted that concerns associated with Environmental Health Issues will be addressed in further detail at the operational works stage.
Nearby Caretakers Residence • Noise nuisances by barking dogs during night time can disrupt operators sleep (within caretaker's accommodation on site) which could lead to accidents and incidents. • The proposed development is in close proximity to a number of caretakers residences which are utilised by transport workers. There is concern that the noise associated with the pound will result in impacts of fatigue management.	The proposed Animal Keeping facility achieves compliance with Performance Outcome 11 of the Medium Impact Industry Zone Code by maintaining the noise generation levels set out in the *Environmental Protection (Noise) Policy 2008*. The Industrial Area only supports a limited range of non-industrial uses that are ancillary to and support industrial uses and people employed in the area. This includes caretakers residences ancillary to an existing industrial use. The intent of an ancillary use (like a caretakers residence) should operate on a scale that does not compromise the role and function of existing or future planned uses within the area.
Devaluation of Property There are concerns that the proposed Animal Keeping facility will devalue the surrounding industrial properties.	Devaluation of property is not considered a planning ground. The proposed facility has been strategically designed to maintain and uplift the visual amenity of the area.
Flooding The subject site abuts onto a creek at the back and during heavy rain fall the subject site is impacted by creek flooding. It is unclear how the portion of the subject property identified as being flood affected will be used and managed by the proposal.	As per the *Rockhampton Regional Planning Scheme 2015* flood overlay mapping, the site remains predominately clear of flooding constraints. A very small portion of the site in the south-eastern corner is subject to Creek Catchment Flood Planning Area 1. This small portion will remain free of any structures and buildings and will not have any impacts on the proposed development.

Issue	Officer's Response
	 The conditioned operational works application will further address stormwater over the site.
Contamination of Waterway • The proposed development will have a very high risk in contaminating the waterway. • It is unclear how surface water or stormwater would be treated on site to ensure that the nearby waterway is protected from contamination.	The proposed location of the Animal Keeping facility is located adjacent to a creek which runs directly behind the allotment. The proposed facility will undertake standard practice for the removal of waste and does not propose any discharge into the creek. Condition 13.2 addresses the release of waste and stormwater. Furthermore, sewerage and stormwater will be addressed as part of the operational works stage.
Traffic Generation • The amount of traffic within the Gracemere Industrial Area is already busy with trucks, cars and buses. To add to this existing local traffic will not be in anyone's best interest. The safety on the roads will also be questioned. • The interaction between drivers who are inexperienced in sharing roads with heavy vehicles is a safety concern.	Foster Street is identified as an Industrial Access road with the other surrounding roads identified as Industrial Collectors as per the Rockhampton Regional Council Road Hierarchy Overlay. It is proposed that traffic associated with the proposed facility will be consistent with other medium impact industry uses within the area.
Incompatible Use • The Gracemere Industrial Area is not a suitable area for a pound. • The proposal is incompatible with existing and future industrial uses and will have a negative impact on the Gracemere Industrial Area. • Inappropriate use of prime industrial land.	The proposed development will allow for the continuing viability of the surrounding industrial uses within the Gracemere Industrial Area. It is recognised that an Animal Keeping facility shares similar characteristics and external impacts with medium impact industrial uses, therefore the proposal can be considered consistent with the strategic framework in allowing for the continuing viability of areas that provide for economic development.

Issue	Officer's Response
Community Consultation No consultation has been undertaken with the residences within proximity of the subject site.	This is not considered a planning ground.
Nearby Residential Areas The proposed development is located too close to an existing Low Density Residential Area.	The southwestern corner of the subject site is approximately 200 metres from a Low Density Residential Zone, located southeast of the site, opposite Capricorn Street. However, the proposed Animal Keeping facility will be located more than 340 metres away from the closest building located within the Low Density Residential Zone. There is also a densely vegetated creek between the subject site and the residential zone, with a width of approximately 140 metres which will screen the site completely. Furthermore, the Animal Keeping facility will incorporate additional sound control by insulating the facility for acoustic and thermal purposes. It will also be conditioned that the proposed development must achieve the noise generation levels set out in the *Environmental Protection (Noise) Policy 2008*. The proposed Animal Keeping facility will also incorporate additional landscaping along boundary fences to uplift the amenity of the area.
Property Size The property is not of sufficient size to allow the proposed development of a pound to meet the domestic and livestock needs of the community and maintain appropriate setbacks.	The proposed development has been strategically designed to meet the requirements of the Rockhampton Region. The proposal meets the Performance and Acceptable Outcomes of the Medium Impact Industry Code given that: • Site cover does not exceed 50%; • Appropriate building setbacks are achieved; and • Development has a high quality appearance and makes a positive contribution to the character of the area.
Miscellaneous	
• There is a psychological impact on humans that are subjected to the continuous and ongoing sound of dog barking.	This is not considered a planning ground.
• The previous pound location at Parkhurst was rejected in an industrial area with no caretakers residences. Why should this be approved in an industrial area where there are caretakers residences.	This is not considered a planning ground.

Issue	Officer's Response
• A pound facility would be far better suited beside the Gracemere Saleyards.	The Gracemere Saleyards site is owned by the State Government and is not a viable option.

REFERRALS

The proposal was not required to be referred to any referral agency in accordance with the *Sustainable Planning Regulations 2009*.

CONCLUSION

The proposal for establishing an Animal Keeping facility (pound) within the Medium Impact Industry Zone is considered to be a consistent use and can be supported by the *Rockhampton Region Planning Scheme 2015*.

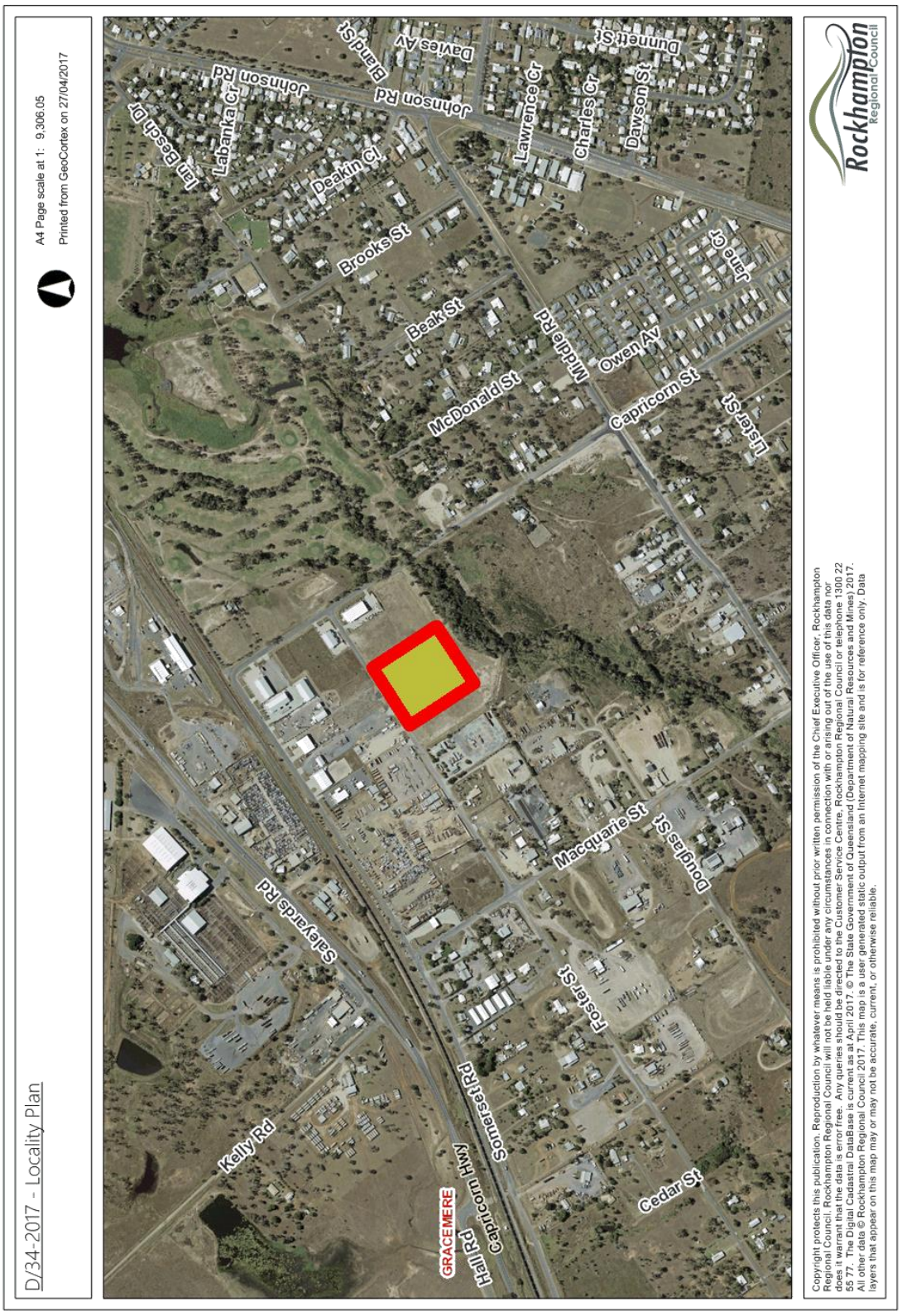
Therefore, the proposal for a Material Change of Use for Animal Keeping at 158 Foster Street, Gracemere, generally complies with the requirements of the planning scheme and is recommended for approval subject to conditions.

D/34-2017 - DEVELOPMENT APPLICATION FOR A MATERIAL CHANGE OF USE FOR ANIMAL KEEPING

Locality Plan

Meeting Date: 9 May 2017

Attachment No: 1


D/34-2017 - Locality Plan
A4 Page scale at 1: 9,306.05
Printed from GeoCortex on 27/04/2017
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Labanka Cr
Johnson Rd
Deakin Cr
Davies Av
Bland St
Lawrence Cr
Charles Cr
Dawson St
Dunnett St
Brooks St
Beak St
Middle Rd
Owen Av
Jane Cr
McDonald St
Capricorn St
Lister St
Salvards Rd
Macquarie St
Douglas St
Foster St
Somerset Rd
Capricorn Hwy
Hall Rd
GRACEMERE
Kelly Rd
Cedar St
Rockhampton Regional Council
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D/34-2017 - DEVELOPMENT APPLICATION FOR A MATERIAL CHANGE OF USE FOR ANIMAL KEEPING

Site Plan

Meeting Date: 9 May 2017

Attachment No: 2

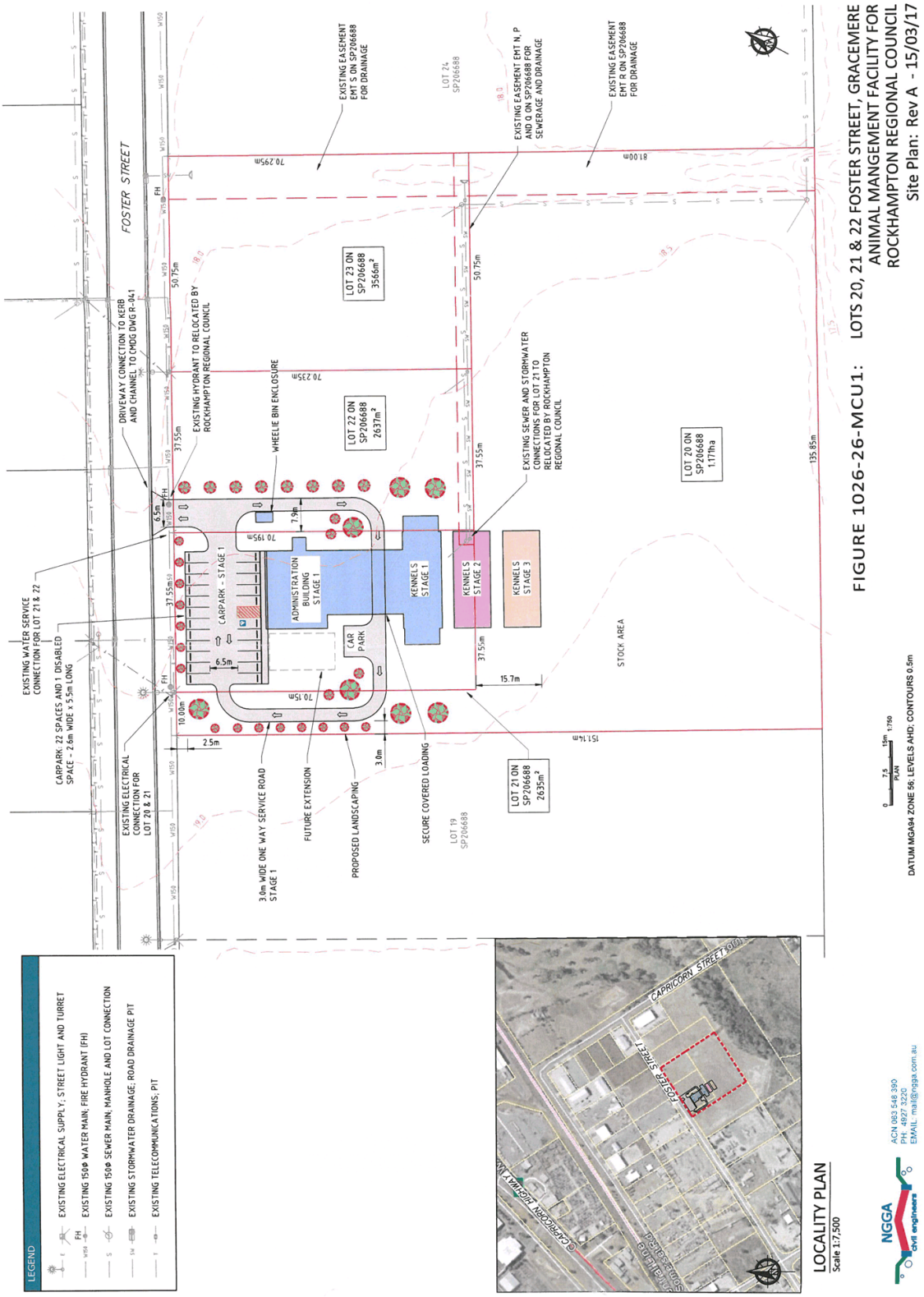


FIGURE 1026-26-MCU1: LOTS 20, 21 & 22 FOSTER STREET, GRACEMERE
ANIMAL MANGEMENT FACILITY FOR
ROCKHAMPTON REGIONAL COUNCIL
Site Plan: Rev A - 15/03/17

LOCALITY PLAN
Scale 1:7,500

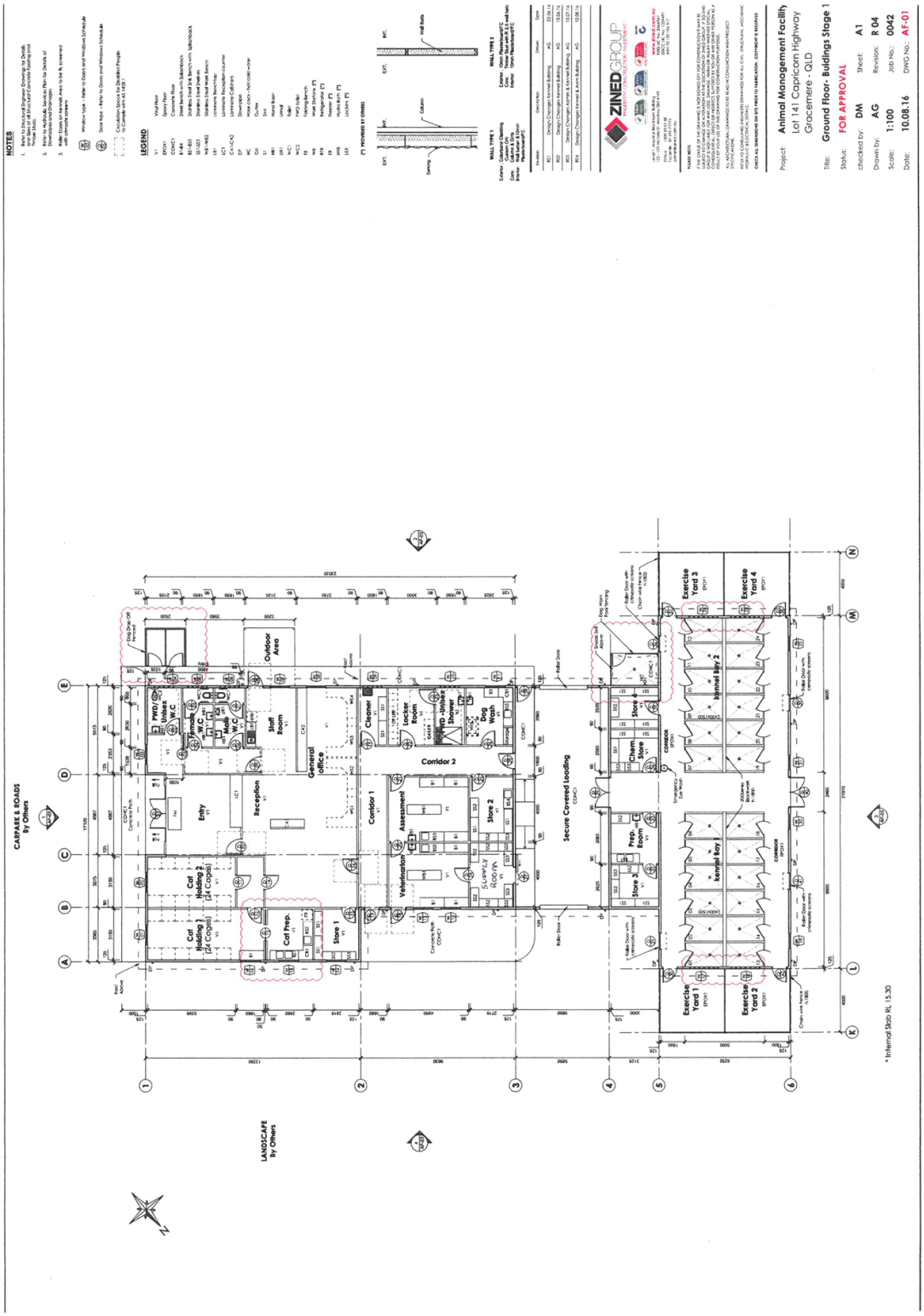
NGGA civil engineers
ACN 083 548 390
PH: 4927 2220
EMAIL: mail@nggа.com.au

D/34-2017 - DEVELOPMENT APPLICATION FOR A MATERIAL CHANGE OF USE FOR ANIMAL KEEPING

Floor Plan

Meeting Date: 9 May 2017

Attachment No: 3

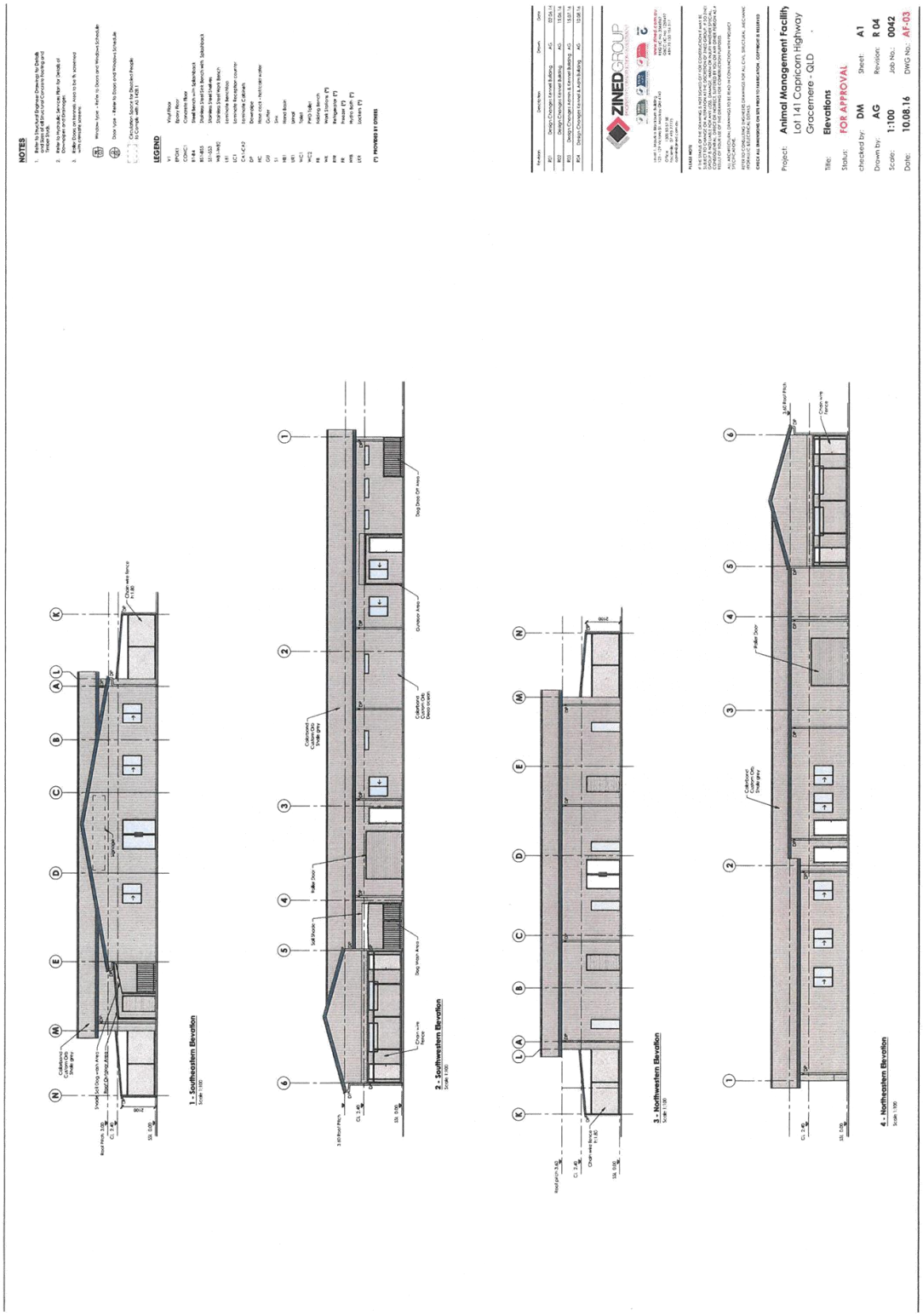

NOTES
LEGEND
CARPARK & ROADS By Others
LANDSCAPE By Others
Project: Animal Management Facility
Lot 141 Capricorn Highway
Gracemere - QLD
Title: Ground Floor- Buildings Stage 1
Status: FOR APPROVAL
Drawn by: AG
Scale: 1:100
Date: 10.08.16
DWG No.: AF-01
* Internal Slab RL 15.30

D/34-2017 - DEVELOPMENT APPLICATION FOR A MATERIAL CHANGE OF USE FOR ANIMAL KEEPING

Elevations

Meeting Date: 9 May 2017

Attachment No: 4

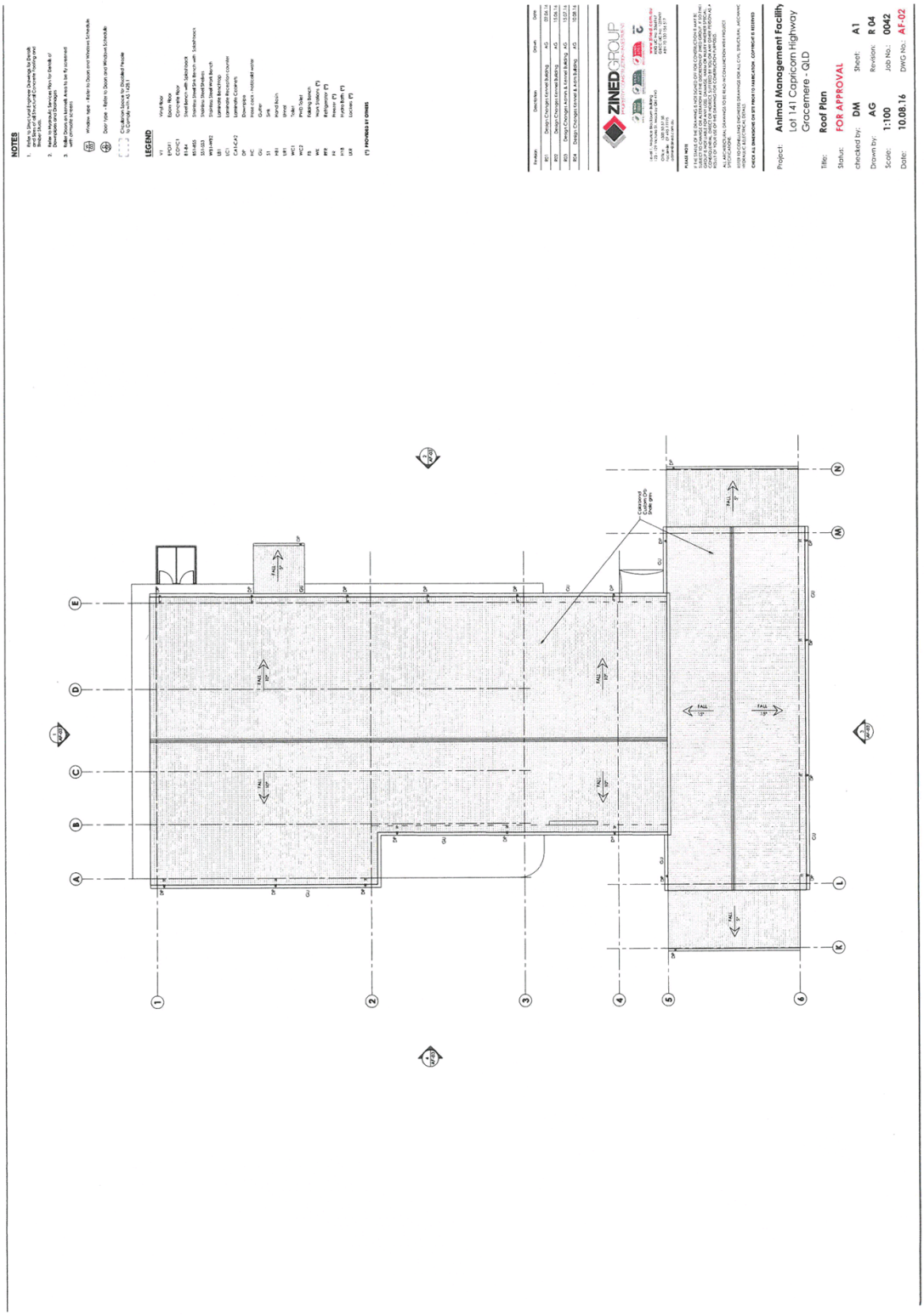

NOTES
LEGEND
1 - Southeastern Elevation
2 - Southwestern Elevation
3 - Northwestern Elevation
4 - Northeastern Elevation
ZINED GROUP
Project: Animal Management Facility
Lot 141 Capricorn Highway
Gracemere - QLD
Title: Elevations
Status: FOR APPROVAL
checked by: DM
Sheet: A1
Drawn by: AG
Revision: R 04
Scale: 1:100
Job No.: 0042
Date: 10.08.16
DWG No.: AF-03

D/34-2017 - DEVELOPMENT APPLICATION FOR A MATERIAL CHANGE OF USE FOR ANIMAL KEEPING

Roof Plan

Meeting Date: 9 May 2017

Attachment No: 5


NOTES
LEGEND
Project: Animal Management Facility
Lot 141 Capricorn Highway
Gracemere - QLD
Title: Roof Plan
Status: FOR APPROVAL
checked by: DM
Drawn by: AG
Scale: 1:100
Date: 10.08.16
Sheet: A1
Revision: R 04
Job No.: 0042
DWG No.: AF-02
ZINED GROUP

11.2 WORKS FOR QUEENSLAND PROJECT STEERING COMMITTEE

File No:	**12534**
Attachments:	**1. Minutes of Works for Queensland Steering Committee Meeting (Closed Session)**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Andrew Collins - Special Projects Officer**

SUMMARY

A meeting of the Works for Queensland Project Steering Committee was held on Thursday 20 April 2017 to discuss current status of the projects.

OFFICER'S RECOMMENDATION

THAT the Works for Queensland Project Steering Committee report be received.

COMMENTARY

The Works for Queensland Project Steering Committee met on Thursday 20 April 2017 to discuss current projects status and timeframes.

The minutes from this meeting are attached to this report as a confidential document.

It was resolved at the Ordinary Council meeting on 21 March 2017 that matters not within the project budget or are assessed as major by the Committee should be referred to Council for determination.

Accordingly the following matters were identified:

- Project allocation for the Rockhampton Showgrounds - new toilet block versus renovations to the People's Bar.
- Transfer program funding between 42nd Battalion Memorial Pool – Water Play and Cedric Archer Park – Water Play to cover cost variation in tenders.
- The Mayor has requested that multiple access versus single access for the Rockhampton Zoo and Botanical Gardens (Animal Enclosure Area) be brought back to Council for discussion.

11.3 TOUR OF CENTRAL HIGHLANDS AND CENTRAL WESTERN QUEENSLAND

File No:	**6137**
Attachments:	**1. Photos of inspection**
Authorising Officer:	**Chris Ireland - Manager Regional Development and Promotions** **Scott Waters - General Manager Regional Development and Aviation**
Author:	**Rick Palmer - Senior Executive Industry Engagement**

SUMMARY

This report outlines the results of a tour which Councillor Neil Fisher and Rick Palmer recently undertook of the Central Highlands and Central Western Queensland.

OFFICER'S RECOMMENDATION

THAT Council:

1. Receive this report;
2. Contribute a third of the cost of obtaining the report on the condition of the Capricorn Highway;
3. Support further improvements to the Capricorn Highway; and
4. Support the upgrading of the Blackall-Jericho Road and the Blackall-Alpha Road.

COMMENTARY

Councillor Neil Fisher, Councillor Tony Williams and Mr Rick Palmer (Senior Executive Industry Engagement) undertook a tour of Central Western Queensland on 21-25 February 2017 talking to elected representatives and senior staff from five local governments.

Central Highlands Regional Council

On Wednesday 22 February 2017 they met with Mayor Councillor Kerry Hayes (Central Highlands Regional Council), Michelle Webster (General Manager, Commercial Services), Gerhard Joubert (General Manager, Infrastructure & Utilities) and Sandra Hobbs (Central Highlands Development Corporation) and discussed east-west air flights and development of the Capricorn Highway.

Councillor Hayes said Council would consider supporting the flights and was prepared to consider contributing its share to an examination of the Capricorn Highway by the RACQ. The RACQ examination should cost approximately $5,000.00.

A copy of an article from *CQ News* regarding this discussion is attached to this report.

Winton Shire Council

That evening Councillor Fisher and Mr Palmer met with Mayor Councillor Butch Lennon, Councillor Judy Sale, Councillor Gavin Baskett and Deputy CEO Tony Beynon from the Winton Shire Council. The Winton delegation strongly supported the development of the east-west flying routes as it had the potential to significantly add to their tourism opportunities.

Longreach Regional Council

On Thursday 23 February 2017 the pair met with Mayor Councillor Ed Warren and CEO, Mr Ian Bodill from Longreach Regional Council. Councillor Warren supported the concept of east-west flights provided they did not detract from their present air flights and development of the Capricorn Highway.

Queensland Airports Limited

Later, Councillor Fisher and Mr Palmer met with Airport Manager, Mr Shorty Daniels and Operations & Support Officer, Ms Shelley Carr (Queensland Airports Limited), the operator of Longreach Airport, who supported development of the east-west flight routes. A copy of a photo of the Longreach Airport terminal is attached.

Barcaldine Regional Council

That afternoon the pair met with Mayor Councillor Rob Chandler and CEO, Mr Des Howard from Barcaldine Regional Council who supported the development of the plane flights and looked favourably upon contributing to the RACQ study of the Capricorn Highway. A photo of Councillor Fisher and Councillor Chandler is attached to this report.

Blackall-Tambo Regional Council

That afternoon Councillor Fisher and Mr Palmer inspected the Blackall airport. A copy of a photo of the Blackall airport terminal is attached.

On Friday 24 February 2017 the pair met with Mayor Councillor Andrew Martin and CEO, Mr Chris Blanch from Blackall-Tambo Regional Council who supported the development of east-west flights. They also had a particular interest in supporting the development of the Capricorn Highway on the basis the sealing of the Blackall-Jericho and the Blackall-Alpha Roads was finalised. A proportion of the cattle sold at the Blackall cattle yards are trucked north to the Capricorn Highway.

Councillor Martin similarly felt the Tambo-Springsure Road should be sealed to improve connectivity between the Central West and coastal Central Queensland. Councillor Martin showed Councillor Fisher and Mr Palmer over the well shaded and maintained Blackall cattle yards. The following five photos of the cattle yards are attached to this report:

1. General view of cattle yards from the south;
2. Loading/unloading ramp;
3. Cattle train on parking area;
4. A more recently constructed section of the cattle yards; and
5. Conditions of entry to the Blackall cattle yards.

Aramac Airport

On Friday afternoon the pair inspected the Aramac Airport which, other than irregular uses by medical aircraft, has not been in use for something like nine years. A photo of the Aramac airport is attached.

Alpha Airport

The following day they also inspected the Alpha Airport which appeared to be in working condition. A photo of the Alpha airport terminal is attached to the report, as is a photo of the tarmac.

TOUR OF CENTRAL HIGHLANDS AND CENTRAL WESTERN QUEENSLAND

Photos of inspection

Meeting Date: 9 May 2017

Attachment No: 1

Attachments:

1. Article from CQ News

Wednesday, March 1, 2017 themorningbulletin.com.au

COMING TOGETHER: Rockhampton Regional councillor Neil Fisher, Central Highlands Mayor Kerry Hayes, RRC's Tony Williams and general manager, Central Highlands Development Corporation, Sandra Hobbs. PHOTO: CONTRIBUTED

Councils unite to lobby for highway funds

TWO Central Queensland councils have joined forces to lobby for more State Government funding for one of the region's vital highways.

Last week, Rockhampton Regional councillors Tony Williams and Neil Fisher met with Central Highlands Regional Council to discuss how improvements to the Capricorn Hwy could enhance the region's economy.

Cr Williams said more State Government resources were needed to help drive economic growth in mining, tourism, agriculture and manufacturing.

"The Capricorn Hwy plays a significant role in the delivery of supplies for the mining industry and with the pending $22 billion Carmichael Mine in the Galilee Basin now is the time to allocate funds for highway upgrades into the government's future capital works program," he said.

"Investment in the highway needs to keep ahead of the development of the coal industry as mines move further into the Galilee Basin such as the China First mine in Alpha.

"By doing so it will assist in economic development and increase safety for all road users.

"Rockhampton and Central Highlands councils will also seek to co-fund an RACQ review of the Capricorn Hwy to highlight areas where safety needs to be improved.

"Improving road safety will improve the perception that the Capricorn Hwy is a traveller-friendly highway and this will translate into an increase in tourists travelling between Rockhampton and Barcaldine."

Central Highlands Mayor Kerry Hayes said the highway gave critical access to important services including medical, sporting and education opportunities.

"An investment in the highway is an investment in the people of Central Queensland, but also the future prosperity of our great region," Cr Hayes said.

CAPRICORN HIGHWAY

The 580km highway runs through:

- Rockhampton
- Gracemere
- Duaringa
- Dingo
- Bluff
- Blackwater
- Comet
- Emerald
- Anakie
- Alpha
- Jericho
- Barcaldine

2. Longreach Airport terminal

3. Cr Fisher meeting Cr Rob Chandler, Mayor of Barcaldine Regional Council

4. Blackall airport terminal

5. General view of the Blackall cattle yards from the south

6. Loading/unloading ramp at the Blackall cattle yards

7. Cattle train on the parking area at the Blackall cattle yards

8. A more recently constructed section of the Blackall cattle yards

9. Conditions of entry at the Blackall cattle yards

10. Aramac airport

11. Alpha airport terminal

12. Alpha airport tarmac

11.4 INSPECTION OF POSSIBLE ROADS USED BY ADANI AUSTRALIA

File No:	**8444**
Attachments:	**1. Road inspection photos**
Authorising Officer:	**Chris Ireland - Manager Regional Development and Promotions** **Scott Waters - General Manager Regional Development and Aviation**
Author:	**Rick Palmer - Senior Executive Industry Engagement**

SUMMARY

This report outlines the results of an inspection of possible Central Queensland roads which may be used by Adani Australia.

OFFICER'S RECOMMENDATION

THAT Council receives the report on inspection of possible roads used by Adani Australia.

COMMENTARY

Councillor Neil Fisher and Rick Palmer (Senior Executive Industry Engagement) undertook a tour of Central Western Queensland on 21-25 February 2017 and inspected some roads which have the capacity to service Adani Mining's Carmichael Mine.

Aramac-Lake Dunn Road

On Friday 24 February 2017 the pair drove 67km from Barcaldine to inspect the Aramac Airport. Mayor of Barcaldine Regional Council Cr Rob Chandler had spoken earlier that day about the recent completion of the sealing of the road from Aramac to Lake Dunn.

Lake Dunn is situated 65km north-north-east of Aramac and is approximately 25km south of the Adani mining lease. The Carmichael Mine is situated something like a further 30km from the lease boundary, making it something like 55km from Lake Dunn.

Most of the road has been sealed and much of the sealing can cater for two vehicles and is at a higher standard than the DTMR maintained Barcaldine-Aramac Road.

A copy of a photo of a notice at Lake Dunn is attached to this report.

Clermont-Alpha Road

The following day Cr Fisher and Mr Palmer drove the 178km from Alpha to Clermont.

The first third of the road up to the Belyando River is mainly sealed and maintained by the Barcaldine Regional Council. Most of it can cater for two vehicles.

There are two significant turnoffs to the west from the Clermont-Alpha Road. Hobartville Road is to the Alpha Mine while the second, Degulla Road, is a further 15km along the Clermont-Alpha Road, and leads to another mining site.

Copies of the following photos are attached to this report:

1. Bitumen road north of Alpha maintained by Barcaldine Regional Council
2. Gravel road north of Alpha maintained by Barcaldine Regional Council
3. Photo of Cr Fisher in front of the Hobartville Road sign
4. Photo of the Degulla Road sign
5. Photo of Clermont-Alpha Road looking north from Degulla Road
6. Photo of Native Companion Creek bridge
7. Photo of gravel road looking south from the Native Companion Creek bridge

The remaining two thirds of the Clermont-Alpha Road from the Belyando River to Clermont traverses some low hills and is maintained by the Isaac Regional Council. The road runs to the south of the Narrien Range National Park and closer to Clermont skirts along the southern edge of the Blair Athol and Aspley State Forests.

Most of this road is unsealed and really only caters for a single vehicle.

Copies of the following photos are attached to this report:

1. Photo of the Belyando River bridge
2. Photo of pavement damage on the Belyando River bridge
3. Photo of gravel road with bitumen on the road over some ridges
4. Photo of gravel road which is maintained by Isaac Regional Council
5. Photo of Laglan Road turnoff
6. Photo of part of the Clermont-Alpha Road from the Laglan Road turnoff

Three sections of the Clermont – Alpha Road are to be sealed in the immediate future. There has been a concerted campaign to seal more of this road.

INSPECTION OF POSSIBLE ROADS USED BY ADANI AUSTRALIA

Road inspection photos

Meeting Date: 9 May 2017

Attachment No: 1

1. Lake Dunn notice

2. Bitumen section of the Clermont-Alpha Road maintained by Barcaldine Regional Council

3. Gravel section of the Clermont-Alpha Road maintained by the Barcaldine Regional Council

4. Cr Fisher in front of the Hobartville Road sign

5. Degulla Road sign

6. Clermont-Alpha Road looking north from Degulla Road

7. Native Companion Creek bridge

8. Gravel road looking south from Native Companion Creek bridge

9. Belyando River bridge

10. Pavement damage on Belyando River bridge

11. Gravel road with bitumen over ridges on the Clermont-Alpha Road

12. Gravel road which is maintained by Isaac Regional Council

13. Laglan Road turnoff

14. Part of the Clermont-Alpha Road from the Laglan Road turnoff

11.5 STYX COAL PROJECT

File No:	**9718**
Attachments:	**1. Initial Advice Statement** **2. Draft Terms of Reference**
Authorising Officer:	**Chris Ireland - Manager Regional Development and Promotions** **Scott Waters - General Manager Regional Development and Aviation**
Author:	**Rick Palmer - Senior Executive Industry Engagement**

SUMMARY

This report recommends additions to the draft Terms of Reference for the Environmental Impact Statement.

OFFICER'S RECOMMENDATION

THAT the suggested amendments be referred to the Department of Environment & Heritage Protection.

COMMENTARY

Council has been requested by the Department of Environment & Heritage Protection to comment on the draft terms of reference for the Environmental Impact Statement for the Styx Coal Project which is being undertaken by Styx Coal Pty Ltd and Fairway Coal Pty Ltd.

The proposed project will be located about 130 kilometres north Rockhampton, close to Ogmore and will be regulated by the Livingstone Shire Council.

The proposed project has important service and transport implications for the Rockhampton Regional Council

Terms of Reference

The Terms of Reference set out the majority of issues which the proponents need to cover to provide a complete Environmental Impact Statement for the proposed project.

A copy of the Initial Advice Statement and draft Terms of Reference are attached to this report.

It is recommended the following changes be referred to the Department:

1. Add another definition in the glossary for "Drive In Drive Out" as "DIDO";
2. In paragraph 4 of 1.2 the project description in the draft terms of reference there could me a mention that the second option of using the Gladstone coal terminals would involve transporting the coal though the built-up, residential centre of Rockhampton;
3. In paragraph 2.2.5.1 the proposed development of the draft terms of reference needs to refer to DIDO workforce in addition to FIFO workforce;
4. In paragraph 2.2.5.3 Proposed construction and operations of the draft terms of reference needs to include a reference to transferring their product through built-up residential areas; and
5. Paragraph 2.16 Social and economic of the draft terms of reference needs to refer to DIDO workforce as well as FIFO workforce.

STYX COAL PROJECT

Initial Advice Statement

Meeting Date: 9 May 2017

Attachment No: 1

Styx Coal

FairwayCoal

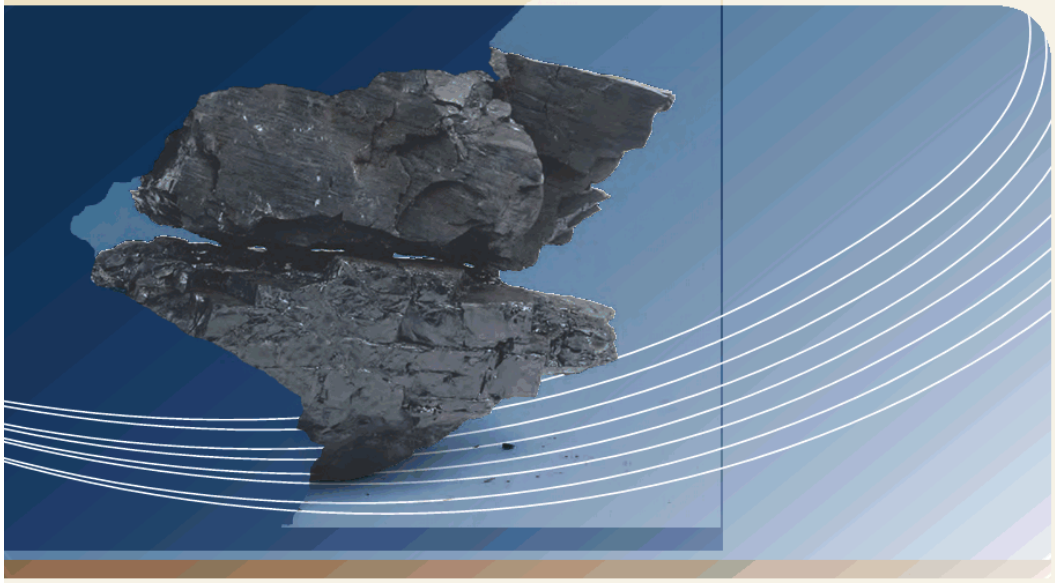
Styx Coal & Fairway Coal

Styx Coal Project

Initial Advice Statement

December 2016

CDM Smith



Fairway Coal Pty Ltd • GPO Box 1538, Brisbane Q 4001 •www.fairwaycoal.com

Table of Contents

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Acronyms and Abbreviations

Acronyms and abbreviations used in this document are tabulated below.

Acronym	Description
AHD	Australian Height Datum
ANC	Acid neutralising capacity
AUSIMM	Australian Institute of Mining and Metallurgy
BoM	Bureau of Meteorology
CCL	Capricornia Coastal Lands
CHPP	Coal handling and preparation plant
CLR	Contaminated Land Register
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DERM	Department of Environment and Resource Management (former)
DNRM	Department of Natural Resources and Mines
DotEE	Department of the Environment and Energy (Commonwealth)
EA	Environmental Authority
EC	Electrical conductivity
EHP	Department of Environment and Heritage Protection
EIS	Environmental Impact Statement
EMR	Environmental Management Register
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPC	Exploration Permit for Coal
EPM	Exploration Permit for Minerals
ERA	Environmentally Relevant Activities
EVNT	Endangered, vulnerable and near threatened
GBR	Great Barrier Reef
GMU	Groundwater Management Unit
GQAL	Good Quality Agricultural Land
HGTC	High grade thermal coal
HME	Heavy Mobile Equipment
HV	Heavy vehicle
ICMM	International Council on Mining and Metals
IAS	Initial Advice Statement
JORC	Joint Ore Reserves Committee
Kv	kilovolt
MCC	Motor control centres
MDL	Mineral Development Licence
MIA	Mine Industrial Area
ML	Mining lease
MLA	Mining lease application
MR Act	*Mineral Resources Act 1989*
Mt	Million tonnes
Mtpa	Million tonnes per annum
NAF	Non-Acid Forming
NC Act	*Nature Conservation Act 1992*
OECD	Organisation for Economic Co-operation and Development
OF	Optical fibre
PAF	Potentially Acid Forming
PLC	Programmable logic controls
RE	Regional Ecosystem
RMP	Road Use Management Plan
ROM	Run of mine
SCADA	Supervisory Control and Data Acquisition
SCL	Strategic Cropping Land
SDS	Safety data sheets
SHMS	Safety and Health Management System

Acronym	Description
SSCC	Semi-soft coking coal
STP	Sewage treatment plant
TEC	Threatened ecological communities
TLF	Train loadout facility
TMP	Traffic Management Plan
ToR	Terms of Reference
VM Act	*Vegetation Management Act 1999*

1 Introduction

1.1 Background

Styx Coal Proprietary Limited (Styx Coal) and Fairway Coal Proprietary Limited (Fairway Coal) (the joint Proponent), both wholly owned subsidiaries of Mineralogy Proprietary Limited propose to develop the Styx Coal Project (the Project) located 130 km northwest of Rockhampton in the Styx Basin in Central Queensland (see Figure 1-1). The Project will be located within Mining Lease Application (MLA) 80178, which is adjacent to Mineral Development Licence (MDL) 468 and Exploration Permit for Coal (EPC) 1029.

The Project will initially involve the mining of an approximately 2 million tonnes per annum (Mtpa) with options of increasing to 5 or 10 Mtpa of high grade thermal coal (HGTC) and/or semi-soft coking coal (SSCC). Development of the Project is expected to commence in 2018 and extend for approximately 20 – 25 years until the current reserve is depleted.

The Project consists of two open cut pit operations that will be mined using a truck and shovel methodology. The run-of-mine (ROM) coal will commence at 2 Mtpa with options to ramp up to approximately 5 Mtpa during Stage 1 (Year 1-2), where coal will be crushed and screened to HGTC with an estimated 95% yield. Stage 2 of the Project (Year 2-20) will include further processing of the coal within a coal handling and preparation plant (CHPP) which will be located in the Mine Industrial Area (MIA) to produce SSCC, with an estimated 80% yield. During Stage 2 of operation, production could potentially increase to a combined 10 Mtpa of HGTC and SSCC.

A new train loadout facility (TLF) will be developed to connect into the existing North Coast Rail Line. The TLF will require all new infrastructure and connect to the existing north coast rail network which will allow transport of the product coal to the established coal loading infrastructure at the Dalrymple Bay Coal Terminal (DBCT). There also exists the option to utilise southern coal terminals in Gladstone.

The Project is generally within the Livingstone Shire Regional Council area and is located on gently undulating plains and slopes. TLF Option 5 is located nearby to Wumalgi within the Isaac Regional Council area. The nearest major regional centre is Rockhampton, located approximately 130 km to the south of the Project (see Figure 1-1). Apart from the TLF, the Project is located on the Mamelon property, described as real property Lot 11 on MC23, Lot 10 on MC493 and Lot 9 on MC496. Mamelon is currently owned by QNI Metals Pty Ltd and leased to a third party.

The typical elevation of the proposed MLA ranges from 4.5 to 155 metres above Australian Height Datum (AHD). The Project area has several ephemeral creeks that drain the site to the east towards St Vincent Gulf.

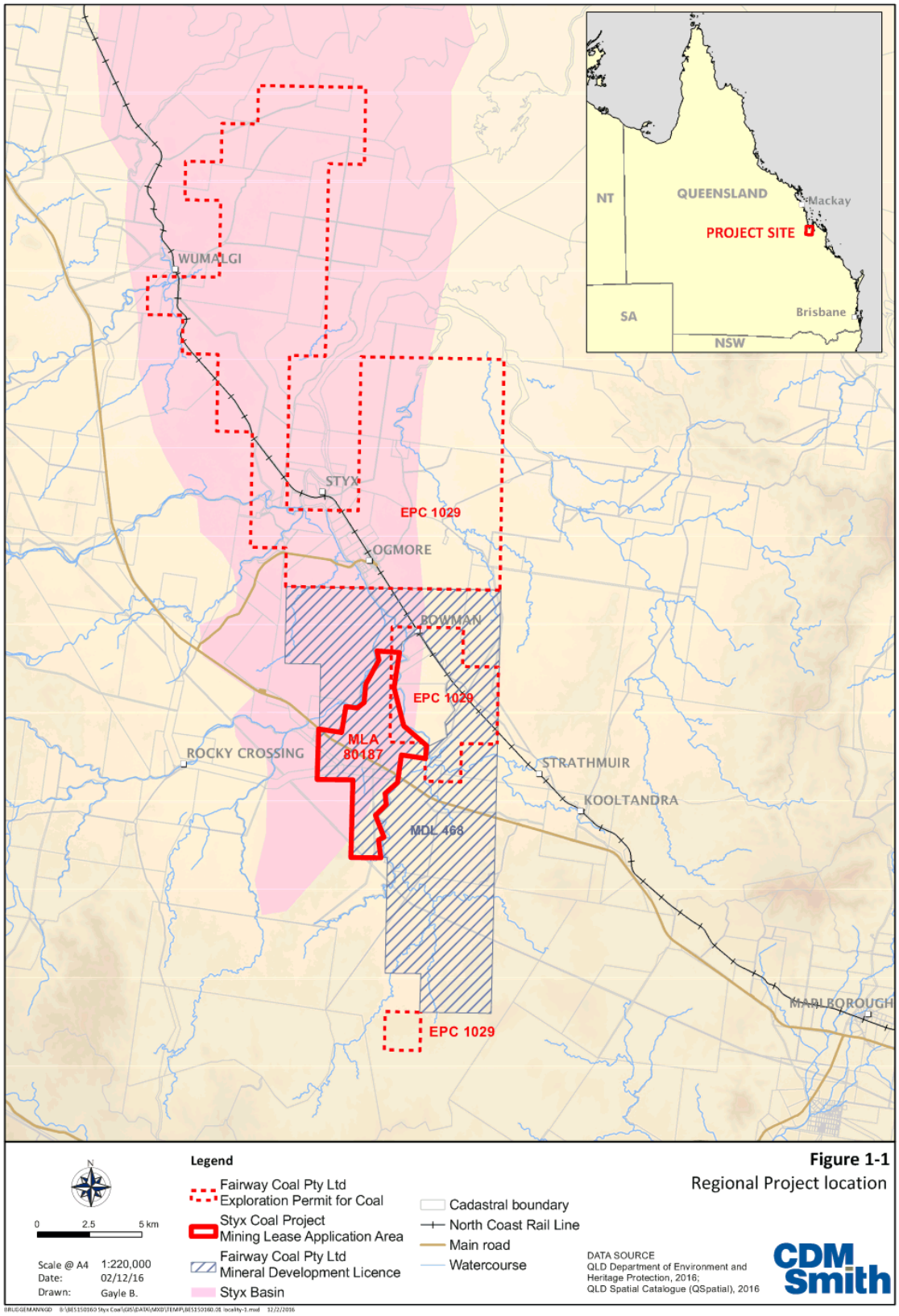


Figure 1-1
Regional Project location

1.2 The Proponent

The Project will be developed and operated by Fairway Coal and Styx Coal. Both companies are private companies and are subsidiaries of Mineralogy Pty Ltd (Mineralogy).

Fairway Coal is a privately owned Australian coal exploration and coal development company that holds extensive mining concessions within the rich mineral basins of Laura, Bowen, Surat, Moreton, Nymboida and the Northern Territory, in addition to the Styx Basin.

The contact details for the Project are:

Nui Harris

Managing Director

Fairway Coal Pty Ltd

GPO Box 1538

Brisbane Qld 4001

1.3 Project Justification

The Project will produce both thermal (HGTC) and coking (SSCC) coal for export. Thermal and coking coals are in demand globally to generate electricity and steel, respectively. Recent demand for both thermal and coking coal has increased significantly with spot prices reaching US$100 and US$300 free on board (FOB), respectively. Quarterly contract sale prices have also significantly increased with the next quarter contracts for thermal and coking coal reaching US$100 and US$200/tonne FOB respectively. As an indication of the extent to which global demand has changed, coking coal spot price (daily market price), was $US73.40/tonne in November 2015 and in November 2016 prices reached $US289.30/tonne; a four year high (~400% increase) (Office of the Chief Economist, 2016; Kerr, 2016). The demand for thermal and coking coal, and subsequent coal spot prices makes this project economically viable.

With respect to thermal coal, the United States (US) International Energy Agency (IEA) predicts global energy consumption to grow by 37 per cent (%) by 2040 (US IEA, 2014). This is taking in to account existing and planned government policies regarding climate change. In 2040, natural gas, oil and coal will each account for roughly one-quarter of the world's energy needs (US IEA, 2014).

Among these fossil fuels, coal demand is predicted to grow most rapidly, driven largely by growth in non-Organisation for Economic Co-operation and Development (OECD) countries. Asia accounts for 60% of the growth of energy demand and it is predicted that by 2025, China will make up 24% of the global energy demand. From 2025 to 2040, India is likely to take over China as the main source of global demand growth (US IEA, 2014). Increases in demand are predicted to continue for approximately the next ten years (US IEA, 2014).

Australia exported 201 million tonnes (Mt) of thermal coal during the 2014 – 2015 financial year, valued at over $15 billion, and is expected to increase to 202 Mt with a revenue of $14 billion this financial year (Office of the Chief Economist, 2015). Australia's thermal coal exports are expected to increase by 11% per annum between 2013 and 2017, from approximately 162 Mtpa to approximately 271 Mtpa (Australian Coal Association, 2012). South east Asian thermal coal demand is expected to triple in the next 25 years (IEA, 2015a). The Styx Coal Project will help supply the demand growth.

As with thermal coal, non-OECD countries are also predicted to drive global growth in coking coal consumption and production over the medium term as steel is required to support growing infrastructure needs (Office of the Chief Economist, 2015). Australia exported 183 Mt of coking coal during 2014 – 2015 financial year, valued at over $21 billion, and this is expected to increase to 191 Mt this financial year (2015-2016) at a relative value of $20 billion (Office of the Chief Economist, 2015). Importantly, about $1.61 billion (80%) of the royalties paid to the Queensland Government in 2014–15 were attributed to coal sales. With increased pricing in both thermal and coking coal it is expected that the royalty contribution will increase.

Australian production rates of coking coal are expected to increase at a rate of 2.1% per year until 2020. This growth will be supported by new projects such as the Project. The current increases in global demand for coal and forecast increases in production support the justification for the Project.

1.4 Purpose and Scope of the Initial Advice Statement

The Proponent is seeking to have the Project assessed via an Environmental Impact Statement (EIS) prepared under Chapter 3 of the *Environmental Protection Act 1994* (EP Act). In accordance with Section 71 of the EP Act, this Initial Advice Statement (IAS) has been prepared to support the application for a voluntary EIS.

The purpose of this IAS is to provide sufficient information to:

- Assist the Queensland Government Department of Environment and Heritage Protection (EHP) in assessing the application to prepare a voluntary EIS;
- Assist the Department of the Environment and Energy (DotEE) with the assessment of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) referral;
- Inform preparation of a Terms of Reference (ToR) for the voluntary EIS; and
- Inform stakeholder and the general public about the nature, scope and location of the Project, and key environmental issues that will be investigated through the EIS process.

2 Project Approvals

2.1 Commonwealth Approvals

2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act provides a legal framework to protect and manage Matters of National Environmental Significance (MNES) including nationally and internationally important flora, fauna, ecological communities, heritage places and water resources. The EPBC Act implements obligations under international conventions and treaties, such as protection of migratory species (Migratory Bird Agreements and Bonn Convention, 1979) and World Heritage Area values (World Heritage Convention, 1972).

The EPBC Act is administered by DotEE and establishes a process for assessment and approval of proposed actions that have, or are likely to have, a significant impact on MNES. Proponents refer projects to DotEE initially for determination on whether a project is a controlled action or not a controlled action. If the referral is deemed to be a controlled action, then it is likely to have a significant impact on MNES and must be undertaken in accordance with prior approval from the Minister

The Proponent will lodge a Referral Application to DotEE under the EPBC Act. It is anticipated that the Project will be declared a controlled action requiring assessment by an EIS process accredited under the bilateral agreement between the Commonwealth and Queensland Governments.

Controlling provision are anticipated to be:

- Listed and threatened species and communities (Section 18 and 18 A);
- Listed migratory species (Section 20 and 20A); and
- Water resources (Section 24D and 24E).

The EPBC Act also establishes the Australian Heritage List, which includes natural, Indigenous and historic places that are of outstanding heritage value to the nation. The Act also establishes the Commonwealth Heritage List, which comprises natural, Indigenous and historic places on Commonwealth lands and waters or under Australian Government control, and identified by the Minister for the Environment (the Minister) as having Commonwealth Heritage values. There are no listed areas within or adjacent to the MLA area.

The EPBC Act Environmental Offset Policy provides upfront guidance on the role of offsets in environmental impact assessments, and how the department considers the suitability of a proposed offset. Offsets are defined as measures that compensate for the residual impacts of an action on the environment, after avoidance and mitigation measures are taken. This policy aims to improve environmental outcomes through the consistent application of best practice offset principles and encourage advanced planning of offsets. Offsets will be considered during the assessment phase of the environmental impact assessment and the suitability of a proposed offset is considered as part of the decision to approve or not approve a proposed action under the EPBC Act.

2.1.2 Native Title Act 1993

The *Native Title Act 1993* (Cth) (NT Act) recognises the land rights and interests of Indigenous peoples where they have historically resided and regulates the conduct of 'future acts', including development. The legislation provides for the determination of Native Title claims, the treatment of 'future acts' that may impact on Native Title rights and the requirement for consultation and/or notification to relevant claimants where 'future acts' are involved. The provisions of the NT Act are administered by the National Native Title Tribunal.

The National Native Title Tribunal is established under the NT Act to work with people to understand Native Title and reach outcomes that recognise everyone's rights and interests in land and waters.

The Darumbal People have a current Native Title claim over the area where several of the TLF options are proposed (Tribunal Number: QC2012/008) and the Barada Kabalbara Yetimarala People have a current Native Title claim over the area where the mine pits, ancillary infrastructure are proposed (Tribunal Number: QC2013/004). The MLA area on freehold land on which Native Title has been extinguished. Depending on which TLF option is selected, the existence of Native Title over the haul road and TLF will vary.

2.1.3 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The purpose of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) (ATSIHP Act) is to preserve and protect from injury or desecration, areas and objects in Australia and in Australian waters that are of particular significance to Aboriginals in accordance with Aboriginal tradition. The ATSIHP Act enables Traditional Owners to make an application to DotEE to declare certain areas or objects as protected. The ATSIHP Act also includes provisions to manage the discovery and appropriate management of Aboriginal remains.

2.1.4 National Greenhouse Energy Reporting Act 2007

The *National Greenhouse and Energy Reporting Act 2007* (Cth) (NGER Act) provides a single national reporting framework for the reporting and dissemination of information related to Greenhouse Gas (GHG) emissions, GHG projects, energy consumption and energy production of corporations. The NGER Act imposes various registration, reporting and record-keeping requirements.

The NGER Act provides the framework for mandatory reporting of GHG emissions and production and consumption of energy when threshold values are exceeded by a corporation or single facility. Threshold values relevant to the Project are provided in Table 2-1. If these threshold values are exceeded the Proponent as the controlling corporation (as defined under the NGER Act) will apply to the Greenhouse and Energy Data Officer to register on the National Greenhouse and Energy Register. If these values are exceeded, the Proponent must provide annual reports to the data officer on its GHG emissions, energy production and consumption.

Table 2-1 Threshold values of greenhouse gas emissions and production

	Threshold values		
	Emission of GHG	Energy production	Energy consumption
Controlling corporations	50 kilotonnes per year of carbon dioxide equivalence (CO_2-e)	200 terajoules per year	200 terajoules per year
Single facility	25 kilotonnes per year of CO_2-e	100 terajoules per year	100 terajoules per year

The Technical Guidelines (For the Estimation of Greenhouse Gas Emissions by Facilities in Australia) (Department of Climate Change and Energy Efficiency (DCCEE), 2011) will be used to estimate emission quantities relevant to coal mining activities and to determine if the NGER Act would apply to the Project.

2.2 State Approvals

Queensland legislation of relevance to the Project includes:

- *Mineral Resources Act 1989*;
- *Mineral and Energy Resources (Common Provisions) Act 2014*
- *Environmental Protection Act 1994;*
- *Regional Interests Planning Act 2014;*
- *Environmental Offsets Act 2014;*
- *Water Act 2000;*
- *Coal Mining Safety and Health Act 1999;*
- *Work Health and Safety Act 2011*; and
- *Mineral and Energy Resources (Common Provisions) Act 2014.*

2.2.1 Mineral Resources Act 1989

The *Mineral Resources Act* (MR Act) provides for the assessment, development and utilisation of mineral resources. The MR Act establishes a framework to facilitate mining-related activities, through the leasing of prospecting, exploration, mineral development and mining tenure. The MR act is administered through DNRM.

Granting of a Mining Lease (ML), in conjunction with the issuing of an Environmental Authority (EA) from EHP under the EP Act, entitles the holder to mine specified minerals and carry out activities that are associated with or support the mining activity. The Proponent is seeking the approval for MLA 80187.

Once approved a ML provides entitlements to:

- Enter and be on the ML for mining purposes or transportation through land to access the mining area;
- Use any sand, gravel and rock within lease area for mining activities;

- Prospecting, exploring or mining;
- Processing a mineral won or extracted by the mining;
- An activity that is directly associated with, or facilitates or supports, the mining or processing of the mineral; and
- Rehabilitating or remediating environmental harm because of a mining activity.

The MR Act also sets royalty payments, rents, landholder compensation and notification requirements which the Proponent must comply.

Section 4A of the MR Act precludes the application of the *Sustainable Planning Act 2009* (SP Act) to activities undertaken for purposes of the mining tenure, with the exception of provisions in relation to the *Queensland Heritage Act 1992*. It also makes building work controlled under the *Building Act 1975* self-assessable development within the lease.

Pursuant to the *Mineral Resources Regulation 2003*, various restricted areas have been declared across parts of Queensland that limit exploration and mining activities. Restricted areas may occur within the proposed ML boundaries such as bores and dams and if so, consents to surface rights over these restricted land areas will be required as a prerequisite to grant of the MLs.

2.2.2 Mineral and Energy Resources (Common Provisions) Act 2014

This Act governs land access, limits circumstances to objections on environmental approvals, sets out measures for amends the overlapping tenements regime for coal and CSG, and the mining lease application process for Queensland mining projects. On-tenure land access remains similar; however, there are additional land access framework in place for access to off tenure lands. The processes under this Act will be relevant to the Project once the mining lease application is lodged.

2.2.3 Environmental Protection Act 1994

The EP Act provides the key legislative framework for environmental management and protection in Queensland. The objective of the EP Act is to: 'Protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains ecological processes on which life depends' (s 3). Under the EP Act, the Proponent must comply with the general environmental duty not to undertake an: 'Activity that causes, or is likely to cause, environmental harm unless…all reasonable and practicable measures to prevent or minimise the harm are taken' (s 319).

The process for obtaining an EA for mining activities is established in Chapter 5 of the EP Act. According to the Act, the Project requires a site–specific application for ineligible Environmentally Relevant Activities (ERAs) (s 124), that is for which eligibility criteria are not in effect. The EA imposes environmental management conditions based on EHP's Model Mining Conditions on mining activities undertaken on the ML that the Proponent must comply with. The EIS will establish if the model mining conditions are acceptable or identify areas where suitable alternatives to model conditions are appropriate for the Project and existing background EVs. EHP is the regulatory authority that has responsibility for administration of EAs, oversight of compliance and retaining financial assurance bonds to ensure the area is suitably rehabilitated.

Under changes from *Environmental Protection (Greentape Reduction) and Other Legislation Amendment Act 2012* which commenced on the 31 March 2013, the EIS for the Project will satisfy the Information and Notification stages for EAs and the EA conditions are expected to largely

comprise the model mining conditions. Upon lodgement of the EA application the application will only require the decision stage to be completed, thus reducing the duplication of information submission and public notification which previously existed.

The Proponent has lodged an application for a Voluntary Environmental Impact Statement under the EP Act. The Project is expected to be assessed under Chapter 3, Part 1 of the EP Act. The Proponent proposes to prepare a single EIS that satisfies the requirements of the Commonwealth and State Terms of Reference through the accredited bilateral assessment process.

The Proponent will apply for a site specific EA to undertake ERAs. Pursuant to the EP Act, ERAs are activities that will, or have potential to, release contaminants into the environment and which may cause environmental harm. The EA is an integrated authority that allows for the carrying out of multiple ERAs that are part of a project. The anticipated ERAs applicable to the construction and operational stages are listed in Table 2-2.

Table 2-2 Anticipated ERAs for the Project

ERA Reference	Relevant Activity
ERA 8 (1)(a)	Chemical Storage – more than 500 m^3 of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3; or (EP Regulation – Schedule 2, Part 2).
ERA 13	Mining Black Coal
ERA 31 (2b)	Mineral Processing – processing in a year >1,000,000 tonnes or more of mineral products (EP Regulation – Schedule 2, Part 7).
ERA 63 1(a)	Sewage Treatment – operation of a sewage treatment works with a total daily peak capacity of 21 equivalent persons.

2.2.3.1 Notifiable Activities

Land contamination and activities that have been identified as likely to cause land contamination are listed as notifiable activities in Schedule 3 of the EP Act. Any person undertaking these notifiable activities must notify EHP and the land is recorded on the Environmental Management Register (EMR). Potentially notifiable activities associated with the Project are listed in Table 2-3.

Table 2-3 Anticipated notifiable activities for the Project

Item number (Schedule 3 EP Act)	Description of activity
1	Abrasive blasting—carrying out abrasive blast cleaning (other than cleaning carried out in fully enclosed booths) or disposing of abrasive blasting material.
23	Metal treatment or coating - treating or coating metal including, for example, anodising, galvanising, pickling, electroplating, heat treatment using cyanide compounds and spray painting using more than 5L of paint per week.
24	Mine wastes – (a) Storing hazardous mine or exploration wastes, including, for example, overburden or waste rock dumps containing hazardous contaminants; and (b) Mining or processing, minerals in a way that exposes faces, or releases groundwater, containing hazardous contaminants.
29	Petroleum product or oil storage in above ground tanks.
37	Waste storage, treatment or disposal – storing, treating, reprocessing or disposing regulated waste including operating a sewage treatment facility with on-site disposal facilities.

Note: Under Section 371 of the EP Act, the owner or occupier of land must notify EHP within 22 business days of becoming aware of the notifiable activity having occurred or going to occur on the subject land.

2.2.3.2 Regulated and Hazardous Waste Dam

The final EA approved for the Project will include conditions that require the Proponent to have the consequence category of structures which are dams or levees constructed as part of the Project (EHP, 2016a). The hazard assessment will determine whether a structure is a 'regulated structure' for the purpose of the EA. Assessments are carried out by a 'suitably qualified and experienced person' in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (the Manual) (EHP, 2016b).

Structures may be assessed using the Manual as being in one of three consequence categories: low, significant or high. This consequence category is based on its potential impact to humans, livestock, the environment or general economic loss in the event the structure overflows or fails. Dams are automatically classified as high or significant hazard dams if the dam wall exceeds a height of 10 metres (m) or the quality of the stored water exceeds EHP's contaminant concentration criteria and minimum volume requirements. Where categorised as a significant or high consequence, the structure is referred to as a regulated structure.

Regulated dams must be able to withstand seasonal rainfall events without releasing contaminants from the dam in an unauthorised manner. A minimum available storage, called a design storage allowance, is required to be estimated for regulated dams in accordance with the Manual, in order to accommodate seasonal rainfall to a specified annual probability. Onsite water management must allow for and provide the design storage allowance volume in each regulated dam, going into each new wet season (that is, on the 1 November each year). Regulated dams are also assigned mandatory reporting levels, which if volume reaches this level, notification must be provided to EHP. Regulated structures will require certified design plans to be submitted to the administering authority demonstrating compliance with the Manual requirements. Such structures will be subject to annual inspection and reporting by a suitably qualified and experienced person. Regulated dams also require details to be entered in a register of regulated dams kept by the holder of the authority and an electronic copy provided annually to the administering authority (EHP, 2016a).

As this Project includes a number of structures which are likely to be assessed as regulated, such as mine affected water storages and possibly levees, the applicable model conditions for regulated structures would be applied to the EA.

If a regulated dam also meets the definition of a 'referable dams' pursuant to the *Water Supply (Safety and Reliability) Act 2008*, duplication of failure impact assessment is not required as there is an exemption from the referable dams in the Act for 'hazardous waste dams' and definition of the term 'hazardous waste dams' largely overlaps with 'regulated dams' under the Manual.

2.2.3.3 Subordinate Legislation

The EP Act has a range of subordinate legislation which assists in achieving the objective. The EP Act is supported by the following subordinate environmental protection policies (EPPs):

- Environmental Protection (Air) Policy 2008 (EPP (Air));
- Environmental Protection (Noise) Policy 2008 (EPP (Noise)); and
- Environmental Protection (Water) Policy 2009 (EPP (Water)).

Where relevant impacts could occur for this Project, impact assessments have been undertaken having due regard to the EVs specified in each EPP.

Environmental Protection (Air) Policy 2008

The objective of the EPP (Air) is to achieve the object of the EP Act in relation to Queensland's air environment. To achieve this objective, the EPP (Air) provides a framework for:

- Identifying EVs to be enhanced or protected;
- Specifying air quality indicators and goals to protect or enhance the EVs; and
- Providing processes which manage the air environment and involve the community in achieving air quality goals that best protect Queensland's air environment.

Air quality values of the Project area, potential impacts from the Project and management of those impacts will be addressed in the Project EIS.

Environmental Protection (Noise) Policy 2008

The objective of the EPP (Noise) is to achieve the object of the EP Act in relation to Queensland's acoustic environment. The EPP (Noise) provides a framework for:

- Identifying the EVs to be enhanced or protected;
- Stating acoustic quality objectives for enhancing or protecting the EVs; and
- Providing a framework for making consistent, equitable and informed decisions about the acoustic environment.

The acoustic values of the Project area, potential impacts from the Project and management of those impacts will be addressed through the Project's EIS.

Environmental Protection (Water) Policy 2009

The EPP (Water) establishes a process for identifying EVs to be protected and states standards for water quality in support of those values. The EPP (Water) provides a framework for:

- Identifying EVs and management goals for Queensland waters;
- Stating water quality guidelines and objectives to protect or enhance the EVs;
- Providing a framework for making consistent, equitable and informed decisions about Queensland waters; and
- Monitoring and reporting on the condition of Queensland waters.

Potential impacts on surface water and groundwater and the management measures will be addressed in the Projects EIS.

2.2.4 Regional Planning Interests Act 2014

The *Regional Planning Interests Act 2014* (RPI Act) replaced the *Strategic Cropping Land Act 2011* on the 13 June 2014. The RPI Act seeks to manage the impacts from resource activities, and other regulated activities through protecting:

- Living areas in regional communities;
- High-quality agricultural areas from dislocations;

- Strategic cropping land (SCL); and
- Regionally important EVs.

Under the RPI Act, an approval is required when a resource activity or regulated activity is proposed in an area of regional interest. Areas of regional interest are identified as:

- Priority living areas (PLAs);
- Priority agricultural areas (PAAs);
- Strategic cropping areas (SCAs); and
- Strategic environmental areas (SEAs).

SCL is mapped over the area where the TLF Options 1 and 2 are proposed; however, review of aerial photographs dating to the late 1990 show no evidence of cropping within this area. No approval under the RPI Act is anticipated for the Project.

2.2.5 Environmental Offsets Act 2014

The *Environmental Offsets Act 2014* (EO Act), *Environmental Offsets Regulation 2014* and the Queensland Government Environmental Offsets Policy provide a streamlined framework for environmental offset requirements. Offsets are required where there is an unavoidable impact on significant EVs. In addition, an environmental offset can only be required if impacts from a prescribed activity constitute a significant residual impact as identified through the following guidelines:

- The State guideline that provides guidance on what constitutes a significant residual impact for Matters of State Environmental Significance (MSES);
- The Commonwealth Significant Impact Guidelines for what constitutes a significant residual impact on MNES; and
- Any relevant local government significant impact guideline for Matters of Local Environmental Significance (MLES).

The Queensland Environmental Offsets Policy provides a decision support tool to enable administering agencies to assess offset proposals in accordance with the EO Act. An environmental offset may be required as a condition of approval where the activity is likely to result in a significant residual impact on prescribed environmental matters. The Significant Residual Impact Guideline issued in December 2014 is used for consideration of all potential offset requirements for MSES, for applications made under the EP Act. It is used to determine if a residual impact from a prescribed activity is significant. Offsets may be delivered through a variety of manners including financial settlement offsets, proponent driven offsets and a combination of these approaches.

To avoid duplication with offsets required under the EPBC Act, the policy provides that the administering agency must consider other relevant offset conditions for the same or substantially the same prescribed impact. If duplicating conditions are imposed, it allows the Proponent to remove the duplication.

2.2.6 Water Act 2000

The *Water Act 2000* (Water Act) provides a structured system for the planning, protection, allocation and use of Queensland's surface waters and groundwater. Under section 808 of the Water Act, a person must not take, supply or interfere with water unless authorised. The Water Act was amended in 2016 to require all mining activities to be assessed and approved for the take of incidental water extracted during operations. The EIS assessment will be used to inform an application for a Water Licence.

The take from overland flow is regulated by subordinate legislation by the relevant Water Resource Plan. There is no current right to water provided under the MR Act for water taken or diverted in the course of a mining activity (s 235(3)). The Project area lies wholly within the Styx Catchment (Queensland river basin 127), a small catchment forming part of the Fitzroy River Natural Resource Management region, which discharges into the Coral Sea adjacent to Rosewood Island (in the vicinity of the Project). No water resource plan is in force over the catchment. As such, no permit is required by the Project to interfere with overland flow.

Groundwater under the Project area is regulated under the Water Act. According to the Australian Natural Resources Atlas (ANRA, 2009), the Styx Basin is not covered by any Groundwater Management Unit (GMU), and the area is also characterised as Unmanaged-001 (i.e. not a managed unit) by the National Water Commission (2005). The Project is not located within a declared sub-artesian area or a groundwater management area.

Water for the construction and operation of the Project will be sourced from an external supply and trucked to the site. Once operational water will be sourced from a number of options currently under evaluation.

Interfering with a Watercourse

A number of watercourses intersect the Project area and are subject to the provisions of the Water Act if interfered with. Placing fill or excavating in a watercourse, as required for works associated with construction of haul roads, bridges and culverts require a Riverine Protection Permit (RPP). A general exemption for this permit has been granted for resource holders where the works are authorised by an EA and comply with the guidelines for Riverine protection permit exemption requirements' WSS/2013/726, Version 1.01.

No diversions will occur to the Tooloombah Creek or Deep Creek as a result of the Project.

The guideline for Works that Interfere with Water in a Watercourse – Watercourse Diversions (DNRM, 2014) outlines the considerations which must be satisfied in the assessment of the EA. As such no additional approvals under the Water Act are anticipated for watercourse diversions or realignments.

2.2.7 Coal Mining Safety and Health Act 1999

The object of the *Coal Mining Safety and Health Act 1999* (CMSH Act) is to protect the health and safety of people at, or who may be impacted by, a coal mine and to monitor and ensure that the risk of injury or illness is at an acceptable level. The Proponent is required to comply with the obligations and approvals of the CMSH Act and *Coal Mining Safety and Health Regulation 2001* (CMSH Regulation) for the Project. In particular, the Project will require approval and documentation including:

- Notification to regional inspector of mine operation commencement (ss 49-50, CMSH Act);
- Documentation of management structure (ss 51 and 55 CMSH Act);
- Documentation meeting the requirements for underground mines (ss 60-61, CMSH Act and Chapter 4, CMSH Regulation);
- Safety Health and Management System (s 62, CMSH Act);
- Principle hazard management plan and standard operating procedures (ss 63-64, CMSH Act);
- Records and reporting (ss 65-69 CMSH Act); and
- Hazardous substance register and standard operating procedure (ss 55-56, CMSH Regulation).

The EIS will outline the Proponent's health and safety obligations and commitments for the Project incorporating the requirements detailed in the CMSH Act, CMSH Regulation and the *Mineral Resources Regulation 2003*.

2.2.8 Work Health and Safety Act 2011

The purpose of the *Work Health and Safety Act 2011* (WH&S Act) is to provide a regulatory framework for workplace health and safety that is consistent with national policy. Under Schedule 1, Part 2, the WH&S Act does not apply to coal mines regulated under the CMSH Act.

For any operations or activities outside of the Project area, the full provisions of the WH&S Act apply.

2.2.9 Mineral and Energy Resource (Common Provisions) Act 2014

The *Mineral and Energy Resources (Common Provisions) Act 2014* (MERCP Act) and the *Mineral and Energy Resources (Common Provisions) Regulation 2016* (MERCP Regulation) commenced on the 27 September 2016. The MERCP brings together provisions relating to dealings, caveats and associated arrangements, private and public land access and the maintenance of the resource authority register. The MERCP Act includes the introduction of opt-out agreements which states that landholders cannot be forced to enter into an opt-out agreement by resource companies, with opt-out agreement forms now available.

The MERCP Act includes a framework for the management of overlapping coal and coal seam gas resource authorities, which regulates both the resource authority and safety and health requirements.

2.2.10 Other Queensland Legislation

- *Aboriginal Cultural Heritage Act 2003;*
- *Sustainable Planning Act 2009;*
- *Nature Conservation Act 1992;*
- *Vegetation Management Act 1999;*
- *Transport Infrastructure Act 1994;*
- *Land Act 1994;*
- *Biosecurity Act 2016;*
- *Fisheries Act 1994; and*
- *Forestry Act 1959.*

2.2.10.1 Aboriginal Cultural Heritage Act 2003

The *Aboriginal Cultural Heritage Act 2003* (ACH Act) contains provisions for identifying significant Aboriginal cultural heritage and protecting it from development, including:

- The requirement to comply with a duty of care towards Aboriginal cultural heritage;
- The requirement to notify the existence and location of Aboriginal human remains;
- The establishment of an Aboriginal Cultural Heritage Database; and
- The establishment of a Register of Aboriginal Cultural Heritage.

The ACH Act requires that, when carrying out an activity, all reasonable and practicable measures are taken to ensure that the activity does not harm Aboriginal cultural heritage. This is referred to as the cultural heritage duty of care.

The Proponent will commence negotiations with the relevant Aboriginal parties which when finalised will govern management of Aboriginal cultural heritage within the Project footprint.

2.2.10.2 Sustainable Planning Act 2009

The *Sustainable Planning Act 2009* (SP Act) is Queensland's principal planning legislation and it provides a planning framework and development assessment system for Queensland. Activities within the ML are largely exempt from the requirements of the SP Act through the exemption within the MR Act outlined above and further specific exemptions within *Sustainable Planning Regulation 2009* (SP Regulation). The relevant sections of the SP Regulation for the Project are:

- Schedule 4, table 5, item 2 makes all aspects of development for a mining activity to which an EA (mining activities), under the EP Act applies, exempt from development under a local government planning scheme;
- Schedule 3, Part 1, table 2, item 1 excludes development for a Material Change of Use (MCU) for an ERA for a mining activity from assessable development; and

- Schedule 24, Part 1, item 6 excludes clearing of native vegetation for a mining activity from assessable development for the purposes of Schedule 3, Part 1, Table 4, Item 1.

Section 632(4) of the SP Act also stipulates that local government authorities and State agencies cannot levy infrastructure charges, for trunk infrastructure for works or use of land authorised under the MR Act.

The State Planning Policy (SPP) is a statutory instrument prepared under the SP Act that relates to matters of Queensland interest. The SPP applies to a range of circumstances under the SP Act, including for development assessment and when proposed new planning schemes are made or amended. The SPP is applicable to assessable development within Queensland. The provisions of the SPP may also be considered under the standard criteria of the EP Act which includes matters of State interest, as such the EIS will consider the relevance of the SPP to the Project.

The relevant State interests to the Project which are managed under the SPP are:

- Biodiversity - MSES - Regulated vegetation and MSES - Regulated vegetation (intersecting a watercourse); and
- Water Quality - Climatic regions - stormwater management design objectives.

2.2.10.3 Nature Conservation Act 1992

In broad terms, the objective of the *Nature Conservation Act 1992* (NC Act) is the conservation of nature (plants and animals) within Queensland. Specifically, the NC Act seeks to gather relevant information, identify critical habitat areas, manage protected areas, protect wildlife and promote ecologically sustainable development. The NC Act has 10 subordinate regulatory instruments in the form of regulations, conservation plans and notices. Of relevance to the Project is the *Nature Conservation (Wildlife) Regulation 2006* which categorises flora and fauna species as extinct in the wild, endangered, vulnerable, near threatened or of least concern. Also listed is international wildlife and prohibited wildlife.

The NC Act will play an important role in approvals for the Project by providing legislative guidance in respect to the conservation and protection of flora and fauna deemed to be of State significance. Under the NC Act, permits for the movement of protected animals and the clearing of protected plants are required and a Species Management Program must be approved when interfering with native fauna habitat and breeding places. Initial surveys have not identified any protected plants or critical breeding places of protected species. Further assessment will be undertaken as part of the EIS.

2.2.10.4 Vegetation Management Act 1999

The *Vegetation Management Act 1999* (VM Act) regulates the conservation and management of vegetation communities and provides protection for regional ecosystems (RE) classified as 'endangered', 'of concern' or 'least concern' under the VM Act. The clearing of native vegetation for the Project will be exempt from the provisions of the VM Act under Schedule 24 Part 1, Item 1 (6) of the SP Regulation where clearing occurs within the Project's mining lease areas for a mining activity. Clearing of vegetation outside of the mining lease will not be exempt.

2.2.10.5 Transport Infrastructure Act 1994

The *Transport Infrastructure Act 1994* (TI Act) encourages effective integrated planning and efficient transport infrastructure management for the planning and management of road, rail and air infrastructure. Approvals under this Act will be required for any upgrades to State Controlled Roads (SCR) and SCR intersections (i.e. the Bruce Highway to enable access to the north pit from the south pit). The subsidiary regulations include the *Transport Infrastructure (Rail) Regulation 2006* and *Transport Infrastructure (Ports) Regulation 2005* which prescribe requirements when using rail and port infrastructure.

2.2.10.6 Land Act 1994

The *Land Act 1994* (Land Act) provides a framework for the allocation of State land as leasehold, freehold or other tenure and its subsequent management. Under the Land Act, permits to occupy are required for the occupation of a reserve, road or unallocated State land. Where electricity, water, or other infrastructure is to be developed on unallocated State land, reserves or roads, a Permit to Occupy will be required. A permit to occupy entitles the holder to non-exclusive possession of the land. In addition, development on any leasehold or other state land requires the consent from DNRM as the landholder.

Section 98 of the Land Act provides that an application can be made to DNRM to permanently or temporarily close a road. During the mine construction and operation, the existing road easement traversing the mine site will be required to be temporarily or permanently closed or realigned. It is noted that is reserve is not currently used as a road. If an application to temporarily close a road is approved, a road licence will be issued to the applicant that grants exclusive occupation of the road.

Upgrades to existing road easements will be assessed via the EIS and the Proponent will obtain any required approvals prior to works being carried out.

2.2.10.7 Biosecurity Act 2014

The objectives of the *Biosecurity Act 2014* (Biosecurity Act) are to provide biosecurity measures against pests, disease and contaminants. The Biosecurity Act has replaced the many separate pieces of legislation that were used to manage biosecurity, including the superseded *Land Protection (Pest and Stock Route Management) Act 2002*. The Biosecurity Act is used to manage risks associated with emerging, endemic and exotic pests and diseases that can impact on industry, the built environment, animals, biodiversity, and the natural environment, tourism and infrastructure services. Pest species will be managed under the Act.

2.2.10.8 Fisheries Act 1994

The main purpose of the *Fisheries Act 1994* (Fisheries Act) is to provide for the use, conservation and enhancement of the fish resources and habitats as a way to apply and promote the principles of Ecologically Sustainable Development (ESD). It regulates the taking and possession of specific fish, removal of marine vegetation, the control of development in areas of fish habitat and listed noxious fish species. An approval is not required for waterway barrier works within waterways as mining activities are exempt from the Fisheries Act. Where activities are outside of the ML, approvals for waterway barrier works will still be required. All waters of the state are protected against degradation by direct or indirect impact under s125 of the EP Act. If litter, soil, a noxious substance, refuse or other polluting matter is on land, in waters or in a fish habitat and the polluting adversely affects fisheries resources or habitat then penalties apply.

2.2.10.9 Forestry Act 1959

The *Forestry Act 1959* (Forestry Act) provides for, among other things, the sale and disposal of quarry material and commercially valuable timber on certain State lands. Forest products and quarry materials on all State land and on some freehold lands where these products and materials are reserved to the State are the property of the State. State-owned forest products and quarry material under the Forestry Act are administered by the Department of Agriculture and Fisheries. The vast majority of the Project is located on freehold land with no forest products or quarry materials reserved to the State and as such no authorities are required under the Forestry Act. However, sections of the haul roads to TLF Option 1 and Option 2 are within a boundary watercourse and the identification and clearing of timber of commercial value will be discussed with EHP and the Department of Agriculture and Fisheries prior to undertaking any clearing. The MR Act provides the right to quarry material to holders of a ML. No quarrying is proposed to occur outside any ML as part of the Project.

3 Project Description

3.1 Overview

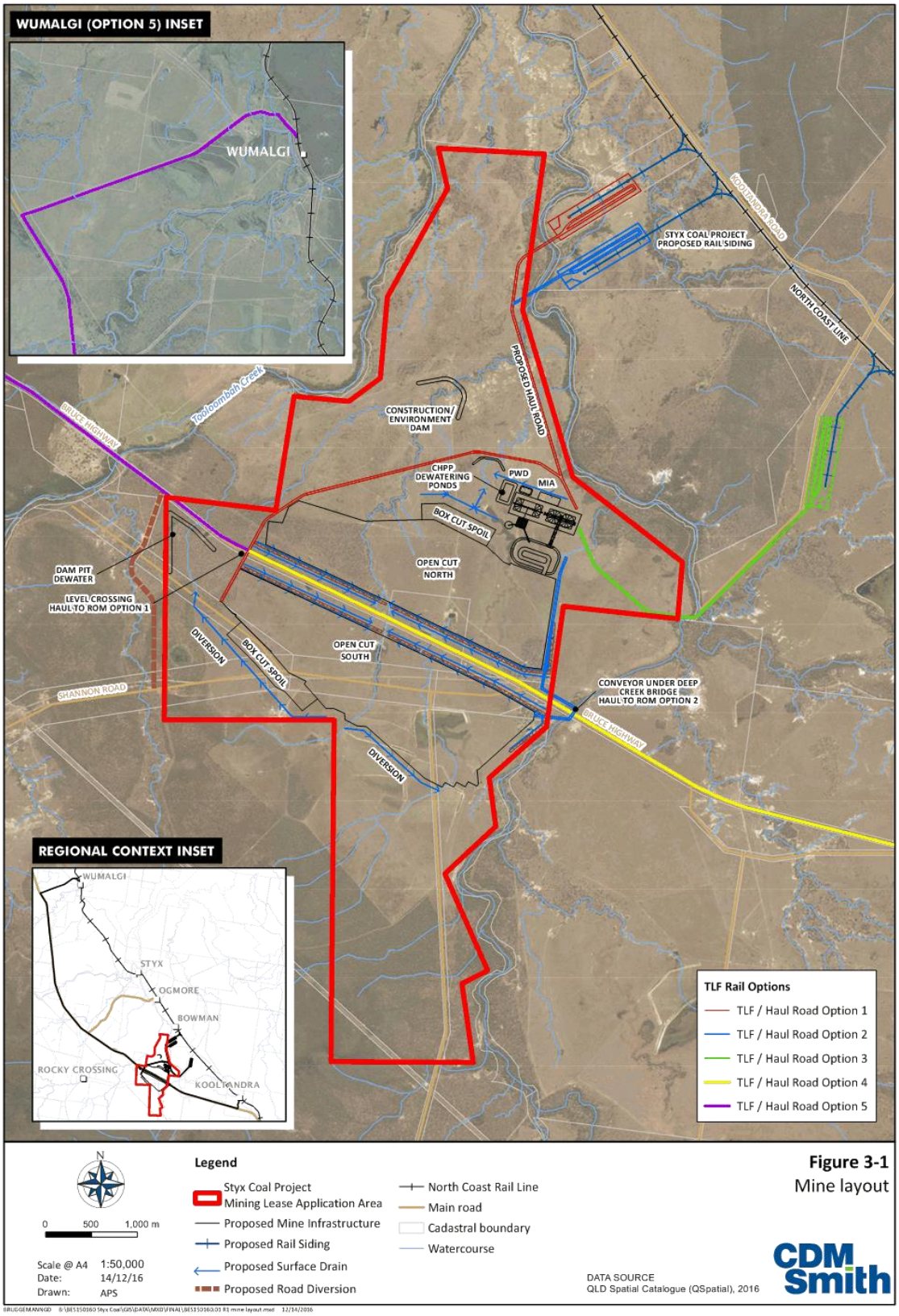
The proponent has identified a potential resource of multiple coal seams within the proposed MLA area, confirming the presence of high volatile, low sulphur, thermal coal and semi soft coking coal. To access these resources, two open pit excavations will be developed with an anticipated rate of extraction of between 2 Mtpa to 5 Mtpa, with options of increasing up to 10 Mtpa ROM coal. The ROM coal will be crushed and processed at an expected yield of 95% for HGTC and 80% for SSCC. Both products are for export to international markets.

The Project has identified total inferred/indicated resources within the MLA area of 203 million tonnes Joint Ore Review Committee (JORC). Ongoing and additional infill drilling is progressing within the Project area where, over time, the Project expects to provide sufficient coal quality data to categorise additional mineable areas to enable extension of the mine life.

The proposed coal mine layout and associated infrastructure is shown on Figure 3-1. The key components of the Project include:

- Open cut mine pits;
- CHPP;
- Haulage and site access;
- Rail facilities and Train Loadout Facility;
- Port facilities;
- Mine Industrial Area;
- Water management system including pit dewater dams, environment and process / contaminated water dams;
- Fuel and oil, explosives storage facilities;
- Sewage treatment plant (STP); and
- Associated infrastructure.

While detailed mine design has not yet been completed, conceptual details are provided in the following sections. There currently exist five rail connection options (refer Section 3.5.4) and two haulage options (haul road or conveyor) (refer Section 3.5.3). The ultimate rail connection option is contingent on outcomes of negotiations for land access for the TLF. The haulage route is contingent on whether a level road crossing or conveyor under the existing road bridge is preferable. These options will be investigated further and the final arrangement and associated impacts detailed in the EIS phase of the Project.


WUMALGI (OPTION 5) INSET
WUMALGI
STYX COAL PROJECT PROPOSED RAIL SIDING
MOUNTAINVIEW ROAD
NORTH COAST LINE
PROPOSED HAUL ROAD
Toolooombah Creek
BRUCE HIGHWAY
CONSTRUCTION/ ENVIRONMENT DAM
CHPP DEWATERING PONDS
PWD
MIA
BOX CUT SPOIL
OPEN CUT NORTH
DAM PIT DEWATER
LEVEL CROSSING HAUL TO ROM OPTION 1
DIVERSION
BOX CUT SPOIL
OPEN CUT SOUTH
SHANNON ROAD
CONVEYOR UNDER DEEP CREEK BRIDGE HAUL TO ROM OPTION 2
BRUCE HIGHWAY
DIVERSION
REGIONAL CONTEXT INSET
WUMALGI
STYX
OGMORE
BOWMAN
ROCKY CROSSING
KOOLKANDRA
TLF Rail Options
TLF / Haul Road Option 1
TLF / Haul Road Option 2
TLF / Haul Road Option 3
TLF / Haul Road Option 4
TLF / Haul Road Option 5
N
0 500 1,000 m
Scale @ A4 1:50,000
Date: 14/12/16
Drawn: APS
Legend
Styx Coal Project Mining Lease Application Area
Proposed Mine Infrastructure
Proposed Rail Siding
Proposed Surface Drain
Proposed Road Diversion
North Coast Rail Line
Main road
Cadastral boundary
Watercourse
DATA SOURCE
QLD Spatial Catalogue (QSpatial), 2016
Figure 3-1
Mine layout
CDM Smith

3.2 The Resource

The Styx Basin is a small Early Cretaceous intra-cratonic sag basin, covering some 300 km² onshore and 500 km² offshore. The known strata of the basin are referred to as the Styx Coal Measures and consist of quartzose, calcareous, lithic and pebbly sandstones, pebbly conglomerate, siltstone, carbonaceous shale and coal. The environment of deposition was freshwater, deltaic to paludal with occasional marine incursions. The Styx Coal Measures outcrop on the western edge of the Styx Basin have an average dip of 5-60° to the east (Arrow Energy, 2005).

The geology in the MLA area is characterised as Quaternary alluvial deposits overlying the Styx Coal Measures (DNRM&W, 2006). These in turn overly a progression of Late Carboniferous to Late Permian deposits of the Back Creek Group (Carmilla Beds and Glenprairie beds, from shallowest to deepest). Geological information for the proposed mining area broadly confirms the above geology (largely mudstone, sandstone and siltstone, with conglomerate and claystone, along with the coal deposits).

The stratigraphy of the Project area is shown at Figure 3-2. The coal seams are relatively shallow, and the average cumulative thickness of the full sequence of coal (Grey to V_L2 seams) is approximately 6 m, contained within a sequence of approximately 120 m of coal bearing strata.

The coal seams generally dip to the east in the area west of the Bruce Highway, with the Violet seam, the lowest coal seam in the sequence, sub-cropping in the western part of EPC1029. The bedding structure is currently interpreted to be a syncline, the axis of which runs northwest/southeast through the Project area.

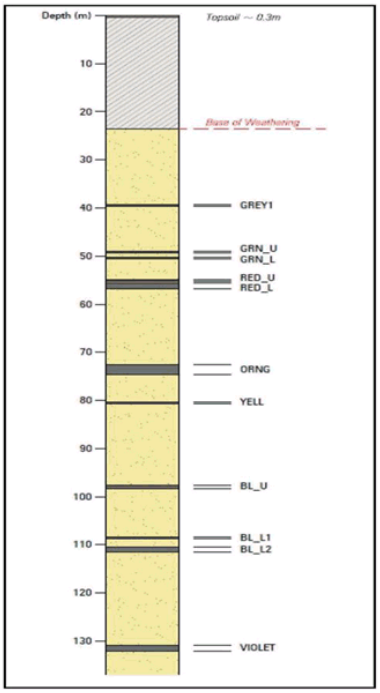


Figure 3-2 Typical stratigraphy of the Project area

The Proponent has identified a potentially viable resource of multiple coal seams within the Styx Basin, confirming the presence of HGTC and SSCC. The coal seams attain a maximum cumulative coal thickness of approximately 15 m in the centre of the Project area where all seams are present, and local seam thickening is evident.

Fairway Coal has undertaken an extensive exploration drilling programme within the Project area from late 2010 through to December 2014. Data from 137 exploration drill holes, including 67 JORC Points of Observation, have been used in coal estimates.

The Project is estimated to contain a total coal resource of 203.2 Mt, with 34.3 Mt of indicated resource and 169 Mt of inferred category resource. A total of 60 Mt of resource is at a depth less than 75 m from the surface. The Proponent has to date identified, from drilling, an inferred JORC resource of 93 Mt in the MLA area (north and south pits) (refer to Figure 3-1) of MLA 80187. The aforementioned figures are compliant with the Australian Institute of Mining and Metallurgy (AUSIMM) standard established by the JORC.

Coal quality has been developed and verified through a variety of coal quality analysis reports. Exploration drilling, analysis and reporting commenced during 2011 and continued through to 2014. The initial reports completed by HDR Salva in December 2011, and the later drilling and final analysis completed by ALS Coal Division in 2014, describe Styx coal as low ash, high volatile SSCC.

3.3 Land Use and Tenure

The Project is in the Brigalow Belt Bioregion of Central Queensland, and the Capricorn Coast region. This is described as a dry, flat to rolling landscape with remnant grasslands and forest areas, and includes Rockhampton and Gladstone, together with smaller areas of coastal development. Land use over the Project area is predominately rural grazing lands, as indicated on Figure 3-3.

The MLA area incorporates three separate freehold allotments; a road reserve, easement and single parcel of leasehold land. The TLF and ancillary infrastructure options outside of the MLA area are proposed to be located on separate freehold and leasehold allotments. Land tenure and ownership details for these properties within the MLA area and the five TLF options are shown in Table 3-1. The land parcels and land type within and surrounding the Project area is shown at Figure 3-4.

Table 3-1 Land tenure affected by the Project

Tenement	Lot on Plan	Land Type	Property	Held by	Associated Project Infrastructure
ML 80187	Lot 10 on MC493	Freehold	Mamelon	QNI Metals Pty Ltd	Mining, overburden dumps, ROM stockpile, haul roads. Possible MIA, CHPP and TLF
	Lot 11 on MC23	Freehold			Mining
	Lot 9 on MC496	Freehold			Mining
	Lot 1 on RL3001	Lands Lease			Mining
	AMC529	Easement			Nil
	AAP16117	Road Reserve	-	Livingstone Shire Council	Mining
Rail Options Tenure	Lot 119 on CP900367	Freehold	Oakdean	David Theodorus Hauwert and Andrea Maree Hauwert	Option 1 - TLF and ancillary infrastructure

Tenement	Lot on Plan	Land Type	Property	Held by	Associated Project Infrastructure
	Lot 4973 on SP275117	Leasehold	Bowman	Noel Neville Conrad and Rosslyn Ann Conrad	Option 2 - TLF and ancillary infrastructure
	Lot 9 on MC230	Freehold	Strathmuir	Russell Charles Smith, Elizabeth Joan Smith and Edward George Smith	Option 3 - TLF and ancillary infrastructure
	Lot 193 on MC550 Reserve.	Lands Lease	Riverview	Suzanne Margaret Cooper and Jason Charles Cooper	Option 4 - TLF and ancillary infrastructure
	Lot 561 on SP130109 and Lot 3 on RP602328	Lands Lease and Freehold	-	The State of Queensland (Represented by the Department of Transport and Main Roads)	Option 5 - TLF and ancillary infrastructure
Adjacent Land Tenure	4973SP275117	Lands Lease	-	Rosslyn Ann Conrad and Noel Neville Conrad	Nil
	4317PH491	Lands Lease	-	Edward George Smith, Elizabeth Joan Smith and Russell Charles Smith	
	19MC495	Freehold	-	Quincy's Pastoral Company Pty Ltd	
	1RP616700	Freehold	-	Quincy's Pastoral Company Pty Ltd	
	2RP616700	Freehold	-	Quincy's Pastoral Company Pty Ltd	
	85SP164785	Freehold	Brussels	Scott Robert McCartney	
	87SP164785	Freehold	Brussels	Scott Robert McCartney	
	AMC529	Easement	-	In favour of Powerlink	
	BMC529	Easement	-	In favour of Powerlink	
	11MC23	Freehold	-	QNI Metals Pty Ltd	

There are several coal tenements and a single petroleum tenement within the immediate surrounding area of the MLA. Four EPCs, including Fairway Coal's current EPC 1029, six Exploration Permits for Minerals and a single MDL adjoin the Project area. A single Petroleum Survey Licence exists to the southwest of the Project. These tenements are shown at Table 3-2 and at Figure 3-5.

Table 3-2 Mining tenements in the immediate vicinity of ML 80187

Tenement	Tenure Holder	Granted	Expires
Mining Leases			
EPC 1029	Fairway Coal Pty Ltd	20/04/2006	19/04/2016*
EPC 2268	Waratah Coal Pty Ltd	27/06/2011	26/06/2019
EPC 2128	Scorpion Energy Pty Ltd	05/02/2013	04/02/2018
EPC 2392	Civil and Mining Resources Pty Ltd	22/04/2015	21/04/2020
EPM 19574	Marlborough Nickel Pty Ltd	13/12/2012	12/12/2017
EPM 16553	Bandanna Oil Shale Pty Ltd	14/01/2008	13/01/2019
EPM 25763	Orion Gold NL	15/5/2015	13/5/2020
EPM 25703	Orion Gold NL	30/10/2015	29/10/2020
EPM 25122	Orion Gold NL	12/02/2013	12/01/2018
EPM 19825	Orion Gold NL	12/02/2013	12/02/2018
MDL 468	Fairway Coal Pty Ltd	22/1/2014	21/1/2019
ML 80187	Styx Coal Pty Ltd	15/6/2012	
Petroleum Lease			
PSL 2019	Arrow Bowen Pipeline Pty Ltd	3/03/2016	3/02/2017

* the renewal application has been submitted for this lease

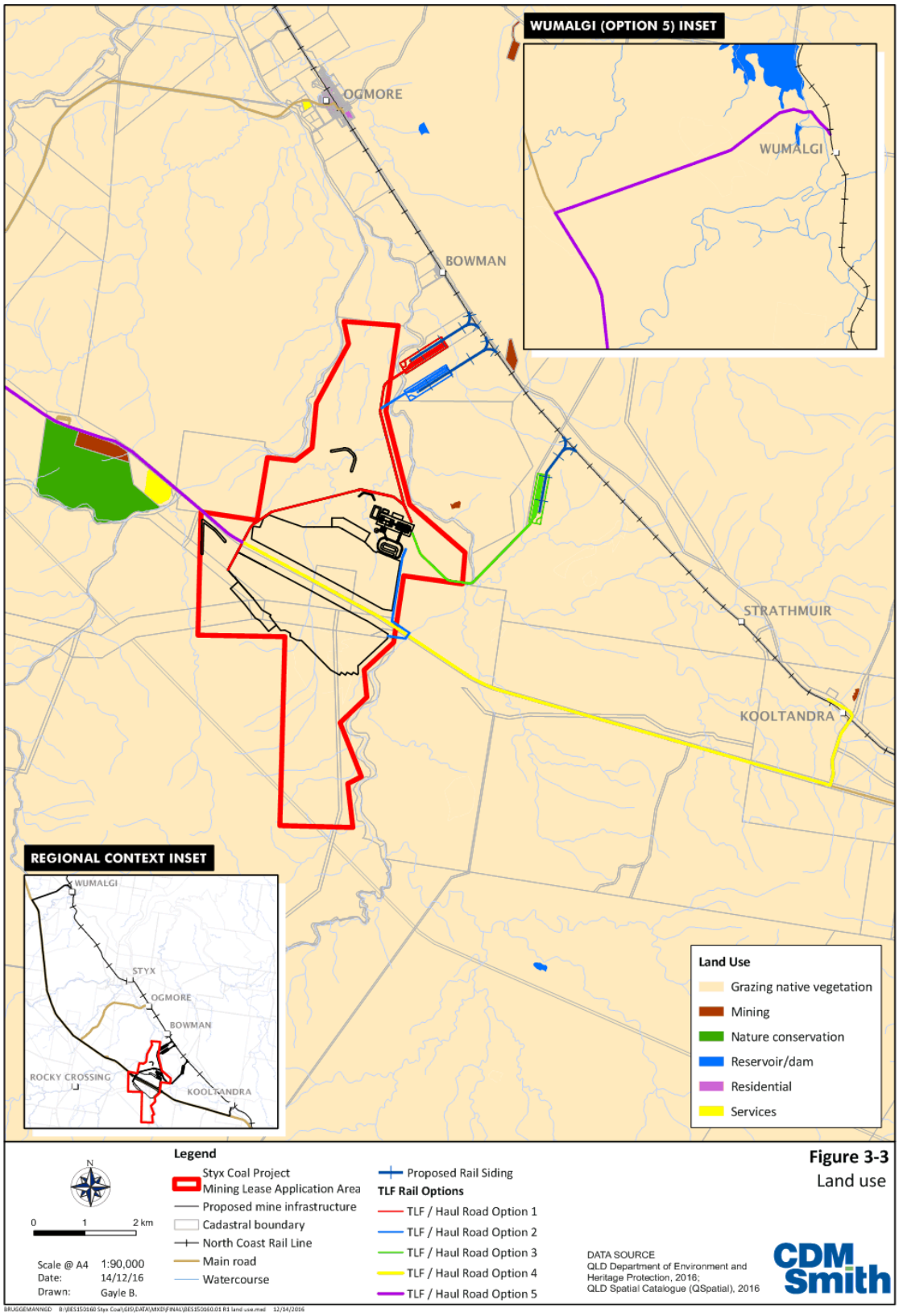


Figure 3-3
Land use

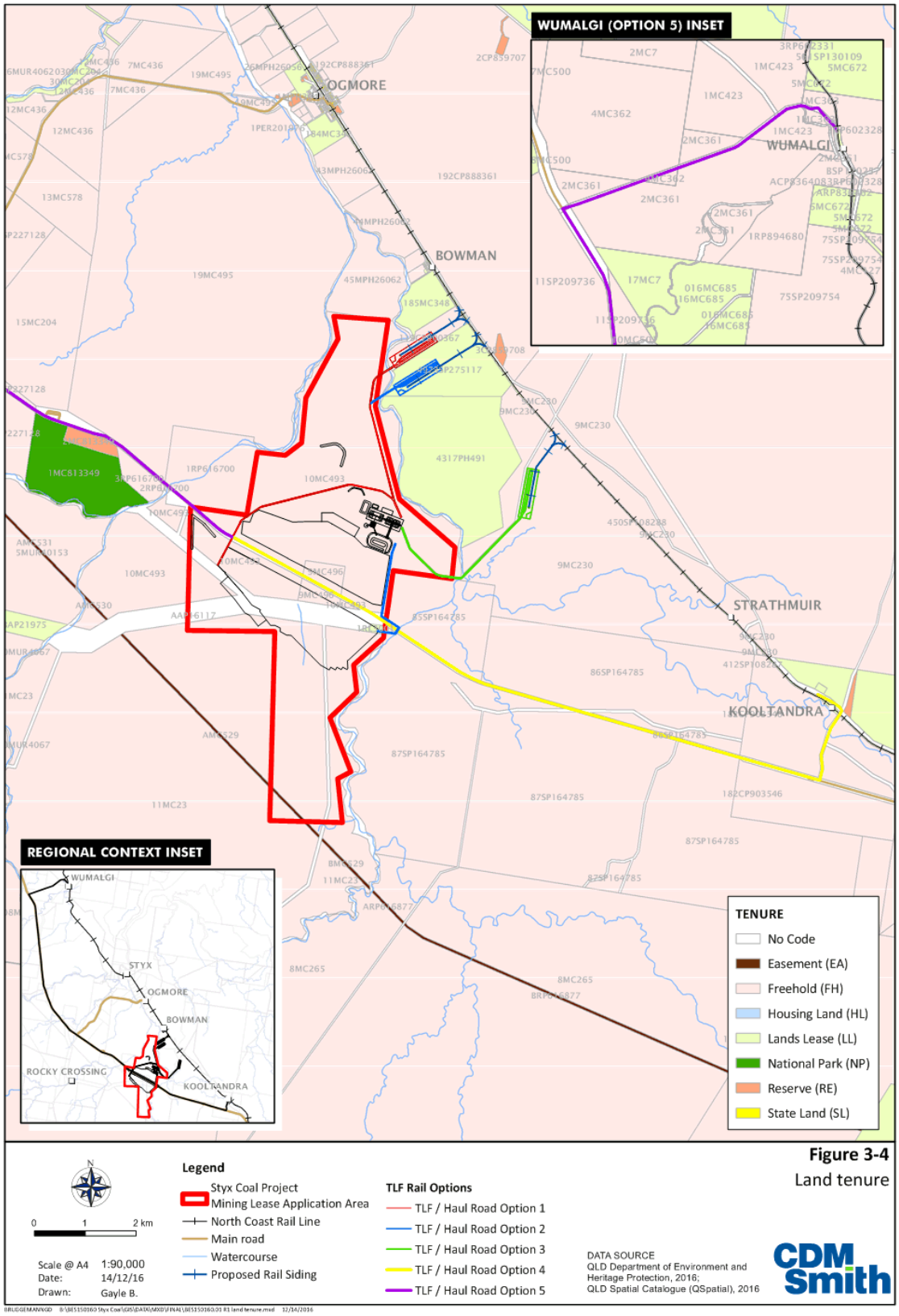


Figure 3-4
Land tenure

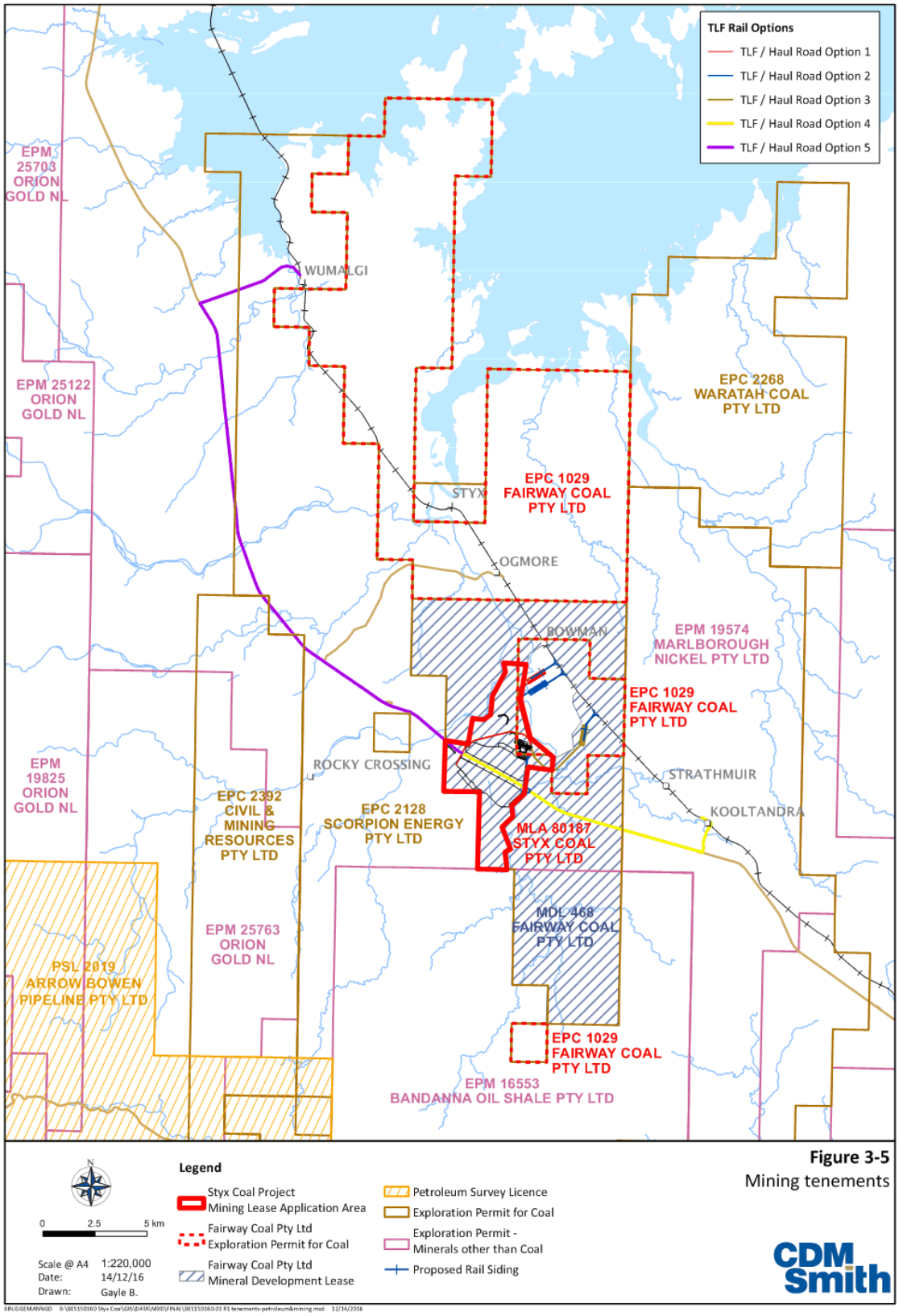


Figure 3-5
Mining tenements

3.4 Employment Opportunities

The Project will require the hiring of 200 employees during construction and 250 employees during operations with an option to increase to 500 employees should operations increase to maximum throughput tonnages. The Project labour resources will be sourced from within the general local area (Marlborough, St Lawrence, Sarina, Mackay and Rockhampton) as a drive-in drive-out workforce. A small portion of the workforce is anticipated to come from outside the broader central Queensland coalfields area on a fly-in fly-out basis.

In the last two years, Queensland has seen over a quarter of the mining workforce lose jobs (over 20,000 jobs) (Swann, Ogge and Campbell, 2016). The Project will positively contribute to the local and regional areas with increased direct and indirect employment opportunities through ongoing services and support requirements.

3.5 Mine Design and Schedule

The Proponent is currently completing feasibility studies which include detailed evaluation of the most cost effective and efficient designs for the mining operation. The assessment includes evaluation of the mining operations, pit and out of pit dump designs and the associated infrastructure and MIA and TLF general arrangements. The most recent conceptual plan for the Project is shown at Figure 3-1.

The following sections describe the current plan for the Project.

3.5.1 Mining Process

The current mine plan is based on commencing construction in Q1 2018 with first production in Q2 2018, following a construction period of approximately six months.

The mine will utilise an open cut mining technique where strips or blocks will be mined in succession, thus allowing waste from one strip or block to be dumped into a previously mined out area. Waste from an initial strip or boxcut will be dumped into a predetermined out of pit dump. Stripped topsoil and box cut spoil will be stockpiled for later use in mine rehabilitation.

Two open cut pits will be developed – one either side of the Bruce Highway (south and north pits). After topsoil has been removed from a strip, the overburden waste material, where necessary, will be drilled and blasted and subsequently removed by a combination of truck/shovel, truck/excavator or dozer push methods in order to expose the top coal seam. Dozer ripping will be considered if the waste thickness is too thin for blasting.

The coal will be mined using front end loaders or small hydraulic excavators or surface miners and placed into rear dump trucks or B Double side tippers for haulage. The haul trucks will transport the coal along the strip or terrace, up a coal ramp out of the pit, then along a haul road to a ROM stockpile area located adjacent to the MIA. The coal will be dumped onto a stockpile or, if certain coal quality requirements are met, may be dumped directly into the ROM hopper where it will be crushed and conveyed to the CHPP feed stockpile ready for processing.

Mining the top seam will continue along the length of a strip or terrace until the end of the strip or terrace is reached. Once the top seam has been mined out, successively deeper coal seams will be mined in a similar fashion through to the designated basal seam, whereupon the strip will become available as a dumping destination.

3.5.2 Coal Handling and Preparation Plant

During Stage 1 of operations (Year 1-2), ROM coal will be hauled to a ROM pad where it will be crushed and screened for haulage to the TLF area as HGTC.

The Project will require a CHPP to process ROM coal delivered from the open cut excavations to achieve SSCC grade. The CHPP will be designed to accommodate 5 Mtpa ROM coal, commencing in Stage 2 of operations (Year 2). Coal will either be direct fed into the dump hopper and CHPP or transported from the ROM stockpile to the CHPP via an overland conveying system. The CHPP will remove (wash) the unwanted sediment and rock from the coal to improve the quality of coal exported to market.

The various coal seams will have dedicated raw coal stockpiles immediately preceding the CHPP. A surge bin before the CHPP will provide an opportunity for some blending, if required. It is expected that the CHPP will operate at a feed rate of around 800 tonnes per hour, operating for an average of 7,000 hours per annum. The product coal (approximately 4 Mtpa based on 80% yield and 5 Mtpa ROM coal) will be stockpiled for haulage and transfer to the TLF.

Coarse rejects and dewatered fine rejects will be transferred via haul truck and strategically mixed with overburden material in the out of pit dump or placed directly into the pit. This strategy removes the requirement of a tailings dam or out of pit co-disposal dump.

Waste water resultant from the rejects dewatering process will be drained to evaporation ponds. These evaporation ponds will be regularly emptied of solids to be mixed in-pit with overburden waste material. A network of mine water dams will treat sediment laden runoff prior to discharge to receiving waters, accept pit dewatered volumes for reuse within the CHPP and allow for discharges licenced within the EA.

3.5.3 Haulage and Site Access

ROM coal will be conveyed or hauled from the south and north pits to raw coal stockpiles located at the MIA, or dumped directly into the ROM hopper at the MIA for crushing and screening. Coal being transferred from the south pit will need to cross the Bruce Highway to access the MIA. Two options exist to cross the Bruce Highway:

- A dedicated level crossing at the northern extent of the pit shells; or
- Conveyor crossing under the Deep Creek bridge crossing.

The locations of the level crossing and conveyor crossing of the Bruce Highway is shown in Figure 3-1. Assessment of the level crossing and conveyor under bridge options is underway as part of feasibility assessments. The conveyor option is shown diagrammatically in Figure 3-6. Whilst this option avoids traffic management issues associated with the level crossing option, it presents management issues with preventing coal fines and dust entering Deep Creek as well as being located outside the MLA area.

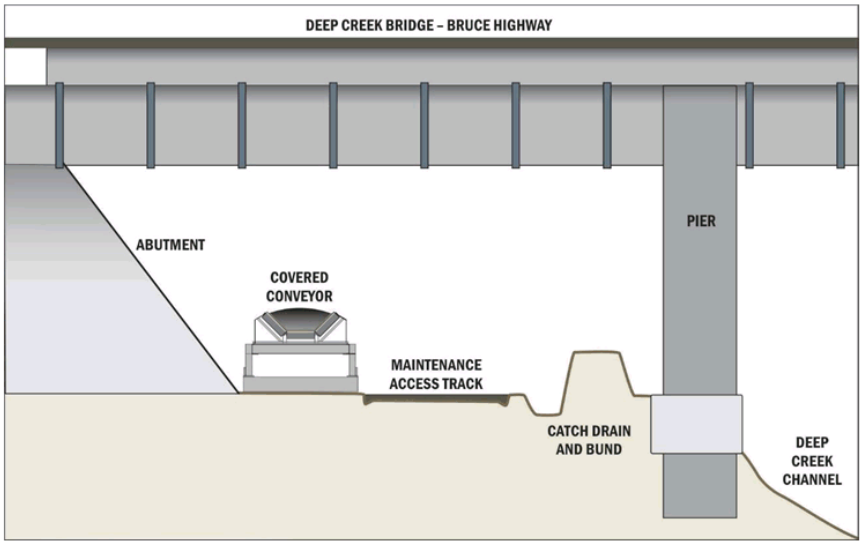


Figure 3-6 Conveyor crossing under Deep Creek road bridge

Once processed, the product coal will be transferred from the product coal stockpile, located adjacent to the CHPP, by haul truck along a dedicated haul route to a separate product stockpile at the TLF. Product coal will then be loaded onto awaiting wagons from the product coal stockpile by front end loaders.

3.5.4 Rail Facilities

There are several options being investigated at this point in time, which allows for three rail spur locations directly east of the mine site and two other rail siding loading points located near Kooltandra and Wulmagi rail sidings. All options are located and connect directly to the North Coast Rail Line. It is initially proposed to construct a rail spur at Oakdean, approximately 8 km east from MIA. The rail infrastructure area will consist of a rail spur and passing loop, stockpile area, sediment dam and haul road loop.

The rail spur will be approximately 1,500 m in length, diverging off the main North Coast Rail Line. Access to and from the rail spur will be controlled by a dedicated Queensland Rail Signalling System.

The coal stockpile area will be approximately 1 ha, capable of holding up to 100,000 t of product coal which is roughly the size of one cargo dedicated for shipping at DBCT. The stockpile area will be drained to a sediment pond, located down gradient of the site. A pump stand will be located next to the sediment pond to provide water for dust suppression of haul roads and stockpile areas.

A haul road leading from the MIA will terminate at the coal stockpile area with a truck turning loop.

The train to be used for these operations will be supplied from the rail operator. These trains have a payload of 3,100 t with an axle load of 20 t and a length of 670 m.

The port site where coal will be unloaded is the DBCT, located approximately 175 km north of Project area. The route to the DBCT requires above rail access along the North Coast Rail Line to Yukan Station (150 km north of Styx), transferring thereafter to the Goonyella Rail System, which leads to DBCT. Access to both these systems will be organised by the selected rail operator.

3.5.4.1 Alternative Train Loadout Facility Options

The Proponent is considering four other locations for the TLF (refer Figure 3-1) as part of the feasibility study that is under way.

Alternative locations for the TLF are:

- Lot 4973 on SP275117;
- Part of Lot 9 on MC230;
- Kooltandra Rail Siding, Lot 193 on MC550; and
- Wumalgi Rail Siding, Lot 561 on SP130109.

3.5.5 Port Facilities

The DBCT at the Port of Hay Point is the preferred port facility to be utilised by the Project. The DBCT is located approximately 175 km north of the Project. DBCT is operated by North Queensland Bulk Ports Corporation and has a capacity to export 85 Mtpa. The terminal is a common user facility and is being upgraded to 153 Mtpa.

Currently there is surplus capacity with current users at DBCT. Pacific National have progressed negotiations on behalf of the Proponent to secure spare port capacity with existing customers. It is proposed to utilise the spare capacity and build a 20,000 t stockpile cargo over a three-day period using the 3,100 t trains for the Project. Therefore, it is projected that the DBCT will have capacity to export the Project's product coal.

3.5.5.1 Alternative Port Facility Options

The Proponent has identified and is considering a number of potential port locations on the Queensland coast as part of the feasibility studies that are being undertaken for the Project. The other port facilities considered as part of the feasibility studies are the RG Tanna Coal Terminal and the Wiggins Island Coal Export Terminal (WICET). Both RG Tanna Coal Terminal and WICET form part of the Port of Gladstone which has eight main port facilities.

The RG Tanna Coal Terminal is located west of Gladstone and currently has a throughput of 64 Mtpa with a capacity of 75 Mtpa. There are future plans for the RG Tanna Coal Terminal to increase capacity to 90 Mtpa. The RG Tanna Coal Terminal is operated by the Port of Gladstone and, by volume, is the world's fourth largest coal export terminal. Coal is received by rail and is transported to the stockyard via 1.7 km conveyor.

WICET is located to the west of the existing RG Tanna Coal Terminal, at Golding Point. The first shipment of coal was in Q2 2015. WICET has a current throughput of 8 Mtpa with a capacity of 27 Mtpa. Feasibility studies for WICET have been undertaken for the expansion of up to 90 Mtpa. Access to WICET is immediately south of the North Coast Rail Line. A 5.6 km long overland conveyor transports coal to the stockyard.

Given the current exports per annum compared with the full operating capacity and the location of the Project to the North Coast Rail Line, both RG Tanna Coal Terminal and WICET are considered feasible port facilities to support the Project.

3.6 Additional Infrastructure

The Project will require various additional infrastructure to support the mine operation including water management system infrastructure (raw water storage, environment dams, pit sumps and pit dewatering dams, and a water treatment plant) and workers' accommodation (located off-site in Marlborough and transported by bus). There will be a centralised MIA dedicated for offices, main stores, maintenance and overhaul of mobile fleet. This area will support the two adjacent open cut pits and the CHPP. The MIA will be located east of the open cut and adjacent to the North Coast Rail Line on the east side of the Mamelon property.

Refer to Figure 3-1 for locations of the aforementioned Project infrastructure.

3.6.1 Power Supply

Various power supply options are under evaluation as a part of the feasibility studies. The base case for the Project is all mine site power requirements will be supplied via multiple on-site diesel generation units.

The power supply for the mine site will most likely be provided by 415V, three-phase diesel generators, installed at the MIA and the CHPP. The MIA will incorporate two 300KVA 415V diesel generator sets mounted in a fully bunded area adjacent to the MIA 415V Switchroom. The normal mode of operation for the generators is synchronised and connected to the load through a bus tie. The generators will be sized to provide redundancy with each generator capable of carrying the total load.

The generators will include their own diesel day tanks capable of holding sufficient diesel for a minimum of seven days' operation on full load. The generators will be hired to minimise initial capital costs and the hire company will be responsible for all repairs and maintenance.

The CHPP area will be serviced by two substations, one at raw coal area and the other at the CHPP. The raw coal substation will likely consist of one 500KVA 415V diesel generator set mounted in a fully bunded area adjacent to the raw coal 415V Switchroom. Conceptually the CHPP substation will have three 500KVA 415V diesel generator sets mounted in a fully bunded area adjacent to the CHPP 415V Switchroom. The normal mode of operation for the four generators is synchronised and connected to the load through bus ties with an interconnecting cable installed between the two substations. The generators will be sized to provide redundancy with three generators capable of carrying the total load.

Similar to the generators used at the MIA, each have their own diesel tanks capable of holding sufficient diesel for a minimum of seven days' operation on full load.

The switchrooms house the motor control centres (MCC), programmable logic controls (PLC) and instrumentation equipment, as well as the 415 V Distribution Board which supply light and power. The area lighting consists of hinged lighting towers fitted with 1,000 W floodlights.

A separate option to connect into the existing 11 kilovolt (kV) transmission line maintained by Ergon Energy which provides power to the nearby township of Ogmore is under consideration. From discussion with Ergon this 11 kV line has limited capacity to support the Project; however, depending on the final power demand needed to support the CHPP operations an opportunity to connect to the Ogmore substation may still be possible.

There is also a regional 275 kV line which crosses the southwest EPC boundary. From discussions with Powerlink (275 kV), it is not feasible to connect to this power supply. Currently there is no

transformer in the area to step down the high voltage for mine supply. Consequently, this option is no longer under consideration.

3.6.2 Water Supply

There is no raw or potable water mains in the Project area to service the Project. The township of Ogmore imports potable water to storage tanks to maintain the town's supply.

Potential water sources for the Project include the Tooloombah Creek, Deep Creek, groundwater bores (existing and newly constructed), mine dewatering dams and catchment runoff dams. The Project water supply requirements are estimated to be 825 megalitres with water usage allocated for the CHPP to process the ROM coal, dust suppression, fire protection, and potable water for the amenities. Water will be sourced and managed via the following methods:

- Type 1: Clean water runoff from undisturbed catchment areas – this water will be diverted around the disturbed area or, in some circumstance, a portion may be collected to augment the water supply for the Project;
- Type 2: Raw water sourced to supply amenities, process water for CHPP and related operations – currently Tooloombah Creek and Deep Creek, and the local alluvial groundwater aquifers are being assessed for the sourcing of makeup water;
- Type 3: Dirty runoff water from areas subject to disturbance and management of topsoil, overburden, access roads etc. contaminated by sediment only - this water will be directed through environment dam(s) prior to being reused on-site or released under controlled conditions to local waterways;
- Type 4: Contaminated water from the MIA, ROM pads, in-pit water and dewatered groundwater, and other areas subject to contamination from mining operations and coal dust or similar contaminants - this water will be contained on-site in mine water dams for reuse or disposal under EA licensed release conditions; and
- Type 5: Heavily contaminated waters and trade wastes from workshop areas, plant and infrastructure maintenance works, etc. containing contaminants such as oil and grease – the overall objective for management of these areas is to avoid any runoff being generated by undertaking these works in roofed and bunded areas, and using spill clean-up procedures to avoid runoff of these contaminants into the site water management system. Any runoff containing hydrocarbons will be contained on-site until either treated and reused or removed from the site by a licensed contractor.

Various dams will be utilised across the site to store water for use/reuse depending on the source and quality of the water. This will ensure that contaminated or sediment laden runoff will not find its way into the local waterways.

3.6.3 Telecommunications

3.6.3.1 LAN and Data Communications

A site LAN and temporary servers will be installed to service voice and data requirements during construction phase. A permanent computer and communications room will be constructed as part of the administration building at the MIA. Equipment associated with all site communications such as the satellite system, radio system and servers for voice and data transmission will be installed here. An optical fibre (OF) will run from the Marlborough exchange to the MIA and an OF backbone line will be installed between the administration building and all offices, switch rooms and buildings at the MIA, CHPP and TLF. The CHPP Supervisory Control and Data Acquisition (SCADA) control system will be interfaced by the OF backbone to provide a site wide control system with nodes at the control room, administration office and security office and gate, workshops and other authorised users as required. CCTV cameras at the security office and gate, the CHPP, TLF and ROM pad will be installed and connected to the LAN using the OF backbone cabling.

A computerised log on system, also connected to the LAN using the OF backbone, will be used by employees, contractors and visitors for recording personnel on site. This system is used for contractor management, fatigue management and identification of onsite personnel during emergency evacuations.

3.6.3.2 Radio Communications

A digital trunked radio communication system (based on TETRA technology) will be installed in stages commencing with communications for the construction phase. This initial installation will provide coverage over the entire tenement, and the highway road access for response to calls for assistance when travelling to and from site.

The initial installation will consist of a 26 m cyclonic concrete pole mast, located at the construction site, with easy access to the construction site LAN and mains power. An air conditioned relocatable building will house the electronic equipment with provision to install a microwave backbone radio LAN system at a later date when mining commences. This installation will be relocated to the MIA when construction is complete.

The second stage is an upgrade of the system to provide illumination of any working pit areas. A radio trailer with stabilised legs, a mast to ensure adequate coverage over the pit, and housing a TETRA base station will be positioned in the mining area to provide a full duplex microwave link backbone between the original site LAN at the MIA and the trailer. Power for the equipment will be provided by solar panels recharging a battery system. The system supports full duplex communications to provide full duplex private one on one and telephony calls and embraces IP technology and interfaces with the site LAN and fixed voice systems.

3.6.3.3 Fixed Voice Communications

Fixed phones using IP telephony will be connected to the LAN for integration with the satellite and radio systems.

3.6.4 Maintenance Workshops

The Project will likely require two maintenance workshop facilities; a CHPP workshop and heavy vehicle workshop. It is anticipated the workshops will be a low-cost facility, utilising off-site maintenance for larger or more complex jobs.

The CHPP workshop will likely be a 40 x 12 m building with six offices, a crib room and meeting room with room for 10 employees, and toilets. Outside will be an area designed and bunded for lubricant and solvents storage both clean and dirty.

The Heavy Vehicle Workshop will likely be a 70 x 15 x 12 m building with a floor capable of withstanding maintenance activities on all Heavy Mobile Equipment (HME) required for mining operations. The building will contain six offices, a crib room& meeting room large enough for 45 employees, and toilets.

3.6.5 First Aid / Medical Room

The First Aid centre will be in the administration building. The centre will have suitable access for any medical supplies or persons requiring access in the case of an emergency. The centre will be designed to have adequate space for a private examination room and a bathroom.

3.6.6 Bath House

It is proposed a bath house of 20 x 40 m be included on site to cater for up to 55 employees. It will have a dirty side and a clean side with showers and toilets down the middle. A separate section for female staff will be included.

3.6.7 Vehicle Washdown Bays

Washdown bays for both heavy and light vehicles are required for cleaning prior to maintenance and for adequate cleaning and washdown of vehicles and equipment before leaving site. The heavy vehicle washdown bay will be designed to allow typically 230 t payload capacity rear dump trucks to be cleaned. Nominal dimensions will be 25 x 12 m and it will contain a means of removing waste oil and reusing water. An oil-water parallel-plate separator system including storages for dirty and clean water will be installed and will be sized to strip vehicle washdown effluent and oily-water sourced from other areas of the MIA, mine, CHPP and TLF.

A light vehicle washdown bay with nominal dimensions of 10 x 5 m will be established to clean light vehicles prior to leaving site. This washdown bay will contain a means of transferring the waste water to the heavy vehicle washdown way for stripping using the installed oil-water separator facility.

3.6.8 Fuel and Lubricants Installation

A fuel and lubricant bay will be established to support the maintenance and refuelling of heavy and light vehicles. The installation will be configured to store waste oils returned from servicing of mobile equipment prior to collection for disposal.

The bulk storage capacity for diesel fuel will be 750,000 L which equates to a five-day supply. Estimates are based on three self-bunded storage tanks with pumping equipment capable of supplying separate light and heavy vehicle fuelling points. B-Double vehicles with an average load of 50,000 L will deliver fuel to the installation. It is envisaged that local storages serving fixed diesel

generating units on site will be fuelled by the site mine service vehicle. Bulk storages and filling areas will be bunded to contain spillages, with liquid waste contained for pump-out and processing through an oil-water parallel-plate separator system.

Bulk lubricant storage tanks will be appropriately sized to receive deliveries by road tanker with compartment sizes varying between 5,000 L and 8,000 L. Total lubricant consumption is estimated to average around 10,000 L per week. Tanks and fill areas will be bunded to contain spillages, with liquid waste contained for pump-out and processing through an oil-water parallel-plate separator system.

3.6.9 Waste Station

A purpose-built waste station will be built consisting of a bunded concrete pad with concrete wing walls to allow segregation of dry waste types for collection. Waste will be kept in skips or bins for transfer and disposal off-lease. Waste storage and its disposal will be managed in accordance with existing EHP waste management regulations and policies.

3.6.10 Car Parks

The main site car park will be adjacent to the administration building and be nominally 36 x 50 m with 75 parking spaces with a sealed surface. Smaller vehicle parking bays will be located outside all MIA installations as required.

3.6.11 Hazardous Materials Storage

Small volume hazardous materials (e.g. adhesives, coatings, cleaners, etc.) will be kept in purpose-built containment cupboards in accordance with current statutory requirements and the relevant safety data sheets (SDS). Purpose-built containment cupboards will be located in the vicinity of the workshops and stores.

Larger volume hazardous materials will be managed according to their respective SDS and in line with current industry standards. The design for the fuel and lubricant installation will incorporate necessary aspects for the safe storage and delivery of diesel and oils. Other hazardous items, such as any radioactive metering products, will be managed in accordance with industry guidelines and manufacturers' recommendations.

3.6.12 Drill Core Storage

All core analysis will be performed off site. On site storage will be in an enclosed shed with a concrete floor and forklift access to store the drill cores as they are produced. If required, this shed will also be used to store product samples from the CHPP before they are taken off site for analysis.

3.6.13 Crib Facilities

Appropriately designed crib facilities will be included in the administration building, CHPP office, HME workshop and mine office. Mobile Crib Hut Facilities will be provided for mining personnel operating in the field.

3.6.14 Security

The Project area will be fully enclosed with appropriate fencing to restrict unauthorised access. Access to the site will be via Automated Security Gates with closed circuit television and intercom, one on each side of the Bruce Highway, as the principal entry points for the north and south mining areas, augmented with an internal access security system. Secondary external access points will be locked at all times and will only be used by authorised mine site personnel.

Access to the site by visitors will be permissible under a strictly controlled system with defined Standard Operating Procedures. The system will incorporate procedures to ensure visitors are fully authorised to access the site, have satisfactorily completed site inductions and are registered into the site Safety and Health Management System (SHMS). The site security system will be routinely reviewed to ensure procedures remain current and continue to achieve security objectives.

3.6.15 Mine Store

A warehouse with laydown yard will house mining consumables and spares. The warehouse is anticipated to be a lockable shed of 30 x 40 m with a concrete floor and lighting with a 75 x 100 m yard attached.

The final design of the mine will allocate suitable space in specified locations as further laydown areas. These locations will be suitably designed and bunded to minimise potential impacts from overland flows.

3.6.16 Administration Building

A single storey administration building will be located adjacent to the MIA. Nominal dimensions for the administration building are 50 x 30 m. Conceptually, the administration building will contain a reception area, ten offices, a meeting room, a kitchenette, rest rooms, the first-aid centre, the security office and training room designed to seat 50 personnel.

3.6.17 Fire Fighting Systems

Installations that require specialised firefighting systems, such as the fuel and lubricants bay, will have a proprietary firefighting system incorporated into their design. A water cart will be included in the service vehicle fleet fitted with a water monitor, foam generator and fire extinguishers to fight fires that may ignite in the mine, MIA, CHPP or on haul roads.

The CHPP and MIA will have a nominal 600,000 l fire water tank and associated pumping and reticulation systems.

3.6.18 Sewage Treatment Plant

A STP will be located at the Project site to treat sewage from the Project. The STP will be a modularised shipping container housed system, designed for a maximum of 100 permanent onsite staff. The liquid waste discharged from the STP will be Class A recycled water, suitable for general surface irrigation of plants and gardens and dust suppression. Sludge

It is proposed that bio-solids (activated sludge) from the STP will be stabilised and treated, along with other organic wastes, for use as a soil conditioner as part of the Project's rehabilitation strategy. Bio-solids will be removed from the STP and taken to a purpose built bio-solid treatment area. The bio-solids will be laid on covered pads to dewater. Once dewatered the bio-solids will be

incorporated with other waste streams suitable for composting, and eventually used on site as compost. Water from the bio-solids treatment area will be captured and returned to the STP for reuse.

3.7 Offsite Infrastructure

3.7.1 Workforce Accommodation

The majority of the workforce for the Project is anticipated to come from the local area as a drive-in drive out workforce. Where personnel require local accommodation, this will be provided at the townships of Marlborough, Ogmore, St Lawrence and Clairview.

3.8 Rehabilitation and Decommissioning

As required by the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland series (DME, 1995) and the Rehabilitation Requirements for Mining Projects (EHP, 2014), the Proponent will seek to achieve:

- A landform that is physically safe for humans and wildlife, geotechnically stable and non-polluting;
- A landform with the same or similar land use suitability and EVs it had prior to the disturbance, unless other beneficial land uses are agreed with the post-mining landowners and relevant regulators;
- Progressive rehabilitation of disturbed land so that it is self-sustaining or where the maintenance requirements are safe and consistent with an agreed post-mining land use; and
- Maintaining the same or similar pre-mining water values, including surface water and groundwater quality and volume, that maintain existing ecological processes and are acceptable for existing and future users within or surrounding the site.

These goals are consistent with the principles of ecologically sustainable development as required by the EP Act.

The base case for rehabilitation is that all land disturbed by mining will be rehabilitated with native vegetation to maintain the same, or similar, environmental and cultural values as the land prior to mining. Where cattle grazing is the preferred end use, disturbed land will be rehabilitated to support appropriate vegetation.

Progressive rehabilitation will be undertaken as mining advances rather than taking place as a large operation once mining is complete. Rehabilitation of the MIA and other significant mine infrastructure will take place once mining is completed and plant and structures decommissioned.

Land not impacted by mining activities will be retained as either undisturbed native vegetation, including vegetation that will be retained within environmental buffers along waterways or land under cattle grazing. Through the retention of vegetation buffers and proposed progressive rehabilitation with endemic native species and / or appropriate vegetation for cattle grazing, no significant changes to the broad scale vegetation character of the Project area at the landscape scale are expected.

The base case for decommissioning is that all infrastructure will be completely removed, unless otherwise agreed with the post-mining land owner and accepted by the relevant Government regulators as part of the final decommissioning plan. These discussions will be held with the relevant parties well in advance of mine closure.

4 Existing Environment and Potential Impacts

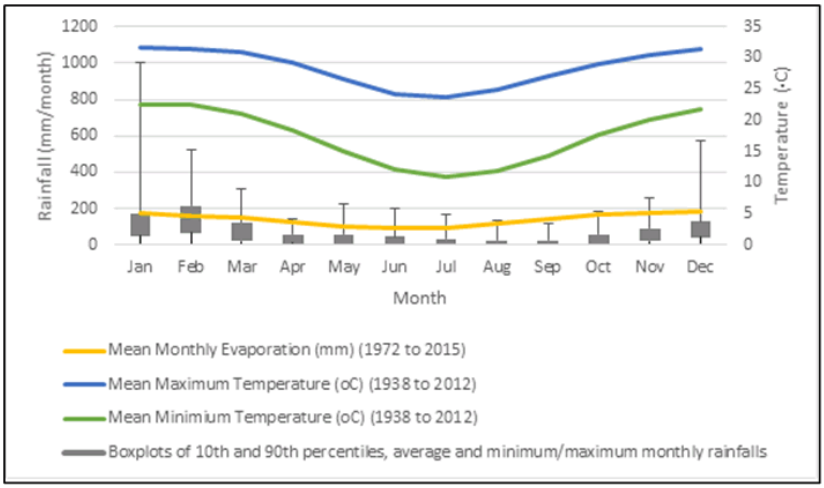
4.1 Climate

Climatic conditions in the Styx catchment are typical of a seasonally dry subtropical region. Higher rainfall in the months of November through to March corresponds with the major climatic drivers in the region being intense cyclonic low pressure influences and associated rain depressions. The overall annual rainfall is relatively low, and evaporation exceeds rainfall typically for all months.

4.1.1 Rainfall and Evaporation

Rainfall in the Styx catchment varies between 800 mm/year in the south to around 1,100 mm/year in the north (Melzer et al, 2008). A number of rainfall recording stations are located within the Styx catchment in the vicinity of the MLA area. These include Strathmuir and Tooloombah, St Lawrence Post Office and Mystery Park.

Monthly rainfall statistics from Strathmuir (BoM station no. 033189) for the period from 1941 through to 2016 is shown in Figure 4-1. These statistics show that generally November to March receives the most rain, with around 70% of the annual rainfall falling in this period. A larger variation is seen for the summer rainfall months, with January recording the largest variation (up to a maximum of 1,002 mm in January 1951).



Source: Rainfall from Strathmuir (BoM station no. 033189); Temperature and evaporation data from St Lawrence Post Office (BoM station no. 033065)

Figure 4-1 Rainfall, evaporation and temperature trends

The evapotranspiration Climatic Atlas of Australia (BoM, 2001) shows average annual evapotranspiration (areal potential) between 1,700 to 1,800 mm/yr, matched by recorded evaporation data in the area of 1,685 mm/yr (St Lawrence Post Office, BoM station no. 033065). Average evaporation exceeds average rainfall for all months as shown in Table 4-1 and Figure 4-1. However, as noted above, the large variation in rainfall means that 90th percentile rainfalls exceed evaporation during the January to March period.

Table 4-1 Monthly average evaporation and rainfall

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Monthly Evap. (mm)	174	158	152	129	105	90	96	115	140	167	177	183	1686
Mean Monthly Rainfall (mm)	138	145	82	36	39	31	26	19	16	40	64	104	740
Difference (Evap. – Rainfall) (mm)	36	13	70	93	66	59	70	96	127	127	113	79	946

Source: Evaporation from St Lawrence Post Office (BoM station no. 033065), rainfall from Strathmuir (BoM station no. 033189)

4.1.2 Temperature and Humidity

The annual average maximum temperature from the St Lawrence Post Office site (BoM station no. 033065) is 28.4°C, with a relatively small variation in average maximum temperatures across each month (23.8 to 31.7°C). Maximum temperatures above 40°C occur in the record in November to February, with the maximum of 44°C recorded on 5 January 1994. Mean minimum temperatures range from 10.9 to 22.5°C with a mean annual monthly minimum of 17.4°C. The minimum temperature was 2.2°C, which was recorded on 19 July 1963.

Average monthly relative humidity varies between 46% (3pm reading) and 74% (9am reading) throughout the year, with the highest values recorded at 9am between January and June, and the lowest between June and October at 3pm. These values reflect the dry conditions typical of the region.

4.1.3 Wind

The prevailing winds in the region are predominately from the south-east in the morning between January and April, and August to September, switching to south and south-east in June and July, and north-east in October to December. The afternoon winds are predominantly from the north-east, switching to south-east in June, though south-easterlies and easterlies gain progressively in prominence from November through to June, decreasing between July and October.

Average wind speeds are recorded as 10.9 km/hr at 9am, and 15 km/hr at 3pm throughout the year, with maximum wind speeds recorded over the past year of 9 km/hr and 15 km/hr at 9am and 3pm respectively. Tropical cyclones occur in the region, with gale force winds exceeding 60 km/hr and gusts in excess of 90 km/h.

4.1.4 Baseline Climate Data

An automated weather station (Weather Maestro weather system from EnvironData) was installed on the Mamelon homestead site on 14 July 2011 (Lat 22.7141°S, Long 149.6457°E). The station includes a 10 m mast, solar panel, next G telemetry and the following instrumentation:

- Wind speed sensor;
- Wind direction sensor;
- Electronic relative humidity sensor;

- Two air temperature sensors (one at 2 m, one at 10 m);
- Tipping bucket rain gauge with 0.2 mm tip;
- Solar radiation sensor; and
- Barometric pressure sensor.

The weather station is intended to operate continuously for a period of at least 12 months to provide climatic information to support air quality and noise monitoring and to provide information to the operating mining activities on the site.

4.2 Land

4.2.1 Topography and Geomorphology

Elevations across the Styx catchment range from 0 to 540 m above sea level. The area within the MLA predominantly comprises flat or undulating lands, draining via a number of smaller creeks and tributaries to the Styx River and estuary, and into the Coral Sea. The land within the Project area can be described as gently undulating.

A LiDAR survey was conducted of the original EPC 1029. Based on the LiDAR data, elevations within the MLA area vary between 4.5 and 155 m AHD, with the disturbance area located between 11.4 and 43.8 mAHD.

Based on the Capricornia Coastal Lands (CCL) program (DPI, 1995), the MLA area contains the following geomorphological land units:

- Broad, level to gently undulating alluvial plains and fans on alluvium, including some areas of gilgai microrelief (melon hole);
- Level to gently undulating plains and rises on sedimentary rocks and unconsolidated sediments, including some minor to severe melon hole;
- Undulating rises and low hills on deeply weathered sedimentary and metamorphic rocks;
- Narrow floodplains along the Styx River;
- Dissected low plateaus on gently dipping sedimentary rocks; and
- Rolling low hills and rises on hard sedimentary rocks.

4.2.2 Geology

The Styx Basin is a small Early Cretaceous intra-cratonic sag basin, covering some 300 km^2 onshore and 500 km^2 offshore. It probably developed by subsidence of the Strathmuir Synclinorium, an older feature containing Permian Bowen Basin strata (Geoscience Australia, 2008). The Styx Basin plunges to the north-northwest, with an elongate shape bounded by the half graben fault to the east and onlapping the Permian Back Creek Group to the west (Arrow Energy, 2005; Waratah Coal, 2008), but the general dip of the Styx Coal Measures sequence is to the east.

The southern part of the basin is bounded to the east by a post-depositional high-angle reverse fault, with the adjacent Cretaceous sediments folded and faulted. The known strata of the basin are referred to as the Styx Coal Measures and consist of quartzose, calcareous, lithic and pebbly

sandstones, pebbly conglomerate, siltstone, carbonaceous shale and coal. The environment of deposition was freshwater, deltaic to paludal with occasional marine incursions. The Styx Coal Measures outcrop on the western edge of the Styx Basin have an average dip of 5-60° to the east (Arrow Energy, 2005).

The geology in the MLA area is characterised as Quaternary alluvial deposits overlying the Styx Coal Measures (DNRM&W, 2006). These in turn overly a progression of Late Carboniferous to Late Permian deposits of the Back Creek Group (Carmilla Beds and Glenprairie beds, from shallowest to deepest). Geological information for the proposed mining area is also available from the bore logs of holes drilled by Fairway Coal which broadly confirms the above geology (largely mudstone, sandstone and siltstone, with conglomerate and claystone, along with the coal deposits).

4.2.3 Soils

Other than small areas associated with the foothills of Mount Bison and Mount Mamelon, the soils overlying the base geology on Quaternary alluvial sediments are predominantly Sodosols, Kandosols and Vertosols. These soils are considered to be imperfectly drained, clay loam to clay, and are associated with floodplains, areas of alluvium near rivers/creeks and flat to very gently undulating topography.

The key soils occurring within the MLA area are Sodosols, Vertosols and Kandosols, with the Sodosols being the dominant soils where drilling has occurred, bounded to the north by Vertosols and the south by Kandosols. Similarly, Sodosols, Vertosols and Kandosols are the key soils occurring at the various TLF locations. Broad soil associations across the Project area are shown in Table 4-2.

The north and south pit and initial out of pit spoil dump areas contain strongly sodic cracking clays; bleached loamy and clay loamy surface, alkaline sodic duplex soils; and bleached loamy and clay and loamy surface, alkaline sodic duplex soils, while the MIA area also contains bleached loamy and clay loamy surface, alkaline sodic duplex soils and massive fine sandy loams.

Table 4-2 Soils in the proposed MLA area

Soil landscape	ASC*	Surface area in MLA (ha)	Approx. area to be disturbed		Major soil description
			ha	%	
Blackwater	Ve, So	1132	0	-	Grey, brown and black cracking clays
Hedlow	So	1	0	-	Bleached loamy, clay loamy and silty surface, brown and grey, alkaline sodic duplex soils
Kooltandra	So	10	0	-	Bleached clay loamy and silty surface, brown and grey, alkaline sodic duplex soils
Plainview	So	3809	951	13	Black and grey, strongly sodic cracking clays, bleached loamy and clay loamy surface, brown and grey, alkaline sodic duplex soils
Rosewood	So	977	0	-	Bleached sandy and loamy surface, brown and grey, alkaline sodic duplex soils
Somerby	Ve, So	343	286	4	Black and brown cracking clays, bleached loamy and clay loamy surface, brown and grey, alkaline sodic duplex soils
Styx	Ve	230	59	1	Brown, massive fine sandy loams

Soil landscape	ASC*	Surface area in MLA (ha)	Approx. area to be disturbed		Major soil description
			ha	%	
Tooloomba	Sp	916	0	-	Bleached sandy and loamy surface, brown and grey, alkaline sodic duplex soils
Torilla	Ka	51	0	-	Red, structured gradational clay loams and uniform clays

*ASC = Australian Soils Classification, Ve = Vertosol, So = Sodosol, Ka = Kandosol

4.2.3.1 Acid Sulfate Soils

Due to the close proximity of the Project area to the coast, coastal Acid Sulfate Soils (ASS) could potentially occur within the MLA. Ross (2002) undertook intrusive ASS investigations, identifying a high occurrence of ASS on the coastal plain between Tannum Sands and St Lawrence. ASS formation was recorded up to 5 mAHD in the Broadsound coast with minor occurrence of ASS situated in some landforms where the ground surface elevation is greater than 5 m (located at Stanage Bay), in particular beach ridge plains and marine couch plains.

The CSIRO (2013) National ASS Mapping describes the Project area as having a low to extremely low probability of containing ASS. Areas likely to be associated with ASS are those at low elevation (around 5 mAHD) in close proximity to coastal areas and tidal areas of the Styx River, occurring in the alluvial plains and flood plains present to the north of the MLA. The national ASS mapping (refer to Figure 4-4) shows proximity of the Project to the 10 mAHD contour. As can be seen, the site straddles the low to extremely low ASS categories, and is located beyond the 20 m contour.

Further soil investigation works to identify soil and geology of the Project area, and areas that could potentially be at risk of disturbing ASS will be undertaken as part of the EIS.

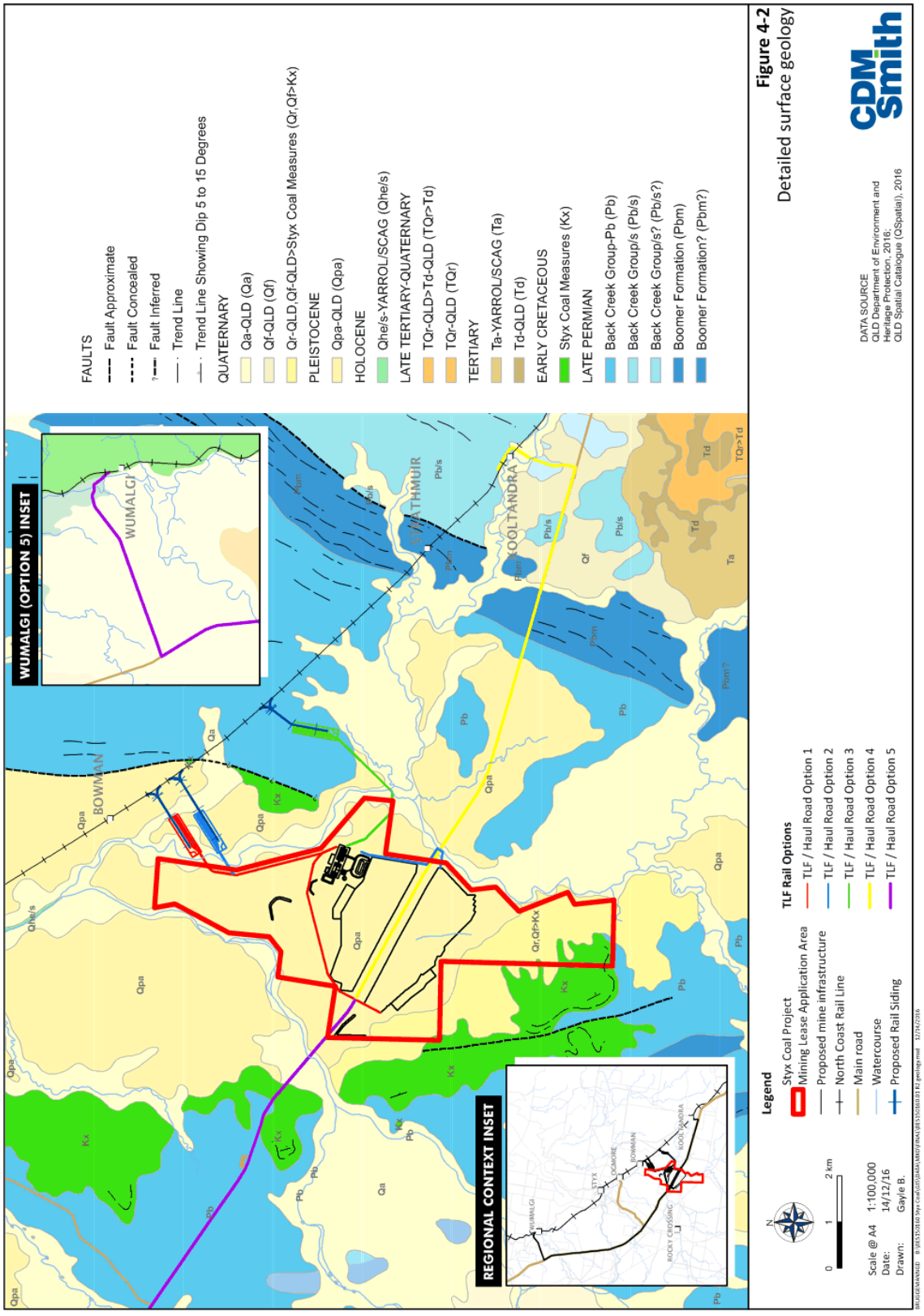


Figure 4-2
Detailed surface geology

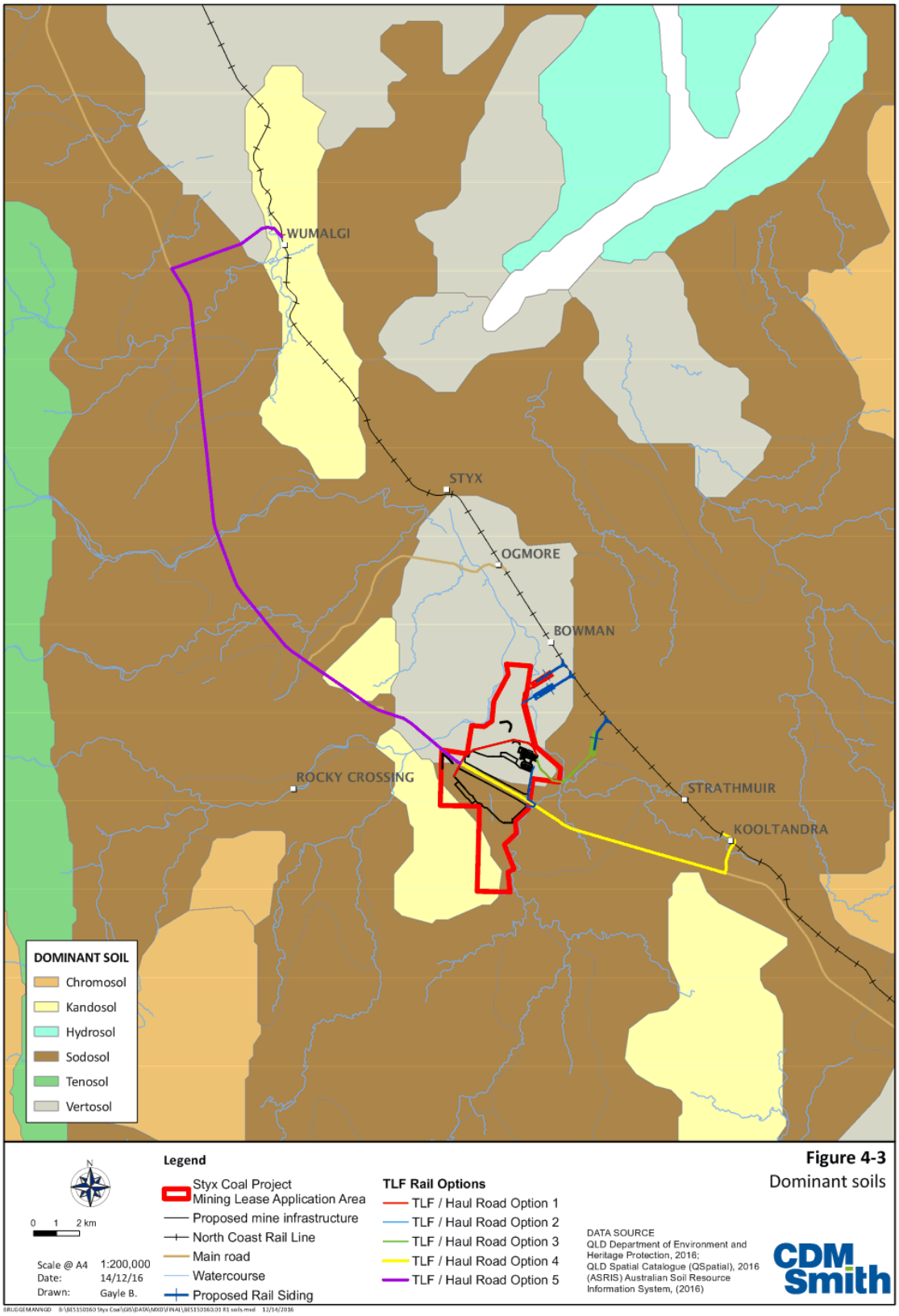


Figure 4-3
Dominant soils

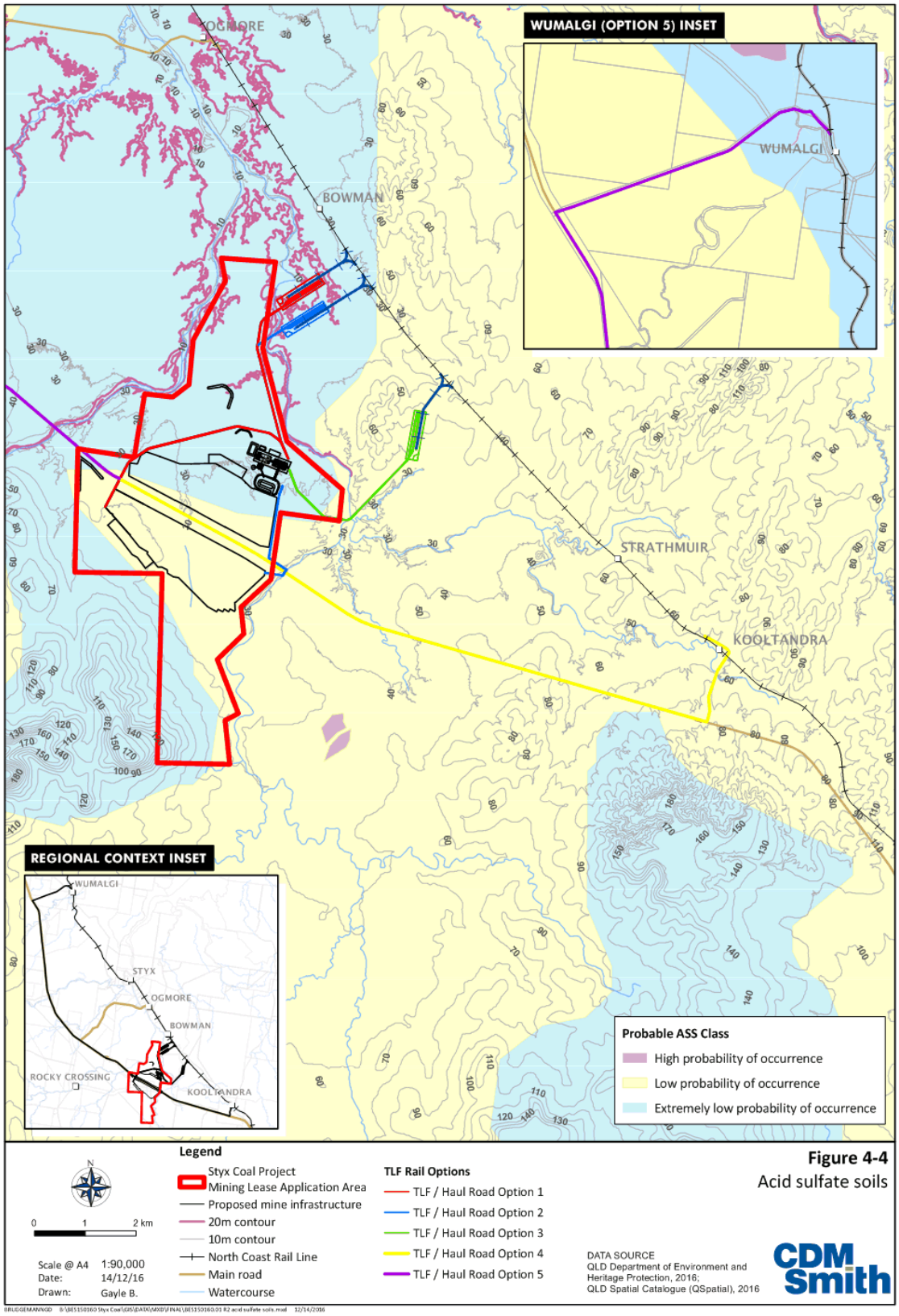


Figure 4-4
Acid sulfate soils

4.2.3.3 Land Use and Suitability

Approximately 80% of the MLA area has been historically cleared and converted to pasture (Oberonia, 2011). Water can pond in the landscape for a period of weeks to months after rainfall. The clay mineralogy of Vertosols produces shrink and swell characteristics that cause soil bulk density and hydraulic conductivity to vary with soil water content. The shrink-swell characteristics of some of the cracking clay soils (Vertosols) form melon holes (gilgai microrelief). Melon hole microrelief persists in spite of recurrent clearing of brigalow regrowth and disturbance of the cracking clay soil and varies significantly in diameter and depth.

The MLA and broader Project area has been used for beef cattle grazing for many years. There is no evidence from annual inspection of Landsat TM imagery of historical cropping activity within the Project boundary since 1999.

4.2.3.4 Potential Impacts

Mining may alter soil depth, stability and capacity of soils to recycle carbon and nutrients and the size of the seed bank. These factors can impact on the quality of the revegetation and the productivity of rehabilitated ecosystems affecting the post-mine use and visual amenity of the site. Exposure of weatherable minerals at the land surface may also result in exposure of dispersive, saline or reactive material that could reduce productivity and water quality, both on and off-site.

Good Quality Agricultural Land (GQAL) and Strategic Cropping Land (SCL) trigger areas occur over TLF Options 1 and 2 and part of the haul road to both TLF options. GQAL without a SCL overlay also occurs in a further section of the haul road to the TLF (see Figure 4-5). For the SCL aerial photograph assessment has not identified any evidence of cropping in the mapped SCL land since at least the late 1990s. Further ground assessment will be undertaken as part of the EIS to determine if the lands meet the SCL criteria and whether the lands would be subject to the SCL legislation, as well as identifying GQAL and land suitability.

4.2.4 Contaminated Land

The proposed MLA area incorporates land primarily used for cattle grazing on natural vegetation. Potentially contaminating activities, typical of agricultural related practices, that may occur inside the MLA area include:

- Chemical storage and use – herbicides, pesticides and fertilisers;
- Under and above ground fuel storage, in particular small (<10,000 L) tanks on homestead / farm holdings;
- Small mining enterprises, including several abandoned coal collieries along the rail line at Ogmore;
- Abattoirs (although no evidence, anecdotal or otherwise, was found for the area);
- Cattle burial sites (if any) – e.g. from deaths due to natural disasters, disease, etc.;
- Unlicensed landfill sites;
- Livestock dip or spray race operations (existing or abandoned);
- Sewage treatment – likely to consist of multiple small septic type systems scattered across the MLA area; and
- Dwellings constructed of fibrous cement and other material containing asbestos.

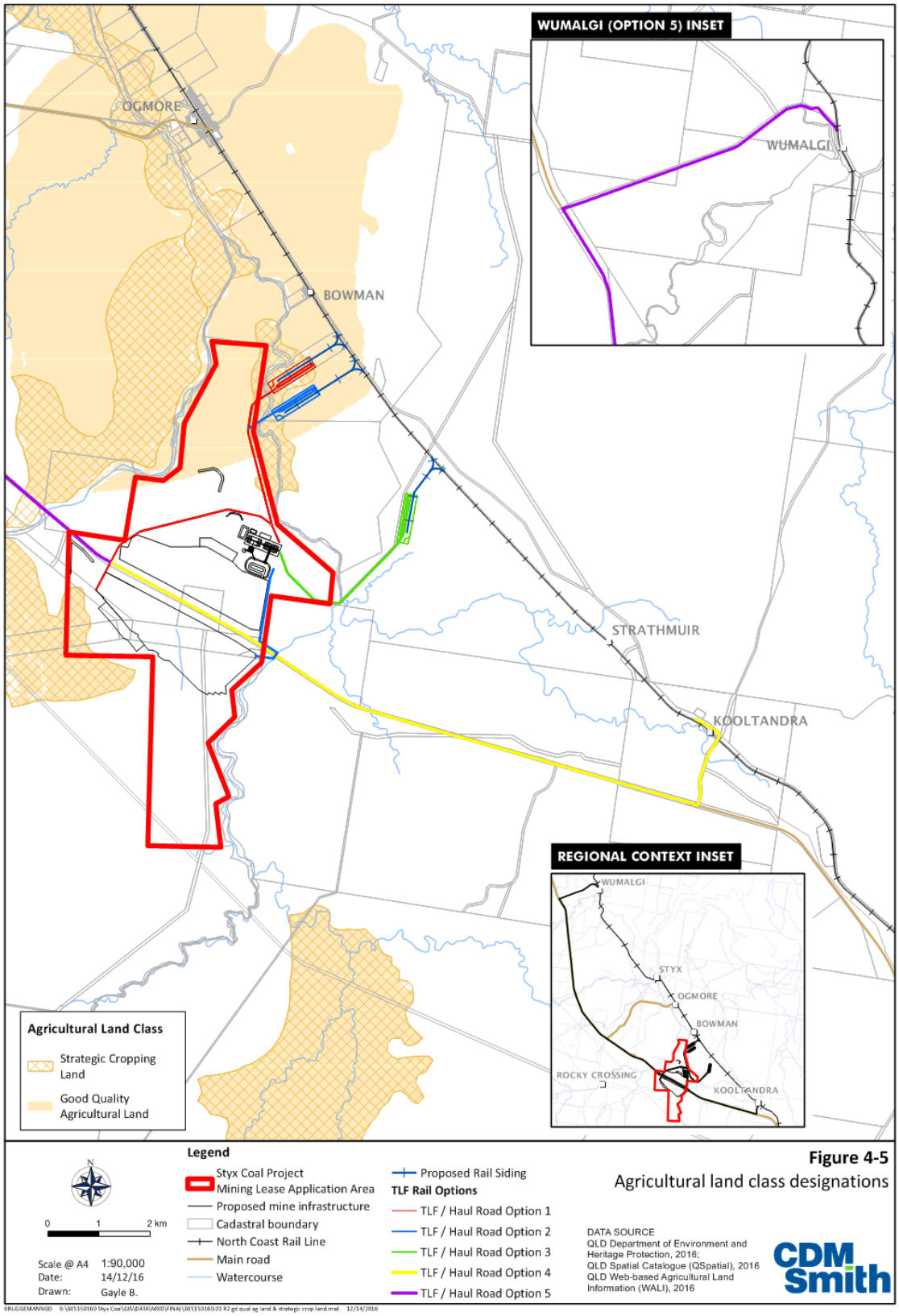


Figure 4-5
Agricultural land class designations

4.2.4.1 Historical Review

A search of the Environmental Management Register (EMR) and Contaminated Land Register (CLR) was undertaken on the 21 June 2011 for land on and adjoining the Project area subject to geological drilling activities over the Southern Resource, comprising the following allotments:

- Lot 9 on MC496;
- Lot 11 on MC23;
- Lot 10 on MC493;
- Lot 87 on SP164785;
- Lot 1 on RP616700; and
- Lot 85 on SP164785.

None of the lots within the Project area were listed on either the EMR or CLR register.

Field observations and review of aerial photography did indicate the presence of cattle yards, and one cattle dip was located on the Mamelon property, near the south-east corner of the proposed Main mine pit. No other obvious polluting activities or signs of contamination were evident. Further investigations will be undertaken as part of the EIS.

4.2.4.2 Potential Impacts

There is the potential for contamination of land during construction and operation of the Project due to accidental spillage of hazardous materials or inadequate management of mining activities. There is also potential for contamination to be present as a result of the former cattle dip site that is located on the Mamelon property.

4.2.5 Acid Mine Drainage

Coal is often formed in environments with a high potential to produce sulfides. Mining of the coal and removal of interburden and overburden can result in the oxidation of these sulfides generating acidic runoff (sulfuric acid) with elevated metal and sulfide concentration. In addition, mining, stockpiling and processing of material can result in leachate from stockpiles of materials with saline or high metal concentrations. As such, a geochemical assessment has been undertaken, primarily to determine the acid mine and metalliferous drainage properties of coal, coal rejects and waste rock (overburden/interburden) material.

The coal reject is the waste rock and coal that are not suitable for product sale, with coarse reject the course fraction and fine reject (or tailings) the fine fraction. Both coarse reject and tailings will be segregated from the coal product at the CHPP.

The coarse rejects generated from the CHPP will be dewatered and discharged onto the CHPP rejects conveyor, which reports to the rejects bin. During the first years of mining, the coarse rejects will be truck hauled and placed within the out-of-pit waste rock emplacement area. Once the mine is sufficiently established until the end of mine life, the coarse reject material will be placed in the in-pit voids between the waste rock piles in the pits. Truck-shovel waste rock materials including topsoil will be used to cover the coarse reject material as part of the rehabilitation strategy.

Waste rock comprises the overburden and interburden materials required to be mined to access underlying coal resources. Waste rock will be stored predominantly within the open pit, although an out of-pit waste rock emplacement area will be constructed adjacent to the main open pit using a truck-shovel operation to accommodate material from the initial box-cut developed during the first years of mining. Tailings will be co-disposed with coarse rejects (cost benefit and mass balance calculations are being undertaken as part of the project feasibility analysis).

Whilst raw coal will be stockpiled on-site for a relatively short period of time (compared to mining wastes) and will be removed from site for sale, this material is included in the geochemical assessment program to ensure that the quality of surface runoff and seepage does not have the potential to compromise surface water and groundwater resources at the site.

A geochemical assessment has been completed on representative samples of drill core from the north and south pit areas, with a total of 136 samples of waste rock materials and 27 samples of coal and potential coal reject materials from 14 drill holes. The results from this assessment indicate that:

- The risk of acid generation from coal and mining waste materials is low. The samples show that coal and mining waste materials typically have very low sulfur content. Given that most materials have a moderate to high acid neutralising capacity (ANC), the resultant Net Acid Producing Potential is typically strongly negative;
- The overwhelming majority (over 98 %) of coal and coal mining waste materials tested are classified as Non-Acid Forming (NAF). Whilst some material may occur with uncertain or Potentially Acid Forming (PAF) characteristics, PAF materials appear to be visually distinguishable in the field (through the rare occurrence of pyrite) and management by selective handling and encapsulation is likely to be relatively straightforward; and
- Initial surface runoff and seepage from coal, coarse reject and tailing materials is likely to be alkaline and have medium salinity value as defined under Queensland technical guidelines (DME, 1995).

4.2.5.1 Potential Impacts

Environmental harm could potentially occur in and around the Project site if wastes are not managed properly according to the planned management strategies. Sensitive receptors, including residences and ecosystems surrounding the Project site, could be impacted if AMD from coal and mining wastes or other waste streams entered waterways and groundwater systems and migrated off-site.

4.2.6 Visual Amenity

4.2.6.1 Existing Landscape Features

The area is characterised by a flat to undulating landscape with extensive cleared areas dominated by agricultural land uses with scattered natural elements including remnant grassland and open forest.

Tooloombah Creek Conservation Park is located approximately 2 km to the west of the site. Deep Creek and Tooloombah Creek are prominent riparian features within the site. The Styx River is also located downstream of the Project site.

The Great Barrier Reef (GBR) Marine Park commences at the mouth of the Styx River and the GBR World Heritage Area extends upstream of the Styx River to approximately 10 km north of the site. The Broad Sound wetlands are also located approximately 10 km north of the site. However, there are no sensitive or rare landscape features in close proximity to the site.

4.2.6.2 Visual Receptors

The nearest residential township is Ogmore, located approximately 4 km to the north of the site. Several rural properties are located to the south of Ogmore, in close proximity to the site. The site is dissected by the Bruce Highway, which is elevated above surrounding lands. It is expected that these nearby visual receptors will experience changes in visual amenity to varying degrees due to the Project.

The site is also surrounded by elevated areas to the west and east and distant views can be gained to the site from these locations. The degree of visibility of the Project site was assessed to determine the level of visual impacts on both nearby and distant visual receptors.

Currently, the site is not visible from the townships of Marlborough or St Lawrence due to the location of ranges between these townships and the site, which provide a topographical barrier. However, areas to the east of St Lawrence have partial views of the site. The site is partially visible from the township of Ogmore and surrounding rural properties. There are also partial views from the Bruce Highway; however, this will be reduced as the Project develops as waste material and native tree plantings will be used to screen the operations from the Bruce Highway.

4.2.6.3 Potential Impacts

Visual changes are likely to occur as a result of topographical changes associated with extraction of coal and installation of visually intrusive infrastructure within the site. The existing vegetation within the investigation area is relatively open and will provide minimal screening of mining infrastructure in visible locations of the site.

4.3 Surface Water

The MLA and broader Project area are located entirely within the Styx River catchment (Queensland river basin 127), a small catchment forming part of the Fitzroy River Natural Resource Management region, which discharges into the Coral Sea adjacent to Rosewood Island. The catchment is formed by the Connors and Broadsound Ranges to the west (Nogoa/Mackenzie system). The catchment is located within the Brigalow Belt bioregion, in the Central Queensland Coast region, and abuts the Broad Sound Fish Habitat Area, as well as the GBR Marine Park (refer to Section 4.5.2 for discussion on Environmentally Sensitive Areas). No water resource plan is in force over the catchment. The location of the Project in relation to the catchment and waterways is shown on Figure 4-6.

Environmental values of the broader area include high integrity estuarine and riparian habitat with relatively few anthropogenic influences. Apart from natural bank erosion associated with tidal movement and recent flooding, the only other disturbances are related to minor clearing of mangroves for boat access, vehicle access to parts of the saltmarsh and minor road and walkway construction associated with the Newport Conservation Area. The large tidal movement means that the Styx River estuary is well flushed. This will result in a short residence time of any eroded sediment and contaminants associated with the Project within this estuary. Receiving waters in the Styx River are already turbid, but runoff from the Project has the potential to further increase turbidity.

The mine infrastructure is located between two tributaries of the Styx River, namely Deep Creek and Tooloombah Creek. Each of the five TLF site options are located in the vicinity of mapped watercourses and most typically either stream order 2 or 3.

4.3.1.1 Flooding

The Styx catchment is expected to experience some form of flooding as approximately 5,000 ha of freehold and leasehold land and a small area of public land are at or below the high tide level (Melzer et al, 2008). Marine plains may be briefly inundated from heavy summer rainfall and floods of inflowing freshwater creeks, but, after the wet season, water persists only in ponds and channels with few areas remaining inundated by mid-late dry season. Previous flooding in the area has resulted in loss of communications, transport routes (including road, rail and air) and damage to crops (RRC, 2009). Floodplains have been modified within the catchment which may have altered the natural hydrology in the region (GBRMPA, 2007).

An initial assessment of flooding in the vicinity of the project area indicates that the mine infrastructure can be located above Q100 flood levels. However, part of the resource area is potentially impacted by the Q100 flood. Larger floods will exceed this level and could potentially impact on mining operations if suitable flood immunity measures are not implemented.

Detailed hydrologic and 2D hydraulic models are currently being developed to assess the potential flood impacts, and to develop mitigation measures for flooding.

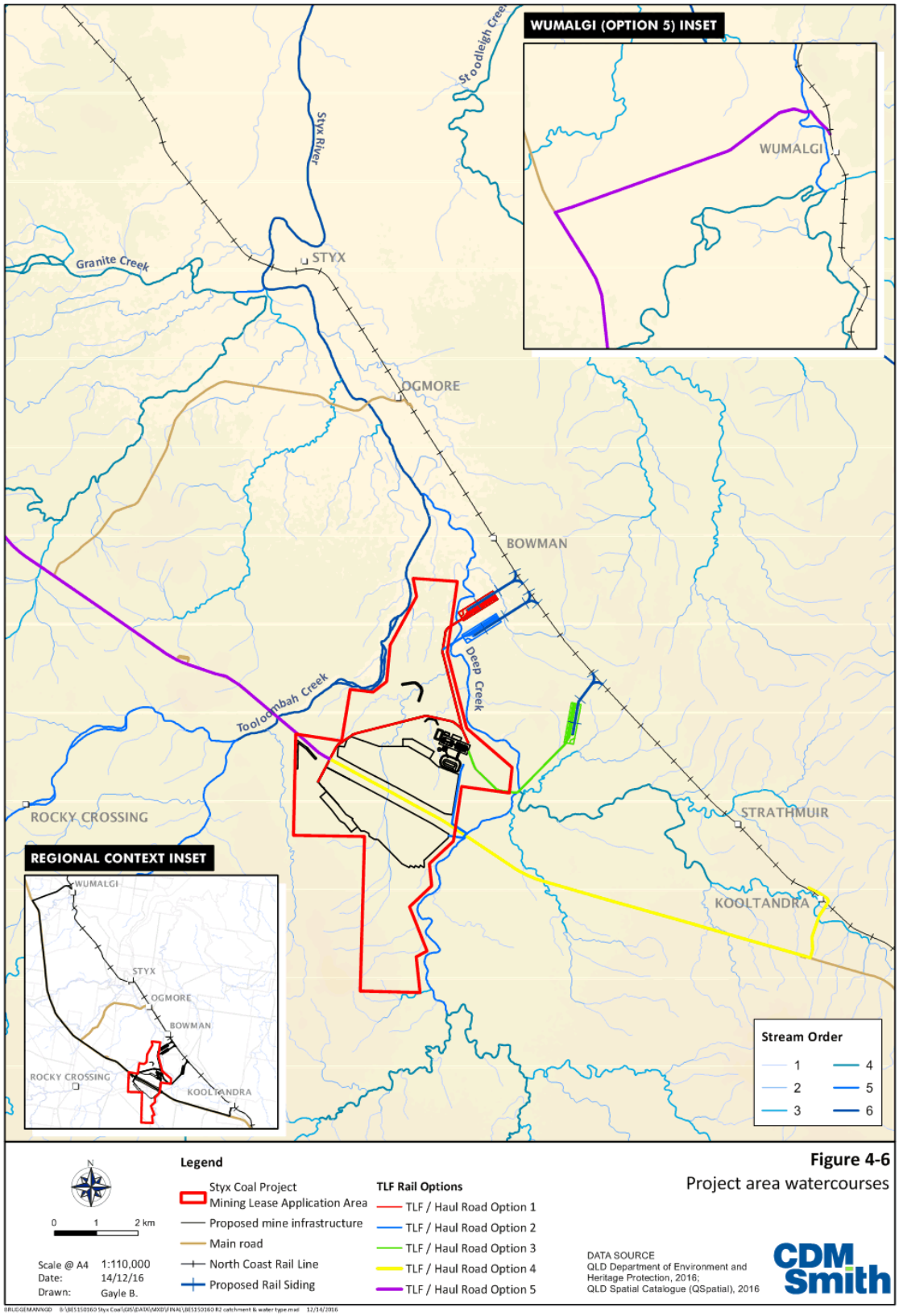


Figure 4-6
Project area watercourses

4.3.2 Potential Impacts

According to the *Environmental Protection (Water) Policy 2009,* the surface water environmental values that may potentially be impacted as a result of the Project include the:

- Biological integrity of the water course;
- Suitability of the water for agricultural uses;
- Suitability of the water for supply as drinking water;
- Suitability of the water for aesthetic or recreational use;
- Suitability of the water for industrial use; and
- Cultural and spiritual values.

The construction and operational components with most potential to impact on surface water quality and surface water flow regimes are presented in Table 4-3.

Table 4-3 Project components with the potential to impact surface waters

Construction components	Operational components
Mine pit	Pit excavation and dewatering
Building and infrastructure works	Processing, handling and transport of coal
Diversion of stream(s) around the pit areas	Management and storage of waste material, particularly coal rejects
Selective removal of riparian vegetation from streams	Ancillary activities, such as the operation of the CHPP, MIA (including workshops etc.)
In-stream works associated with road, rail and conveyor crossings	Water management systems, including flood immunity and site drainage structures
Movement of vehicles and the plant to and from and around the construction site	

The potential impacts to surface water resources from the above construction and operational components include:

- Erosion and sedimentation of waterways;
- Habitat loss;
- Surface water contamination;
- Increased surface water seepage;
- Coal dust emissions and spills during haulage;
- Riparian vegetation clearing and modification;
- Modification to in-stream habitat;
- Fish passage barriers;
- Runoff or chemical spills; and
- Alteration of stream and floodplain hydrology.

The aforementioned potential impacts will be further assessed in the EIS and appropriate mitigation measures will be proposed.

4.4 Groundwater

According to the Australian Natural Resources Atlas (ANRA, 2009), the Styx Basin is not covered by any Groundwater Management Unit (GMU), and the area is also characterised as Unmanaged-001 (i.e. not a managed unit) by the National Water Commission (2005). Limited data regarding groundwater resources are available, other than an estimate by CSIRO (2008) of a sustainable groundwater yield of 4 GL/year. However, this is likely to be a very approximate estimate given the scarcity and distribution of data.

The Styx catchment lies outside of any declared sub-artesian and mapped alluvial areas, and does not contain any groundwater monitoring network bores. A search of the DNRM groundwater database was undertaken to identify registered groundwater bores within 100 km of Ogmore. This search located approximately 1,200 bores, 112 of which are within the Styx catchment. Seventeen of the Styx catchment bores are located within the original EPC 1029. The bores relevant to the MLA area are shown at Figure 4-7.

4.4.1 Bore Census and Groundwater Levels

Coarse mapping of Australia at 1:5,000,000 by the Australian Geological Survey Organisation (1998) identified almost the entire Project area to be located within a region described as porous, extensive aquifers of low to moderate productivity. To the west, south and east are fractured or fissured, extensive aquifers of low to moderate productivity. These differentiations are broadly supported by bore records from the DNRM groundwater database.

The groundwater bore records included information on the depth of the aquifers encountered, and the standing water level measured after drilling. While limited data was available to provide a high level of certainty for most areas, the information does indicate that the water table / peizometric head is broadly a subdued reflection of the land surface (topography). Springs or artesian aquifers were not identified in the mapping or groundwater records for the Styx catchment.

The indicative groundwater flow is from south of the MLA area to north, towards the Styx River and into Broad Sound.

The aquifer location and standing water level from the well records were typically:

- Alluvial flood plains - 4 to 10 m depth to the top of the aquifer, with a groundwater head of 2 to 5 m below ground;
- Terraces and lower slopes – 8 to 20 m depth to the top of the aquifer, with a groundwater head of 4 to 20 m below ground; and
- Slopes and hills - 8 to 40 m to the top of the aquifer, with a groundwater head 2 to 15 m below ground.

Generally, groundwater bores within or close to the Project area were drilled in unconfined aquifers, on Quaternary alluvium (sand, mud and gravel commonly with 'melon holes' on higher terraces, and clay, silt, sand and gravel associated with floodplains) (Marlborough Geology, Sheet 8852, 1:100,000 DNRM&W, 2006). A bore located close to the investigation area on the Mamelon property (Bore RN97864) is drilled in the Cretaceous Styx Coal Measures. The borelog describes a sub-artesian fractured rock aquifer located approximately 40 m below ground surface and peizometric head 12 m below ground.

The information suggests that groundwater flow would be moderate to low in the vicinity of the Project area. Aquifer thicknesses were between 1 m and 6 m typically, with slightly thicker aquifers (up to 9 m thick) on terraces and lower slopes.

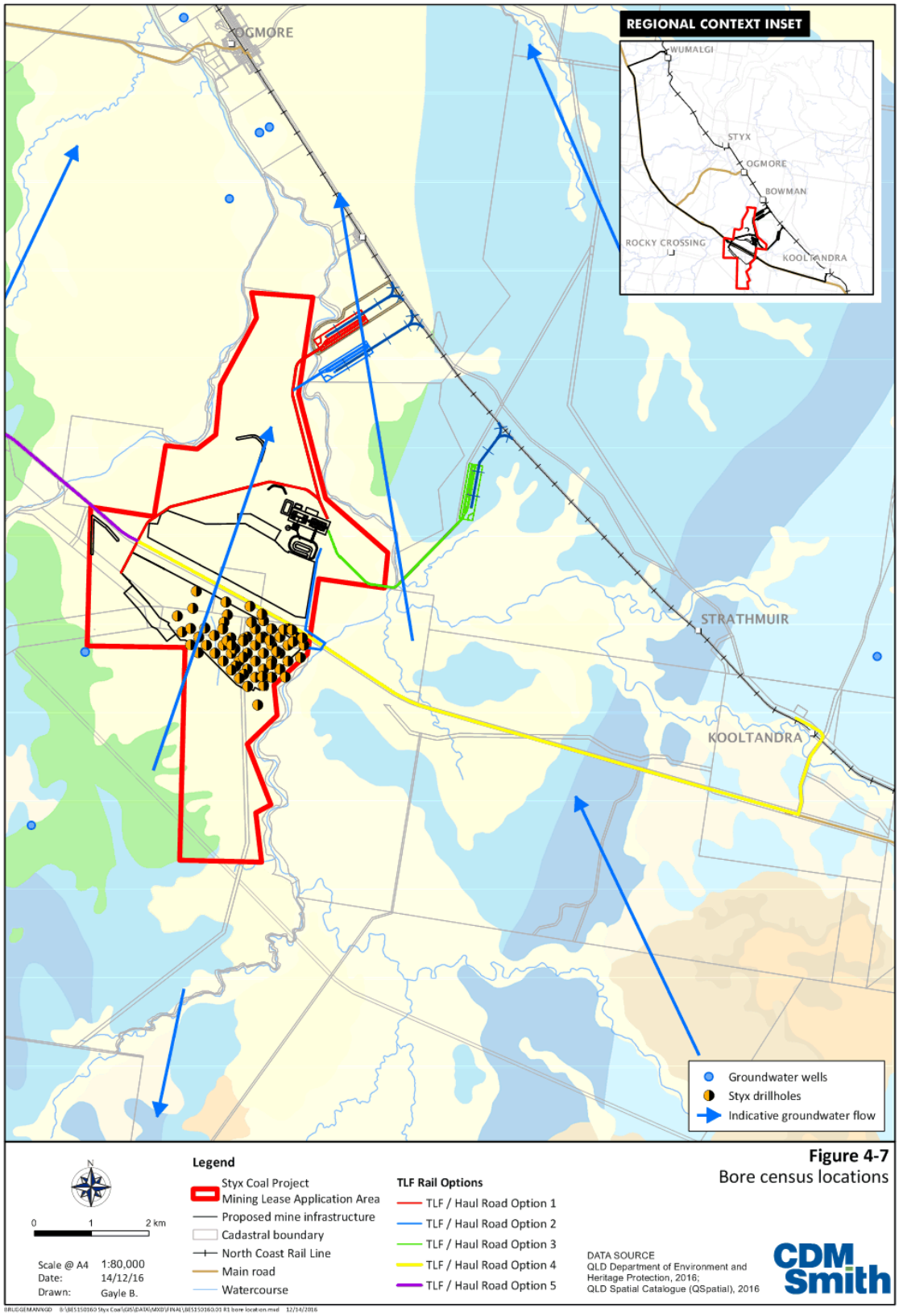


Figure 4-7
Bore census locations

4.4.2 Groundwater Quality

Typically, the groundwater can be described as occasionally fresh but mostly brackish in alluvial aquifers, and brackish in fractured and weathered rock on hills and slopes. When considering groundwater for water supply, the results show relatively high total dissolved salts and chloride values, which would require desalination by reverse osmosis to produce potable quality water.

4.4.3 Groundwater Resource Use

Groundwater use throughout the Styx catchment is mainly for livestock watering, with some domestic usage.

The groundwater system provides baseflow to perennial streams in the lower elevated areas of the catchment. It is likely that some ecosystems in the lowlands of the catchment are reliant on groundwater resources, particularly during periods of prolonged drought. Further assessment of groundwater use and ecosystem reliance on groundwater within the Styx catchment is currently in progress.

4.4.4 Stygofauna

A baseline stygofauna survey has been conducted within the Project area in accordance with the Western Australian Environmental Protection Authority's Guidance Statement 54 - *Guidance for the assessment of environmental factors (in accordance with the Environmental Protection Act 1986). Sampling of subterranean fauna in groundwater and caves*, and Guidance Statement 54a - the technical appendix (the WA Guidelines). In the absence of Queensland guidelines on subterranean fauna, at the time of assessment, the WA Guidelines were used.

The first round of sampling was conducted during the pre-wet season between 21 and 24 November 2011. A total of 27 groundwater bores were selected for stygofauna sampling. Two of the site surveyed registered one species at each site. Both species can be classed as stygofauna, including obligate groundwater species associated with the hypogean and permanent hyporheic environments.

The species composition of these sites indicates a fine to moderate grained unconsolidated alluvial aquifer with moderate to high connectivity with the associated river system with an interconnected hyporheic zone (Boulton and Hancock, 2006). The species also indicate moderate to high water quality and a shallow water table.

The absence of stygofauna from the remaining groundwater bores sampled for this Project does not indicate that they are not present in the aquifers sampled, rather, it may be due to unsuitable geological conditions (low porosity, low hydraulic conductivity), poor water quality (e.g. high EC or presence of other toxicants) or sampling from a recently drilled bore that has yet to stabilise and attract stygofauna (reduced likelihood of collection).

4.4.5 Potential Impacts

Open cut mining operations may locally impact on groundwater resources by the lowering of groundwater levels as a result of dewatering operations. Should the Project utilise groundwater resources for water supply, an impact in the form of lowered groundwater levels may occur in the alluvium associated with Tooloombah Creek and/or Deep Creek (depending on the draw location). Further investigations are being undertaken to assess the level of impact which may occur.

Contamination of groundwater resources is unlikely to eventuate from mining operations provided there is appropriate management of overland flows in the vicinity of disturbed areas. Water produced from open cut operations is likely to be brackish to moderately saline. Management of this water and its reuse in dust suppression and other mining activities, and ensuring that no offsite releases occur, will be key elements in minimising groundwater contamination from mining activities.

Mining operations that result in changes to groundwater quantity or quality may put stygofauna species at risk and this will be carefully considered when proposing management measures during the EIS process.

Direct effects on groundwater dependent ecosystems as a result of mining activities may include:

- Quantity (groundwater levels, pressures and fluxes);
- Quality (concentrations of salts and other toxic water quality constituents);
- Groundwater interactions (interactions between groundwater systems and between groundwater and surface systems); and
- Physical disruption of aquifers (excavation of mining pits and underground workings).

The extent of water affecting activities and their potential impact on groundwater resources will depend largely on the scale of the mining operation, mining method, and process water requirements, as well as the climatic and geological setting.

4.5 Nature Conservation

4.5.1 Bioregion and Subregion

The Project area occurs within the Brigalow Belt bioregion. Dominant vegetation communities include open forests (dominated by Brigalow(*Acacia harpophylla)*, Black Gidyea (*A. argyrodendron)*, Gidgee (*A. cambagei)*, Lancewood (*A. shirleyi)*, Dawson River Blackbutt (*Eucalyptus cambageana)*, River Red Gum (*E. camaldulensis)*, Forest Red Gum (*E. tereticornis)*), woodlands (dominated by Silver-leaved Ironbark (*Eucalyptus melanophloia*), Narrow-leaved Ironbark (*E. crebra*), Poplar Box (*E. populnea*), Brown's Box (*E. brownie*), *E. persistens*, Mountain Coolibah (*E. orgadophila*), Coolibah (*E. coolabah*), River Red Gum and Forest Red Gum) and small patches of semi-evergreen vine thicket.

The majority of the Project area occurs in the Marlborough Plains subregion (BRB14) of the Brigalow Belt bioregion.

The Marlborough Plains subregion is a characteristically undulating to hilly subregion with a complex geology.

The subregion is dominated by alluvial plains and colluvial slopes, usually supporting woodlands characterised by Poplar Gum (*Eucalyptus platyphylla*), Ghost Gum (*Corymbia dallachiana*), Forest Red Gum and Tea-tree (*Melaleuca* spp.) with low rises supporting Narrow-Leaved Ironbark.

4.5.2 Environmentally Sensitive Areas

The Styx catchment contains a number of Environmentally Sensitive Areas (ESAs) including areas in the following ESA categories:

- Category A: Conservation Parks, Forest Reserves, Great Barrier Reef Marine Park Region;
- Category B: Fish Habitat Area, Marine Plants, Endangered Regional Ecosystems (Biodiversity Status); and
- Category C: Nature Refuges, State Forests, Coastal Management District.

Category A, B and C ESAs located within the broader Project area are shown at Figure 4-8, Figure 4-9 and Figure 4-10.

ESAs associated with the Project and adjacent areas include:

- Category A: Conservation Parks – Tooloombah Creek Regional Park;
- Category B –Endangered Regional Ecosystems (Biodiversity Status); and
- Category C – Coastal Management District.

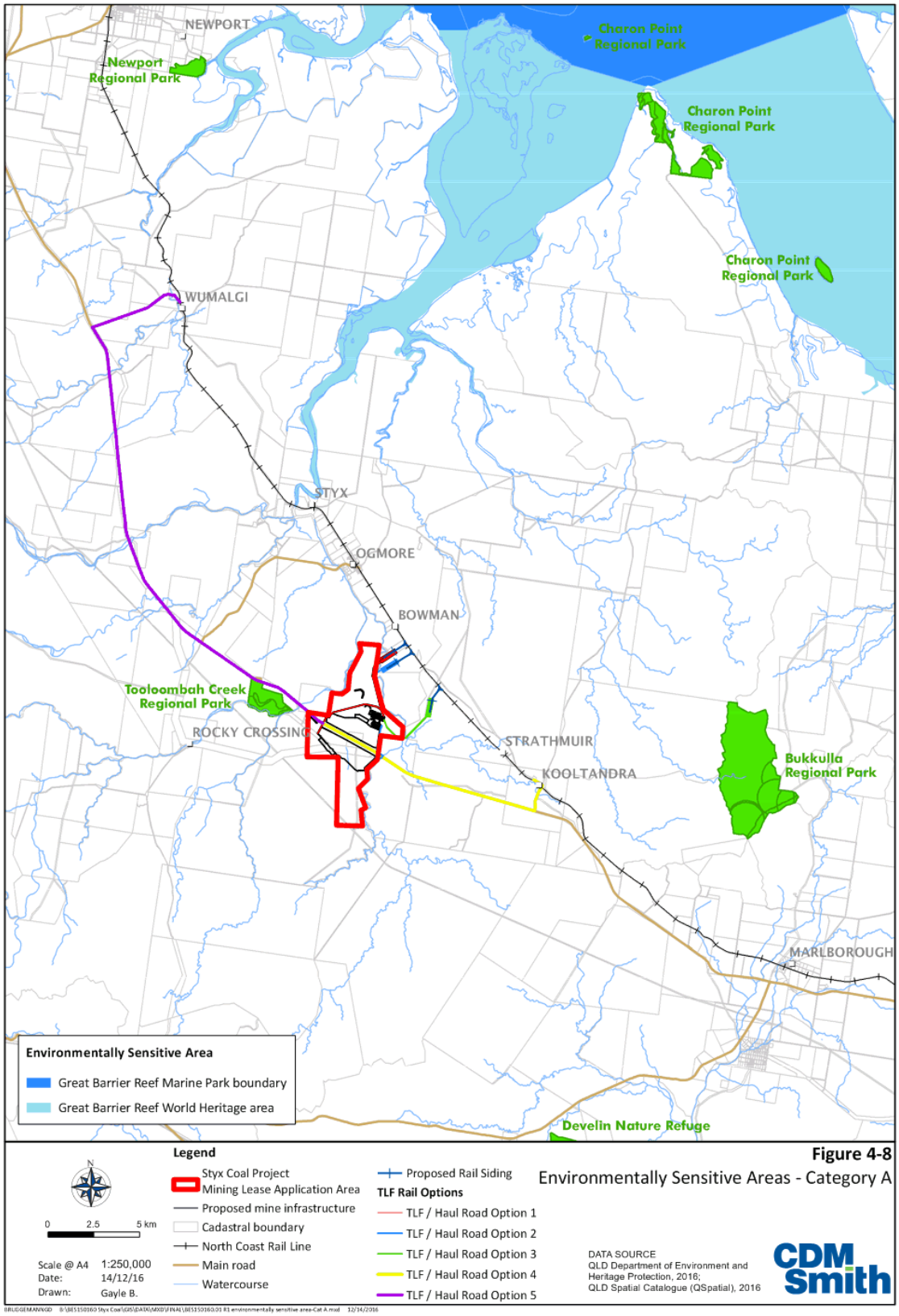


Figure 4-8
Environmentally Sensitive Areas - Category A

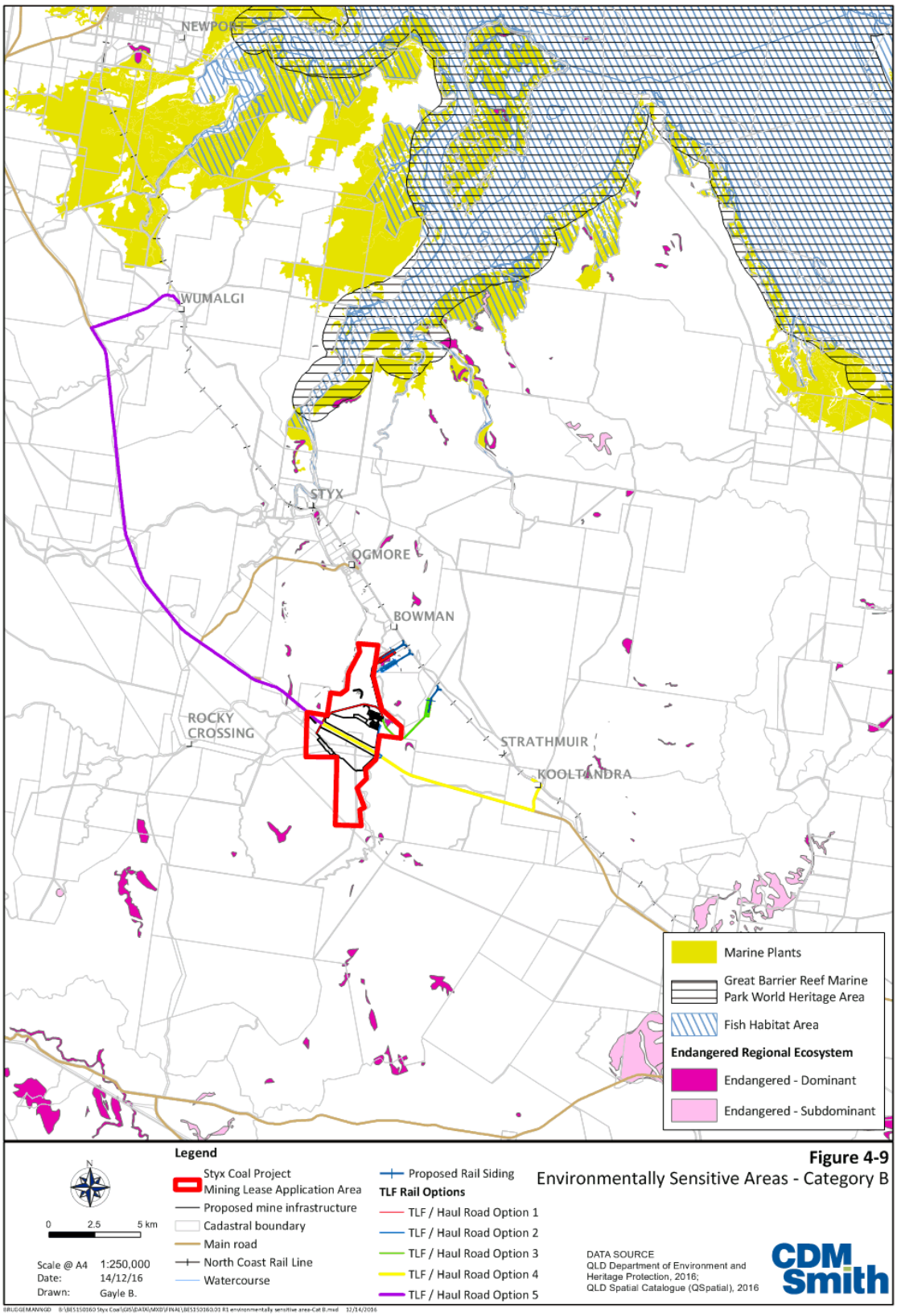


Figure 4-9
Environmentally Sensitive Areas - Category B

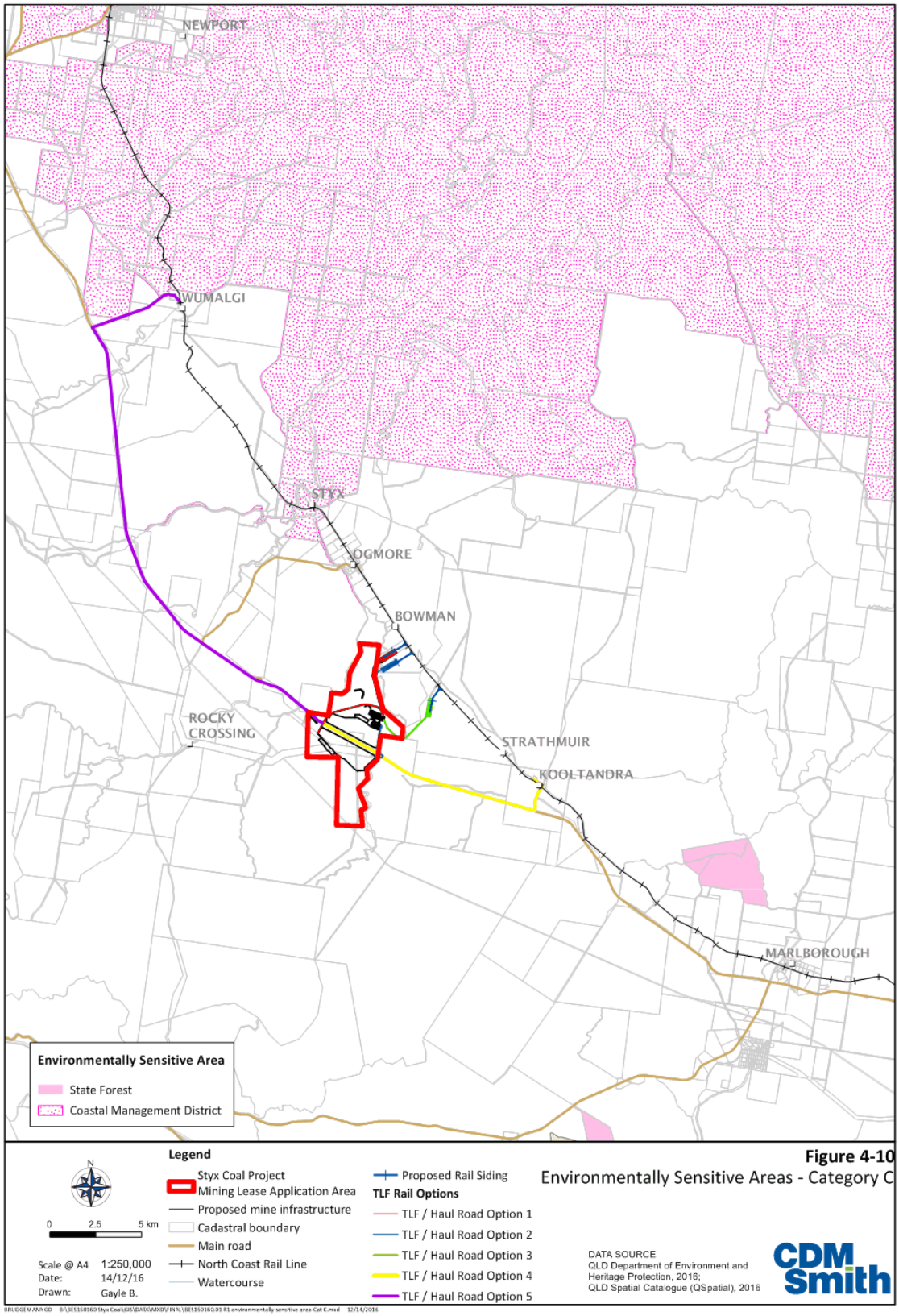


Figure 4-10
Environmentally Sensitive Areas - Category C

4.5.3 Regional Ecosystems

Assessment of current DNRM RE mapping identified 12 REs occurring on six land zones within the Project area: alluvial river and creek flats (land zone 3); Cainozoic clay plains (land zone 4); Cainozoic sand plains (land zone 5); Cainozoic lateritic duricrust (land zone 7); coarse-grained sedimentary rocks (land zone 10) and (land zone 11) (Neldner et al. 2014). Of the mapped REs, one has been classed as Endangered, four have been classed as Of Concern and the remainder are classed as Least Concern under the provisions of the VM Act.

The Project area incorporates land holdings currently used for cattle grazing. Due to historical and current farming practice, native vegetation has been substantially cleared with approximately 1,812 ha of the 2,276 ha MLA area mapped as non-remnant. This equates to approximately 70% of the MLA area being mapped as non-remnant. All REs mapped as occurring within and adjacent to the MLA area and TLF options are listed at Table 4-4 and presented in Figure 4-11.

Table 4-4 Regional Ecosystem descriptions

RE	VM Act status	EP Act status	Description*
Within MLA area disturbance footprint			
11.3.25	Least Concern	Of Concern	*E. camaldulensis* or *E. tereticornis* open forest to woodland. Occurs on fringing levees and banks of major rivers and drainage lines of alluvial plains throughout the region. Soils are very deep, alluvial, grey and brown cracking clays.
11.4.2	Of Concern	Of Concern	*Eucalyptus* spp. and/or *Corymbia* spp. grassy or shrubby woodland on Cainozoic clay plains
11.4.9	Endangered	Endangered	*Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains
Within MLA area but outside of the disturbance footprint			
11.4.2	Of Concern	Of Concern	*Eucalyptus* spp. and/or *Corymbia* spp. grassy or shrubby woodland on Cainozoic clay plains
11.5.8a	Least Concern	No Concern	*Melaleuca* spp., *Eucalyptus crebra*, *Corymbia intermedia* woodland on Cainozoic sand plains/remnant surfaces
11.7.2	Least Concern	No Concern	*Acacia* species woodland on Cainozoic lateritic duricrust.
11.10.1	Least concern	No Concern	Corymbia citriodora woodland on coarse-grained sedimentary rocks
11.10.7	Least concern	No Concern	Eucalyptus crebra woodland on coarse-grained sedimentary rocks
11.11.15a	Least Concern	No Concern	*Eucalyptus crebra* woodland on deformed and metamorphosed sediments and interbedded volcanics
TLF Option 1			
11.3.4	Of Concern	Of Concern	*Eucalyptus tereticornis* and/or *Eucalyptus* spp. woodland on alluvial plains
11.4.9	Endangered	Endangered	*Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains
TLF Option 2			
11.3.4	Of Concern	Of Concern	*Eucalyptus tereticornis* and/or *Eucalyptus* spp. woodland on alluvial plains
11.4.9	Endangered	Endangered	*Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains
TLF Option 3			
11.3.25	Least Concern	Of Concern	*E. camaldulensis* or *E. tereticornis* open forest to woodland. Occurs on fringing levees and banks of major rivers and drainage lines of alluvial plains throughout the region. Soils are very deep, alluvial, grey and brown cracking clays.
TLF Option 4			
11.3.4	Of Concern	Of Concern	*Eucalyptus tereticornis* and/or *Eucalyptus* spp. woodland on alluvial plains
11.11.10a	Of Concern	Of Concern	*Eucalyptus moluccana* woodland. *Eucalyptus moluccana, E. tereticornis* may be prominent components of the tree layer, particularly on lower slopes.

RE	VM Act status	EP Act status	Description*
11.11.15a	Least Concern	No Concern	*Eucalyptus crebra* woodland on deformed and metamorphosed sediments and interbedded volcanics
11.3.36	Of Concern	Of Concern	*Eucalyptus crebra and/or E. populnea and/or E. melanophloia* on alluvial plains. Higher terraces
TLF Option 5			
11.3.25	Least Concern	Of Concern	*E. camaldulensis* or *E. tereticornis* open forest to woodland. Occurs on fringing levees and banks of major rivers and drainage lines of alluvial plains throughout the region. Soils are very deep, alluvial, grey and brown cracking clays.
Adjacent to MLA area boundary or TLF Options			
11.3.4	Of Concern	Of Concern	*Eucalyptus tereticornis* and/or *Eucalyptus* spp. woodland on alluvial plains
11.3.25	Least Concern	Of Concern	*E. camaldulensis* or *E. tereticornis* open forest to woodland. Occurs on fringing levees and banks of major rivers and drainage lines of alluvial plains throughout the region. Soils are very deep, alluvial, grey and brown cracking clays.
11.4.2	Of Concern	Of Concern	*Eucalyptus* spp. and/or *Corymbia* spp. grassy or shrubby woodland on Cainozoic clay plains
11.4.9	Endangered	Endangered	*Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains
11.10.1	Least concern	No Concern	Corymbia citriodora woodland on coarse-grained sedimentary rocks
11.10.7	Least concern	No Concern	Eucalyptus crebra woodland on coarse-grained sedimentary rocks
11.11.1	Least concern	No concern at present	Sporobolus virginicus grassland on marine clay plains
11.11.15a	Least Concern	No Concern	*Eucalyptus crebra* woodland on deformed and metamorphosed sediments and interbedded volcanics

*(Source – Queensland Herbarium 2015)

Mining activities are exempt from requiring a permit to clear remnant vegetation under the VM Act. However, all REs occurring in the proposed mine disturbance area have a Biodiversity Status as Of Concern and may trigger requirements for vegetation offsets under the Queensland Environmental Offset Policy (Version 1.2) July 2016 and the EO Act.

An initial vegetation survey was carried out across a wide area surrounding the current Project site in March 2011 (YCE, 2011). Although the majority of survey sites were located outside of Project area, a number of sites lie within the current Project area.

Vegetation communities surveyed within the Project area included eucalypt woodlands, brigalow woodland, patches of regrowth and cleared sites associated with pastoral land use. Detailed description of the vegetation communities present within the MLA and adjacent areas are provided below. The vegetation communities delineated on site are broadly consistent with the mapped REs; however, these will be further verified through additional field assessment.

***Melaleuca leucadendra* and/or *Eucalyptus tereticornis* fringing open forest.** This vegetation community occurs along active riparian areas throughout the Project area. The canopy tended to be between 15 and 20 m and characterised by Melaleuca leucadendra and/or Forest Red Gum. Other taxa that may occur in the canopy include Carbeen (*Corymbia tessellaris*) and Northern Swamp Mahogany (*Lophostemon grandifloras*). An understorey is often present and may be characterised by Weeping Bottlebrush (*Melaleuca viminalis*), River Sheoak (*Casuarina cunninghamiana*), Red Ash (*Alphitonia excelsa*), Cocky Apple (*Planchonia careya*), White Cedar (*Melia azedarach*) or Sally Wattle (*Acacia salicina*). A variable shrub layer may be present at some sites and consist of Currant Bush (*Carissa ovata*), Coffee Bush (*Breynia oblongifolia*), Quinine Berry (*Petalostigma pubescens*) or *Indigofera* spp. The exotic species Lantana (*Lantana camara*) and Stylo (*Stylosanthes scabra*) may invade this community at some sites.

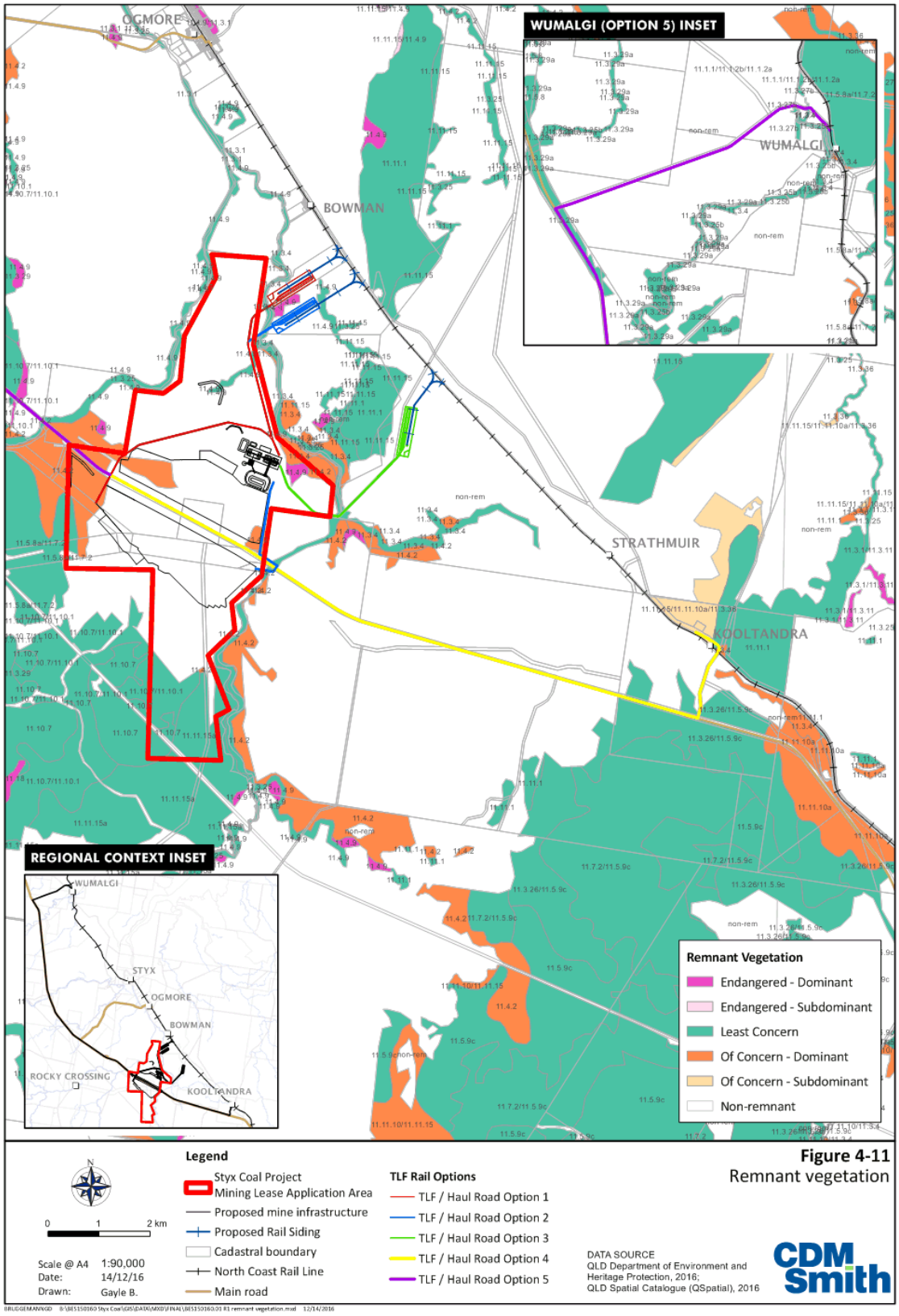


Figure 4-11
Remnant vegetation

The ground layer tends to be open to sparse and consists of Spiny-head Matrush (*Lomandra longifolia*), Kangaroo Grass (*Themeda triandra*), Golden-Beard Grass (*Chrysopogon fallax*), Spreading Nutheads (*Epaltes australis*) or Queensland Bluegrass (*Dichanthium sericeum*). The ground layer is prone to invasion by exotic species such as Guinea Grass (*Megathyrsus maximus*), Snake Weed (*Stachytarpheta jamaicensis*), or Paspalum (*Paspalum dilatatum*). The species composition, land form and soil type correspond with the description of RE 11.3.25 (Least Concern).

Crebra woodland on alluvial plains. This vegetation community is associated with alluvial plains and is characterised by Forest Red Gum with Carbeen to 22 m. Narrow-leaved Ironbark can sometimes be present. An understorey is often present and comprised of Swamp Mahogany (*Lophostemon suaveolens*), Pegunny (*Lysiphyllum hookeri*) and Red Ash. Black Tea Tree (*Melaleuca bracteata*), Weeping Bottlebrush and/or *Melaleuca trichostachya* may be present in associated drainage lines or ponded areas.

A sparse shrub layer may be present with taxa such as Coffee Bush, Currant B or Booneree (*Alectryon diversifolius*). The ground layer tends to be dense and dominated by grasses such as *Bothriochloa* spp., Kangaroo Grass (*Themeda triandra*) and Black Spear Grass (*Heteropogon contortus*). The species composition, land form and soil type correspond with the description of RE 11.3.4 (Of Concern).

Brigalow shrubby woodland. This vegetation community is commonly associated with clay plains and areas of alluvium throughout the Project area. The ecologically dominant layer tends to be dominated by Brigalow with Belah at some sites. Emergent Gum-topped Box (*Eucalyptus moluccana*) or Forest Red Gum may occasionally be present. A low tree or tall shrub layer may be present and characterised by Red Ash, Yellow-wood (*Terminalia oblongata*), Yellow-berry Bush (*Maytenus cunninghamii*), Currant Bush, Boonaree and Wilga (*Geijera parviflora*).

The ground layer tends to be dominated by grasses with exotic grasses becoming more prevalent with increased grazing. Where this community occurs on alluvial soils, it corresponds with the description of RE 11.3.1 (Endangered). Where it occurs on clay plains it corresponds with the description of RE 11.4.9 (Endangered).

Mixed eucalypt woodland on clay plains. This dry sclerophyll vegetation community is associated with clay plains in the Project area. The canopy is characterised by co-dominance of a range of eucalypt species, including Narrow-leaved Ironbark, Poplar Box, Gum-topped Box, Queensland peppermint, Poplar Gum (*E. platyphylla*), Dawson Gum, Pink Bloodwood (*Corymbia intermedia*) and Carbeen. The understorey varies from open to sparse and is characterised by Belah, Red Ash, Quinine Bush, Beefwood (*Grevillea striata*), Sally wattle, and/or Corkwood Wattle (*A. bidwillii*).

Shrub layer is variable and may include False Sandalwood (*Eremophila mitchellii*), Broadleaved Tea-tree (*Melaleuca viridiflora*), Whitewood (*Atalaya hemiglauca*), and/or Wilga. Ground layer tends to be dense and characterised by grasses such as Kangaroo Grass, Black spear grass, *Eragrostis* spp., and *Bothriochloa* spp. The species composition, land form and soil type correspond with the description of RE 11.4.2 (Of Concern).

***Corymbia intermedia* and/or *Eucalyptus crebra*, +/- *E. platyphylla*, +/- *E. exserta*, +/- *Melaleuca viridiflora* shrubby woodland.** This vegetation community is associated with areas mapped as colluvial and residual deposits. The ecologically dominant layer is characterised by Pink Bloodwood and/or Narrow-leaved Ironbark to 18 m tall. Other taxa which may be present in the canopy include Carbeen, Poplar Gum, Dallachy's Gum (*Corymbia dallachyana*), Queensland Peppermint or Dawson Gum. Broad-leaved Tea Tree may form distinct patches in the understorey in some situations.

Other species which may occur in the understorey include Rosewood (*Acacia rhodoxylon*), Red Ash, Quinine Bush and *Acacia* spp. A low shrub layer is often present and includes species such as Small-fruited Mock Olive (*Notelaea macrocarpa*), Queensland Hemp (*Sida hackettiana*) or *S. cordifolia*.

A grassy ground layer is present and is variable in cover depending on the shrub density. Species common in the ground layer include Black Speargrass, *Aristida* spp., *Bothriochloa* spp. and Kangaroo Grass. The species composition, land form and soil type correspond with the description of RE 11.5.8 (Least Concern).

Eucalyptus crebra* and/or *Eucalyptus melanophloia* woodland with *Acacia rhodoxylon. This vegetation community is associated with areas of old sedimentary rock within the Project area. The ecologically dominant layer is characterised by Narrow-leaved Ironbark and/or Silver-leaved Ironbark (*E. melanophloia*) over a well-developed understorey of Rosewood. A shrub layer is often present and may include *Hibiscus divaricatus*, *Erythroxylon* sp., Yellow-berry Bush and Currant Bush. The ground layer is typically dense and characterised by various grass species. The species composition, land form and soil type correspond with the description of RE 11.11.1 (Least Concern).

***Eucalyptus crebra*, +/- *E. platyphylla*, +/- *E. populnea* grassy woodland.** The canopy of this vegetation community is characterised by Narrow–leaved Ironbark. Other species which also occur in the canopy include Poplar Box, Poplar Gum and Dallachy's gum. An open to spare understorey may be present and may include Red Ash and Beefwood among other species.

A shrub layer is often present and includes Yellow-berry Bush, Quinine Bush, Coffee Bush, Boonaree and *Hibiscus divaricatus*. Ground layer tends to be dense and characterised by various grass species including Black Speargrass, *Bothriochloa* spp., Kangaroo Grass and *Panicum* spp. The species composition, land form and soil type correspond with the description of RE 11.11.15 (Least Concern).

Wetland. A small wetland area occurs north of Mount Bison Road at the western extremity of the Project area. This wetland is a large closed depression approximately 200 m across. Margins of the wetland are broad and open with extensive area of shallow water (<30 cm deep) with deeper water (>30 cm deep) towards centre of the depression. Broadleaved Tea-tree, up to 8 m in height, occur in standing water with a variety of sedges at centre of the wetland. Sparse cover of hydrophytes (including *Ottelia ovalifolia*) present near centre of wetland as well. Dry margins of wetland with sparse to dense cover of low sedges and forbs (generally <20 cm in height). Surrounded by mixed eucalypt woodland with Poplar Gum, Carbeen and Variable-barked Bloodwood (*Corymbia erythrophloia*) co-dominant and a dense to mid-dense ground layer of grasses and forbs (mostly <50 cm).

Cleared areas. A large proportion (approximately 80%) of the MLA area has been heavily altered by grazing activities. Alteration has occurred through historical vegetation clearing associated with the pastoral industry. These areas typically support a mix of exotic and native perennial grass species and may have patches of regrowth.

4.5.4 Threatened Ecological Communities

The Protected Matters Search Tool identified five listed Threatened Ecological Communities (TECs) listed as Endangered (under the Commonwealth's EPBC act) as having potential to occur in the Project area:

- Brigalow (*Acacia harpophylla* dominant and co-dominant) – Endangered;
- Broad leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland;
- Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions;
- Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin; and
- Semi-evergreen vine thickets (SEVT) of the Brigalow Belt (north and south) and Nandewar Bioregions – Endangered.

Current DNRM vegetation mapping indicates there is one RE present within the Project area (RE 11.4.9) that may be considered as a Brigalow TEC. This RE is mapped as occurring in two discrete patches in the northern portion of the MLA area. No other TECs are represented by REs indicated in DNRM mapping. The presence of TEC associated REs will be further verified through additional field assessment.

4.5.5 Essential Habitat

EHP has mapped areas designated as essential habitat for species listed as Endangered, Vulnerable, or Near Threatened (EVNT) under the NC Act. There is no essential habitat identified as occurring on the proposed mine disturbance area.

4.5.6 Threatened Flora

Database searches identified a total of 24 conservation significant flora species listed as Endangered, Vulnerable or Near Threatened (EVNT) under the NC Act as potentially occurring in the Project area. Three of these species are also listed as Vulnerable under the EPBC Act and one species is also listed as Endangered under the EPBC Act. The WildNet database search identified 21 EVNT flora species recorded previously within a 50 km radius of the centre of the Project area. The Protected Matters Online Search Tool predicted the occurrence in the wider area of a further three conservation significant flora species listed under the EPBC Act. These species and their potential to occur within the Project area are discussed in detail in Table 4-5.

Initial field surveys have been conducted across the broader Project area with one conservation significant species, *Eleocharis blakeana* confirmed. This species is listed as Near Threatened under the NC Act. No EPBC Act listed threatened species were recorded from any of the sites assessed during the initial field surveys. The black orchid (*Cymbidium canaliculatum*) was identified as an epiphyte on older trees within the study area. This species is offered protection under the NC Act due to its commercial value. Further field assessments focussing on the disturbance areas will be undertaken as part of the EIS.

Table 4-5 Conservation status listed species that are known or are highly likely to occur

Species	Status		Habitat characteristics	Likelihood of occurrence^
	CTH	QLD		
Bursaria reevesii		V	Grows along drainage lines and creek beds in silty loams derived from ultramafic (serpentine) rocks (Cayzer et al., 1999).	**Unlikely**. Serpentine derived soils not represented in Project area.
Capparis thozetiana	V	V	Confined to serpentinite hills and adjacent undulating colluvial aprons. The species grows on mostly shallow skeletal serpentinitic soils in woodland communities dominated by *Eucalyptus fibrosa* and *Corymbia xanthope*.	**Unlikely**. Serpentine derived soils not represented in Project area.
Corymbia xanthope Glen Geddes bloodwood	V	V	Occurs in woodlands with *Eucalyptus fibrosa* on ridges or hill slopes on serpentinite geology with sandy soils in the Rockhampton area. The total extent of the population occurring from an area of about 20 km² between Rockhampton and Yeppoon).	**Unlikely**. This community is recognised as a distinct regional ecosystem (RE 11.11.7 *E. fibrosa* subsp. (Glen Geddes), *C. xanthope* woodland on serpentinite) which has not been recorded within the Project area
Cycas ophiolitica Marlborough Blue	E	E	Occurs from Marlborough in the north, to the Fitzroy River near Rockhampton in the south, in woodland or open woodland dominated by eucalypts, often on serpentinite substrates. Plants occur along hilly outcrops and in lower regions near creek systems.	**Unlikely**. Habitat for this species not represented in Project area.
Hakea trineura Three-veined Hakea	V	V	Occurs on serpentinite-derived soil, often with Broad-leaved Ironbark and *Corymbia xanthope* woodland over hummock grassland on hills.	**Unlikely**. Serpentine derived soils not represented in Project area.
Macrozamia serpentina		E	Occurs from Marlborough in the north, to the Fitzroy River near Rockhampton in the south, in woodland or open woodland dominated by eucalypts, often on serpentinite substrates. Plants occur along hilly outcrops and in lower regions near creek systems.	**Unlikely**. Habitat for this species not represented in Project area.
Marsdenia brevifolia	V	V	Occurs on serpentine rock outcrops or crumbly black soils derived from serpentine in eucalypt woodland, often with Broad-leaved Ironbark (*Eucalyptus fibrosa*) and *Corymbia xanthope*	**Unlikely**. Serpentine derived soils not represented in Project area.
Myrsine serpenticola		E	Known from gallery rainforest on serpentinic soils.	**Unlikely**. Rainforest habitat for this species not represented in Project area.
Neoroepera buxifolia	V	V	Known from two small areas between Marlborough and Yaamba, and between Rockhampton and Yeppoon, in Queensland. This species occurs along creek banks or in creek beds on serpentitite soils (Henderson, 1992; Batianoff et al., 2000) in riparian vine thicket, vine forest, melaleuca or eucalypt woodland or open forest with rainforest species in the understorey.	**Unlikely**. Serpentine derived soils not represented in Project area.
Olearia macdonnellensis	V	E	Occurs in eucalypt open forest in the Marlborough region of central Queensland, all records are from rocky serpentinite hills and ridges.	**Unlikely**. Habitat for this species not represented in Project area.

Species	Status		Habitat characteristics	Likelihood of occurrence^
	CTH	QLD		
Omphalea celata	V	V	Known from three sites in central east Queensland occurring in SEVT. Locations are Hazlewood Gorge, near Eungella; Gloucester Island, near Bowen; and Cooper Creek in the Homevale Station area, north-west of Nebo (TSSC, 2008)	**Unlikely**. Habitat for this species not represented in Project area.
Phaius australis Lesser Swamp-orchid	E	E	Commonly associated with coastal wet heath/sedgeland wetlands swampy grassland or swampy forest and often where Broad-leaved Paperbark or Swamp Mahogany (*Eucalyptus robusta*) is found (Sparshott and Bostock, 1993). It is restricted to the swamp-forest margins, where it occurs in swamp sclerophyll forest, swampy rainforest, or fringing open forest. It is often associated with rainforest elements or Cabbage Tree Palm (*Livistona australis*) (Benwell, 1994).	**Unlikely**. Habitat for this species not represented in Project area.
Pimelea leptospermoides	V	NT	occurs from near Marlborough to Rockhampton in Queensland on stony hillsides and sandy clay in Eucalyptus fibrosa and Corymbia xanthope open woodland and is widespread on serpentine soils (Batianoff et al., 2000)	**Unlikely**. Serpentine derived soils not represented in Project area.
Pultenaea setulosa	V	V	Occurs on serpentinite substrates in *Eucalyptus fibrosa* and/or *Corymbia xanthope* woodlands or open forests	**Unlikely**. Serpentine derived soils not represented in Project area.
Samadera bidwillii Quassia	V	V	Occurs in lowland rainforests or rainforest margins and occasionally open forests, woodlands and mangroves in lithosols, skeletal soils, loamy sands, sands, silts and sands with clay subsoils at 1 to 617m altitude in coastal regions (DNR 2000).	**Possible**. Habitat for this species represented in Project area; however, no individuals were recorded during field surveys.
Sannantha brachypoda		V	There is little information available on this species; however, it has been recorded at Apis Creek west of Marlborough although the majority of the records are to the south of the Capricorn Highway (i.e. Precipice and Humboldt National Parks). Records suggest SEVT and riparian corridors within Eucapypt woodlands as the preferred habitat.	Limited information available on habitat type for this species, however no specimens were detected during site surveys.
Solanum elachophyllum		E	Known only from limited collections in the Leichhardt pastoral district, occurring on cracking clay soils associated with Brigalow, Belah (*Casuarina cristata*), Macropteranthes or Dawson River Blackbutt.	**Possible**. Habitat for this species represented in Project area. Closest known population is 65 km west of the Project area.
Stackhousia tryonii		NT	Occurs on serpentinite soils in the Port Curtis area of central Queensland.	**Unlikely**. Serpentine derived soils not represented in Project area.

Notes:
EPBC Act –*Environment Protection and Biodiversity Conservation Act 1999* (Cth); E –Endangered; V – Vulnerable
NC Act –*Nature Conservation Act 1992* (QLD), E – Endangered; V – Vulnerable; N – Near Threatened; LC –Least Concern.
^Likelihood of occurrence: **known** = species recorded within the project area; **likely** = species identified by database searches as having geographical range overlapping the wider study area and suitable habitat is mapped within the project area; **possible** = species identified by database searches as having geographical range overlapping the wider study area and sub-optimal habitat or preferred habitat features are mapped within the project area; **unlikely** = species identified by database searches as having geographical range overlapping the wider study area and suitable habitat is not mapped within the proposed project area.

4.5.6.1 Potential Impacts

Remnant vegetation present within the mine disturbance area is currently disturbed by agricultural activities. Connectivity between remnant patches is greatly reduced due to extensive clearing for agriculture. Remnant riparian vegetation along watercourses currently provides connectivity across the landscape. Vegetation clearing will result in loss of remnant and regrowth vegetation within the mine disturbance area.

This may include an ecological community that is listed as Endangered under both the EPBC Act and the VM Act. In addition, regional ecosystems listed as Of Concern and Least Concern under the VM Act will be impacted within the mine disturbance area.

Approximately 55 ha of remnant vegetation will be impacted from within the proposed mine disturbance area. Vegetation communities to be impacted by clearing within the mine disturbance area are listed in Table 4-6.

Table 4-6 Vegetation communities to be cleared

RE	VM Act status	EP Act status	Description*	Potential Disturbance Area
11.3.25	Least Concern	Of Concern	*E. camaldulensis* or *E. tereticornis* open forest to woodland. Occurs on fringing levees and banks of major rivers and drainage lines of alluvial plains throughout the region. Soils are very deep, alluvial, grey and brown cracking clays.	<1 ha
11.4.2	Of Concern	Of Concern	*Eucalyptus* spp. and/or *Corymbia* spp. grassy or shrubby woodland on Cainozoic clay plains	52 ha
11.4.9	Endangered	Endangered	*Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains	<1 ha

The extent of vegetation clearing associated with the haul road and TLF development will be dependent on the selected TLF option. Of the five TLF options under consideration, only Option 1 will result in clearing (~2 ha) of Endangered REs (11.4.9). Option 4 TLF will potentially result in the clearance (~2 ha) of Of Concern RE (11.3.4 and 11.11.10a/11.3.36). Options 2, 3 and 5 will potentially result in the clearance of small areas of Least Concern REs.

Other potential impacts on terrestrial flora within the Project area may include establishment and spread of weed species and soil erosion and sedimentation.

4.5.7 Fauna

A desktop review was carried out on the Project area and surrounds using information from the relevant Commonwealth and State wildlife databases:

- Commonwealth EPBC Act Protected Matters Search Tool (DotEE) (to confirm potential presence of listed species) (20 km radius surrounding Project area); and
- EHP's WildNet (Wildlife Online) database and Species Profile Search results (20 km radius surrounding Project area).

A total of 144 species of terrestrial vertebrate are known or predicted to occur within a 20 km radius of the Project area, comprising 2 frogs, 12 reptiles, 114 birds and 16 mammal species.

Amongst the fauna previously recorded within or near the Project on the WildNet database are eight species of conservation significance.

This includes five threatened (EVNT) fauna species:

- Red Goshawk (*Erythrotriorchis radiatus*) - Vulnerable under the NC Act and Endangered under the EPBC Act;
- Squatter Pigeon (southern race) (*Geophaps scripta*) - Vulnerable under the EPBC Act and NC Act;
- Black-breasted Button-Quail (*Turnix melanogaster*) - Vulnerable under the EPBC Act and NC Act;
- Koala (*Phascolarctos cinereus*) - Vulnerable under the EPBC Act and NC Act; and
- Pale Imperial Hairstreak (*Jalmenus eubulus*) - Vulnerable under the NC act.

An additional two bird species listed as Migratory under the EPBC Act have been recorded from the wider Project area previously: Rufous Fantail (*Rhipidura rufifrons*) and Spectacled Monarch (*Symposiarchus trivirgatus*).

A single species listed only as Special Least Concern has also been recorded: Short-beaked Echidna (*Tachyglossus aculeatus*).

No Essential Habitat has been mapped for any listed fauna species in the vicinity of the Project.

The Protected Matters Online Search Tool has predicted the potential occurrence within the Project area of an additional 13 bird species, six mammal species, three reptiles and one sawfish species listed as Critically Endangered, Endangered or Vulnerable under the EPBC Act. The majority of these species are also listed as EVNT under the NC Act (refer Table 4-7). A further 13 bird species and a single reptile are listed as Migratory under the EPBC Act are also predicted to occur in the Project area. This assessment does not consider a number of marine and oceanic species listed under the EPBC Act which have been predicted to occur in the Protected Matters Online Search Tool. The Project area does not encompass habitat for these species.

The Project does not occur within or adjacent to any Ramsar sites, but is approximately 8 km from where the Styx River becomes Broad Sound, an internationally important area for migratory shorebirds including Red-necked Stint (*Calidris ruficollis*), Sharp-tailed Sandpiper (*Calidris acuminate*) and Marsh Sandpiper (*Tringa stagnatilis*). Broad Sound is also of national significance for the Great Knot (*Calidris tenuirostris*), supporting one of the largest aggregations of this species on Australia's east coast.

4.5.7.1 Field Surveys

Initial field-based investigations were conducted at various locations within and adjacent to Project area during March 2011, September 2012 and February 2012. There were 236 fauna species recorded during these surveys (Meyer, 2012).

This includes four species that are listed as EVNT under the NC Act or the EPBC Act including:

- Squatter Pigeon (southern race);
- Eastern Curlew (*Numenius madagascariensis*) - listed as vulnerable under the NC Act and Critically Endangered and Migratory under the EPBC Act;
- Ornamental Snake (*Denisonia maculata*) - listed as vulnerable under both the NC Act and EPBC Act; and
- Koala.

Of the EVNT species recorded, Squatter Pigeon was recorded within the Project area. Ornamental Snake was recorded approximately 4 km north of the Project area.

Six bird species listed as Migratory under the EPBC Act (also Special Least Concern under the NC Act) were also recorded during the 2011 and 2012 surveys, including:

- Glossy Ibis (*Plegaidis falcinellus*);
- Rufous Fantail;
- Whimbrel (*Numenius phaeopus*);
- Fork-tailed Swift (*Apus pacificus*);
- Caspian Tern (*Sterna caspia*);
- Oriental Cuckoo (*Cuculus saturatus*); and
- Rainbow Bee-eater (*Merops ornatus*).

The surveys also recorded Short-beaked Echidna (*Tachyglossus aculeatus*) which is listed as Special Least Concern under the NC Act.

Habitat information provided by the 2011 and 2012 fauna assessments indicated the wider area surrounding the Project may provide suitable habitat for the following conservation significant species: Yellow Chat (*Epthianura crocea*), Australian Painted Snipe (*Rostratula australis*), Yakka Skink (*Egernia rugosa*), Black-breasted Button-quail, Northern Quoll (*Dasyurus hallucatus*), Red Goshawk (*Erythrotriorchis radiatus*), Collared Delma (*Delma torquata*) and the Pale Imperial Hairstreak Butterfly (*Jalmenus eubulus*).

Table 4-7 Likelihood of occurrence of conservation significant and terrestrial migratory fauna

Species	Status*		Habitat preference	Likelihood of occurrence
	NC Act	EPBC Act		
Known				
Ornamental Snake (*Denisonia maculata*)	V	V	Occurs in low-lying areas with deep-cracking clay soils that are subject to seasonal flooding, and adjacent areas of clay and sandy loams. The species is found in woodlands and shrublands, such as Brigalow, and in riverine habitats, and lives in soil cracks and under fallen timber (Ehmann 1992; and Wilson 2015). Potential habitat is associated with REs 11.3.3, 11.4.3, 11.4.6, 11.4.8, 11.4.9 and 11.5.16 or where they occurred before clearing. (DSEWPaC 2011).	**Known.** One individual was recorded during the 2011 survey within Brigalow woodland and adjacent to a cleared gilgai area. Potential habitat occurs within the Project area associated with Brigalow and Belah woodlands and gilgai areas.
Squatter Pigeon - southern subspecies (*Geophaps scripta scripta*)	V	V	Dry grassy eucalypt woodlands and open forests, also Callitris and Acacia woodlands. Most birds live in sandy sites near permanent water (Frith 1982; Blakers et al. 1984; and Crome and Shields 1992). Often around cattle yards and other disturbed areas.	**Known.** Several individuals were recorded within and adjacent to the Project area during the 2011 surveys and extensive habitat exists within the Project area associated with grassy woodlands.
Fork-tailed Swift (*Apus pacificus*)	S	M	An aerial non-breeding summer visitor, may occur over any habitat type, including cleared land and infrastructure.	**Known.** Wide ranging aerial species which migrates from the northern hemisphere to Australia. Less common than the previous species. May be aerial visitor to the Project area in the summer months as suitable foraging habitat occurs over much of the Project area. This species was recorded during the 2011 surveys.
Rufous Fantail (*Rhipidura rufifrons*)	S	M	Generally, occur in dense vegetation, mainly in rainforests, but also in wet sclerophyll forests and other dense vegetation such as mangroves, drier sclerophyll forests, woodlands, parks and gardens (Higgins et al. 2006).	**Known.** Recorded within during the 2011 surveys within the Brigalow woodland.
Short-beaked Echidna (*Tachyglossus aculeatus*)	S		Occurs throughout Australia in almost all terrestrial habitats except for intensively managed farms. It shelters in logs, crevices, burrows and leaf litter (Menkhorst and Knight 2004; Augee 2008).	**Known.** Observed from previous surveys and abundant suitable habitat occurs within the Project area.

Species	Status* NC Act	Status* EPBC Act	Habitat preference	Likelihood of occurrence
Glossy Ibis (*Plegadis falcinellus*)	S	M	Terrestrial wetlands, preferring inland freshwater wetlands with abundant aquatic flora (Pringle 1985; and Marchant and Higgins 1990).	**Known.** Dams in the Project area provide habitat for this species and species recorded during previous surveys.
Whimbrel (*Numenius phaeopus*)	S	M	Occurs on coastal mudflats, coral cays, estuaries, sewage ponds and sometimes flooded grasslands or paddocks (Pizzey and Knight 2007).	**Known.** Recorded from the wider Project area during previous fauna surveys.
Koala (*Phascolarctos cinereus*)	V	V	Feed almost entirely on eucalypts (Martin et al. 2008); most likely in riverine and riparian habitats.	**Known.** Recorded within the Project area during the 2011 and 2012 surveys. Suitable habitat exists within areas of remnant Eucalyptus woodlands within the Project area.
Likely				
Red Goshawk (*Erythrotriorchis radiatus*)	E	V	Endemic to northern and eastern Australia in coastal and subcoastal areas with large home ranges of up to 200 km^2. Occurs in woodlands and forests and prefers mosaic habitats that hold a large population of birds and permanent water. Riparian areas are heavily favoured (Marchant and Higgins 1993).	**Likely.** One Wildlife Online database record. The Project area and surrounds provides potential habitat and this species may utilise Project area for foraging and potentially nesting.
Grey-headed Flying-fox (*Petropus poliocephalus*)	C	V	Nomadic species that generally roosts at sites near water and within 50 km of the coast generally with rainforest, paperbark or casuarina species. Generally, occurs further south but regular roost site found near Finch Hatton (Eungella area) in recent years (Roberts et al. 2008).	**Likely.** No database records from the wider area. However, potential for the species to forage in the Project area during eucalypt flowering periods. Although there is no known roost habitat in or near the Project area, the site may provide some seasonal flowering resources for foraging.
Ghost Bat (*Macroderma gigas*)	V		One of the largest microbat species in the world. Roosts in shallow caves, abandoned mines and rock piles. Australia's only carnivorous bat (Churchill 2008).	**Likely.** No records from wider area but potential foraging habitat within the Project area.
Greater Glider (*PtauroidesvVolans*)	LC	V	May occur in a range of eucalypt dominated habitats from coastal areas to ranges. Needs large hollow-bearing trees for daytime roosting.	**Likely.** Habitat generally variable but some potential habitat available.

Species	Status*		Habitat preference	Likelihood of occurrence
	NC Act	EPBC Act		
Potential				
Yakka Skink (*Egernia rugosa*)	V	V	Occurs in dry forests, woodlands and rocky areas (Wilson 2015). Variety of drier forests and woodlands (usually on well drained, coarse gritty soils) including Poplar Box on alluvial soils, low ridges, Callitris on sands, Belah (Ehmann 1992; Cogger 2000; and Wilson 2015). Also occur in highly degraded sites and where there are log piles and rabbit warrens (EPA 2003).	**Potential.** Potentially suitable habitat in Project area associated with open forest and woodlands with suitable shelter and cover. No database records occur in the vicinity of the Project area.
Northern Quoll (*Dasyurus hallucatus*)	C	V	Formerly occurred in a variety of habitats across northern Australia and Queensland. Now most common in rocky eucalypt woodland and open forest within 200 km of the coast (Menkhorst and Knight 2004).	**Potential.** Potential denning, shelter and foraging habitat associated with woodland and open forest occurs in the wider Project area, particularly to the south and west. No database records from the wider area occur for this species.
Australian Painted Snipe (*Rostratula australis*)	V	E	Terrestrial shallow wetlands, ephemeral and permanent, usually freshwater but occasionally brackish. They also use inundated grasslands, saltmarsh, dams, rice crops, sewage farms and bore drains (Marchant and Higgins 1993). Most likely in alluvial areas but could also occur in gilgaied areas.	**Potential.** May be occasional visitor to dams in the Project area but in general the habitats available are unsuitable. Very uncommon species that occurs erratically over eastern and northern Australia. No database records.
Caspian Tern (*Hydroprogne caspia*)	S	M	Mostly coastal habitats but also inland terrestrial wetlands including lakes, reservoirs and large rivers (Higgins and Davies 1996).	**Potential.** Dams within the Project area are small but do provide potential habitat for this species.
Spectacled Monarch (*Symposiachrus trivirgatus*) Black-faced Monarch (*Monarcha melanopsis*)	S	M	Both species generally occur mostly in dense vegetation, mainly in rainforests, but also in wet sclerophyll forests and other dense vegetation such as mangroves, drier sclerophyll forests, woodlands, parks and gardens (Higgins et al. 2006).	**Potential.** There are several database records for these species from the wider Project area. In general, the there is potential for some suitable foraging and breeding habits within the wider Project area.

Eastern Osprey (*Pandion cristatus*)	S	M	Mainly coastal habitats but can occur on inland rivers and lakes (Debus 2012).	**Potential.** Some suitable within or surrounding the Project area.
Pale Imperial Hairstreak (*Jalmenus eubulus*)	V		Species is confined to vegetation communities containing mature Brigalow which the larvae feed on (Valentine and Johnson 2012).	**Potential.** Potential habitat for this species within the wider Project area and two database records from the wider area.
Oriental Cuckoo (*Cuculus optatus*)	S	M	Rainforest, vine thickets, wet sclerophyll forest and open forest and woodland (Higgins 1999).	**Potential**. Potential habitat occurs in the project area associated worth woodlands and open forests.
Satin Flycatcher (*Myiagra cyanoleuca*)	S	M	Satin Flycatchers are mostly found in eucalypt forest, favouring wet forests, moist gullies and watercourses (Higgins et al. 2006).	**Potential.** This species may utilise the Project area during autumn/spring migrations but generally migrates along coastal areas. There is some potentially suitable foraging habitat within the Project area associated with taller woodlands and open forests.
Collared Delma (*Delma torquata*)	V	V	Occurs in soil cracks on heavy stoney soils west of Brisbane. In region known from Poplar Box on alluvial soils. Known from REs on land zones 3, 9 and 10 including 11.3.2, 11.9.10, 11.10.1 and 11.10.4.	**Potential.** Limited potential suitable habitat occurs in the Project area. No database records.
Black-breasted Button Quail (*Turnix melanogaster*)	V	V	The Black-breasted Button-quail is restricted to rainforests and forests, mostly in areas with 770-1200 mm rainfall per annum (They prefer drier low closed forests, particularly semi-evergreen vine thicket, low microphyll vine forest, araucarian microphyll vine forest and araucarian notophyll vine forest They may also be found in low, dense acacia thickets and, in littoral area, in vegetation behind sand dunes (Smith & Mathieson 2004).	**Potential** Limited suitable habitat exists in the Project area. No database records.
Large-eared Pied Bat (*Chalinolobus dwyeri*)	V	V	Species is closely associated with the presence of sandstone escarpment country for roost sites.	**Potential.** Although no database record exist for the Project area, there is potential suitable foraging and roosting habitat within the wider Project area.

Species	Status*		Habitat preference	Likelihood of occurrence
	NC Act	EPBC Act		
Unlikely				
Curlew Sandpiper (*Calidris ferruginea*)	S	CE, M	Mainly occur on intertidal mudflats in sheltered coastal areas and also around non-tidal swamps, lakes and lagoons near the coast. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (Higgins & Davies 1996).	**Unlikley.** Limited habitat available in the Project area.
Great Knot (*Calidris tenuirostris*)	S	CE, M	Typically prefers sheltered coastal habitats, with large intertidal mudflats or sandflats including inlets, bays, harbours, estuaries and lagoons. The Great Knot rarely occurs on inland lakes and swamps (Higgins & Davies 1996)	**Unlikley.** Limited habitat available in the Project area.
Bar-tailed Godwit (*Limosa lapponica*)		CE, M	Found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats. It is rarely found on inland wetlands or in areas of short grass, such as farmland.	**Unlikley.** Limited habitat available in the Project area.
Black-throated Finch (southern) (*Poephila cincta cincta*)	E	E	Occurs in grassy open woodlands near water. Prefers areas of intact woodlands with a variety of native grasses for year round feeding. Nests in large trees, sometimes in tree hollows and arboreal termite nests.	**Unlikely.** No suitable habitat exists in the Project area. No database records. EPBC online search only.
Star Finch (*Neochmia ruficaunda ruficauda*)	E	E	Occurs mainly in dense, damp grasslands bordering wetlands and watercourses, as well as open grassy woodlands near permanent water. Forages for seeds in tall native grasses (Higgins et al. 2006).	**Unlikely.** Habitat in the project area is generally unsuitable. Although once widespread this species is now very rare. No database records.

Species	Status*		Habitat preference	Likelihood of occurrence
	NC Act	EPBC Act		
Water Mouse (*Xeromys myoides*)	V	V	The water mouse had been documented in three distinct locations (Northern Territory, central coastal Queensland, south-east Queensland). Within these areas, they require similar habitat including mangroves and the associated saltmarsh, sedgelands, clay pans, heathlands and freshwater wetlands.	**Unlikely.** No suitable habitat exists in the Project area. No database records. EPBC online search only.
Yellow Chat (*Epthianura crocea*)	E	CE	The Yellow Chat (Dawson) inhabits marine plain wetlands that are subject to extensive seasonal inundation and varying degrees of both fresh and saltwater (tidal) influence. They typically occuppy portions of the marine plain that have a network of shallow drainage channels and depressions supporting a mosaic of vegetation that consists of grassland dominated by *Sporobolus virginicus* and/or *Paspalum distichum*, dense beds of rush or sedge and areas of bare or sparsely-vegetated mud and/or shallow water.	**Unlikely.** No suitable habitat exists in the Project area. No database records. EPBC online search only.

4.5.7.2 State Significant Species

In addition to EPBC Act-listed taxa, land within and adjacent to the disturbance area is known or likely to provide habitat for a number of State-listed species, including Koala and Short-beaked Echidna.

The Short-beaked Echidna (listed as 'Special Least Concern' under the NC Act) appears to be widely distributed and common within well-vegetated parts of the broader Project area. This includes parts of the mine disturbance area, where riparian vegetation and non-riparian woodland provide foraging habitat for this species.

Koala has been recorded within the Project area and, given the presence of suitable habitat (particularly remnant riparian eucalypt woodland), are likely to occur within the disturbance area. Suitable habitat for koala includes areas of remnant Narrow-leaved Ironbark woodland and riparian vegetation (including Forest Red Gum) along Deep Creek, an un-named tributary of Deep Creek, and Tooloombah Creek.

Though not recorded during previous surveys, land within and adjacent to the proposed disturbance area may also provide habitat for other state-significant species including the vulnerable Powerful Owl (*Ninox strenua*). If occurring within the disturbance area, habitat for the vulnerable Powerful Owl could include riparian open forest and vine-thicket along Deep Creek and/or Tooloombah Creek.

4.5.7.3 Other Significant Faunal Values

With extensive clearing of native vegetation in the Styx Basin and elsewhere in the northern Brigalow Belt, remaining areas of woodland and forest habitat within Project area are of considerable importance to native fauna at the local and regional level (as indicated in the *Biodiversity Planning Assessment for the Brigalow Belt*, DERM, 2008). Of particular importance in this regard are areas of riparian woodland/ forest linking more extensive areas of remnant vegetation in the west and east of the Styx River catchment including riparian vegetation along Deep Creek and Tooloombah Creek which bisect the proposed disturbance area. Other areas of riparian vegetation within the proposed disturbance area may also be of some importance for local movement of fauna within the upper Styx River catchment.

4.5.7.4 Potential Impacts

Despite extensive clearing and disturbance of vegetation previously carried out for grazing land uses, land within the proposed mine disturbance area provides habitat for a wide range of threatened fauna species.

Potential impacts of the proposed mine on threatened fauna species are identified as:

- Loss and fragmentation of habitat due to clearing;
- Degradation of remaining vegetation habitat due to edge effects associated with clearing;
- Degradation of habitat downstream of the proposed mine due to contaminated runoff;
- Introduction and/or spread of invasive plant or animal species;
- Direct mortality of fauna during vegetation clearing;

- Disturbance of fauna due to increased light and noise pollution; and
- Increased accidental mortality of fauna due to increased vehicular traffic.

Of these impacts, habitat loss and fragmentation are likely to be the most significant impacts that may occur as a result of Project activities. Establishment of the proposed mine will result in the loss and fragmentation of habitat known or likely to be utilised by conservation significant fauna within the mine disturbance area.

Clearing of riparian vegetation within the proposed disturbance area may also further inhibit fauna movement between areas of remnant vegetation in the west and east of the Project area, although connectivity between these areas of remnant vegetation is currently very limited. It is proposed, that riparian vegetation will be avoided, where possible, to minimise impacts on fauna movement corridors.

The establishment and spread of pest plant and animal species may impact on native fauna species and their habitat. Clearing of vegetation may result in fauna mortality, particularly less mobile or slow-moving species. It is proposed that a spotter-catcher will be present during clearing activities to minimise fauna impacts.

Increased accidental mortality on roads and disturbances created by increased noise and light pollution may also occur; however, it is expected that these impacts will be minimal.

Contaminated runoff may result in the bioaccumulation of toxins which may affect the health of higher order predators feeding on fish and other aquatic fauna within Deep Creek and the Styx River. In addition, contamination of sediments could pose a threat to migratory shorebirds feeding on tidal flats near the mouth of the Styx River. Treatment of water discharged from the mine site will be undertaken to minimise water quality impacts.

It is expected that potential impacts on fauna species can be appropriately managed through implementation of fauna control strategies to avoid or minimise environmental harm.

4.6 Noise and Vibrations

The noise environment in the vicinity of the Project can be characterised as 'very rural', with only mild sources of activity noise, mostly local activity at dwellings and plant and machinery used for agriculture and livestock. The Bruce Highway cuts through the proposed MLA area and the North Coast Rail Line is located approximately 1.5 km from the northern boundary of the proposed MLA area. These are likely to have an influence on the acoustic environment; however, traffic is intermittent on both road and rail. Environmental noise (wildlife, flora, wind) is the predominant noise in the absence of human environment noise.

Vibration due to construction and blasting activities has the potential to effect services such as buried pipework, electrical and telecommunication cables.

4.6.1 Potential Impacts

Noise emissions have the potential to impact upon neighbouring properties, communities and local wildlife through disruption. At this stage, there is little existing noise emission data; however, noise levels will be monitored prior to commencement of the project to quantify typical noise levels. Noise monitoring will be established within the project area concentrating near noise sensitive receptors. The locations of noise sensitive receptors in the vicinity of the Project that may be impacted by noise emissions from Project activities are shown in Figure 4-12.

Potential noise and vibration impacts are expected to occur from use of mobile equipment including haul trucks, graders and front end loaders, activities including drilling and blasting and infrastructure such as coal processing plant, conveyors, transport corridor, rail loop, and the proposed TLF.

Noise emissions will be managed in accordance with the guidelines outlined by EHP in the *Application requirements for activities with noise impacts* guideline (EHP, 2016c). Emissions will be monitored during the construction process and during operation of the mine and TLF. Mitigation measures to reduce noise emissions will be identified during the EIS process. A complaint resolution process will also be implemented for all potential impacts from the proposed project.

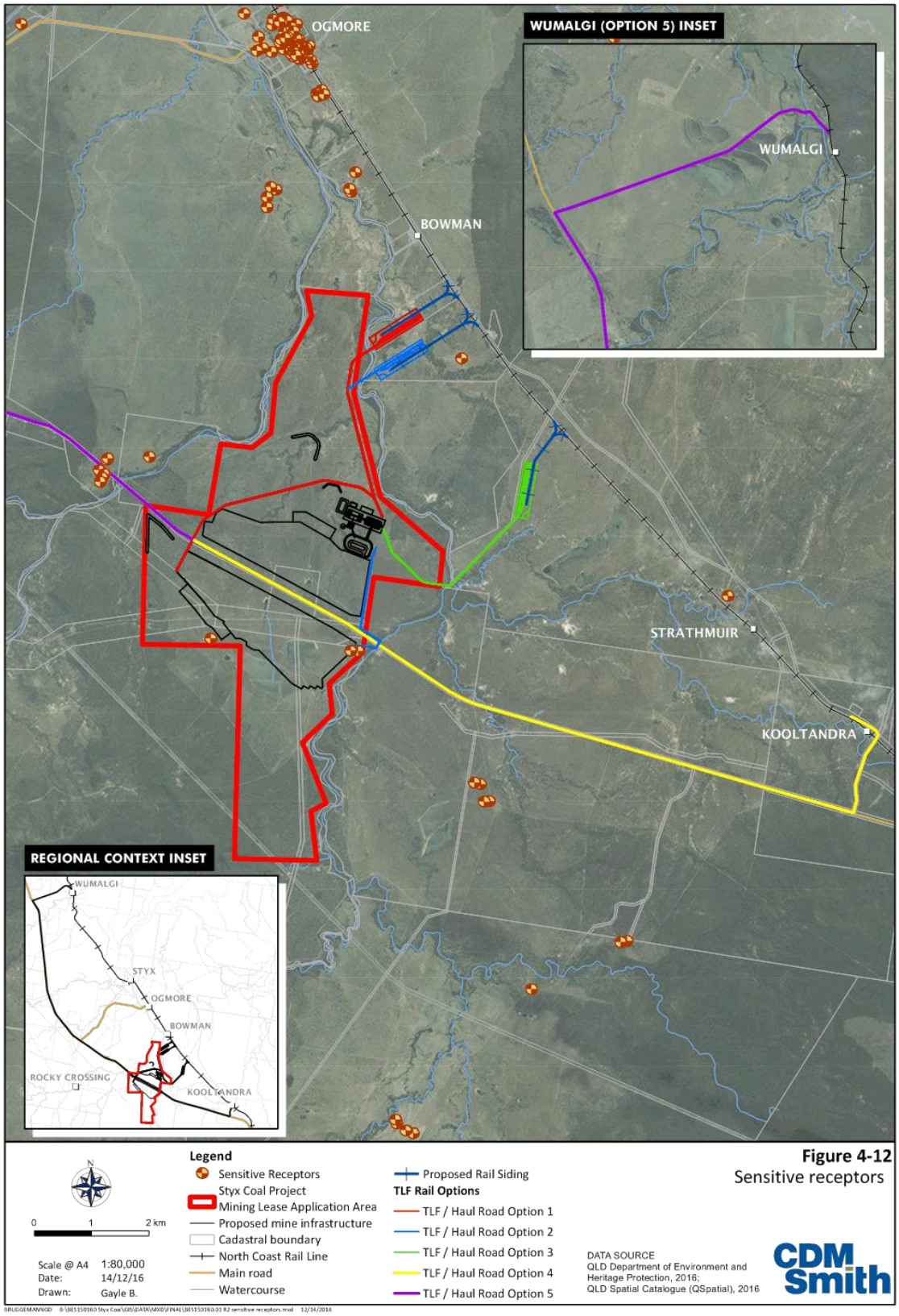


Figure 4-12
Sensitive receptors

4.7 Air Quality

No quantitative air quality data is available for the Project area. However, air monitoring data is available for a similar rural site at Mount Larcom, located 30 km northwest of Gladstone. This site was investigated by DERM (2009a) from January 2009 through to May 2009 as part of the *Clean and Healthy Air for Gladstone* project. Low levels of industrial emissions were detected from Gladstone, and therefore the data is likely to represent an upper bound of typical pollutants that might be found in the Project area.

The main air emissions from mining operations are caused by wind borne dust, haul road generated dust, materials handling, stockpiles and transfers. As part of the EIS, a detailed air quality assessment will be conducted and the results of the assessment will be used to develop effective air quality mitigation measures.

4.7.1 Potential Impacts

Sensitive receptors in the vicinity of the Project are likely to include residences (houses and homesteads), farm sheds and working areas, and broader farmland areas. The locations of potential residential receptors identified during preliminary assessments are shown on Figure 4-12. Potential impacts to sensitive receptors will be determined during the development of the EIS

The majority of air pollutants from such sources will include particles less than 10 µm (PM_{10}) and 2.5 µm ($PM_{2.5}$), visibility reducing particles (generally range from 0.1 to 2.5 µm) and other pollutants such as carbon monoxide and sulphur oxides. Air pollutants as a result of industrial processes are expected to be negligible given the distance of the Project area from any large industrial sites.

Greenhouse gas emissions may be generated from equipment and vehicles during construction activities and from mine and stockyard operations. Management procedures for the use and maintenance of all equipment and vehicles used on construction sites will be developed and implemented to mitigate this impact. Regular monitoring and inspection of vehicles and equipment will be undertaken to ensure they are in sound working order.

Potential impacts of the Project on air quality and sensitive receptors will be fully evaluated during monitoring and dispersion modelling to be conducted as part of the EIS. The assessment will determine baseline dust conditions to provide additional information for the prediction of potential impacts. Mitigation measures that will be considered include the use of water trucks for dust suppression, progressive rehabilitation, water sprays on crushers and conveyor transfer points.

The EIS will consider direct greenhouse gas emissions associated with the construction and operation of the project infrastructure and will also consider indirect emissions associated with coal consumption. Measures to reduce greenhouse gas emissions will be identified and integrated into the operational procedures as part of the EIS process.

Given the size of the project and isolated nature of potential emission generation, the impacts on air quality associated with construction activities are expected to be low.

4.8 Waste Management

The Project will generate waste materials in a number of categories during construction and operation. These wastes will be managed to minimise adverse impacts on environmental values and environmental nuisance as a result of mining activities.

Commercial and industrial waste is generated from a range of activities including mining. Construction and demolition waste is generated from works such as building, alteration or demolition of structures including infrastructure such as roads, rail, sewage, water or electricity infrastructure. It is expected that the Project will generate waste materials in these categories during both construction and operational activities and disposal of these wastes will be subject to the provisions of Queensland waste legislation.

4.8.1 Potential Impacts

Waste material have the potential to impact the receiving environment through contaminating soil, habitat and water resources. In addition, the amenity of sensitive receptors may be impacted due to visibility of waste materials in the environment. While waste produced during the construction phase will be of a relatively short duration (when compared to the operational phase), waste will continue to be produced during the operation and decommissioning phases of the Project.

Potential impacts may include:

- Land contamination;
- Human and environmental health impacts;
- Degradation of vegetation communities and fauna habitat;
- Deterioration of surface water and groundwater quality;
- Airborne pollutants and odour;
- Impacts on existing and future land uses; and
- Reduction in visual amenity and residential amenity.

During the EIS process, potential waste facilities will be identified and an assessment will be undertaken to determine if the facility has the capacity to receive Project wastes. The EIS will also identify management measures, which target the reduction of generated wastes and ensure the onsite wastes do no enter the environment and minimise subsequent impacts.

4.9 Safety and Health

The Proponent will implement a rigorous SHMS which will set out a framework and detail safety procedures to manage the safety and health of its employees and contractors. The SHMS will comply with relevant legislation, standards and codes of practice.

A Project Risk Register and appropriate controls, including training, engineering, design, procedural and physical controls will be in place to manage any onsite hazards.

4.9.1 Potential Impacts

The Project safety and health related impacts are synonymous to open cut coal mining activities. The workers and sensitive receptors may potentially be impacted from exposure to particulates and gases/vapours, noise, mining accidents and vehicle collisions. Potential impacts include illness, injury and death.

4.10 Cultural Heritage

The Cultural Heritage bodies for the Project area are the Darumbal Enterprises Pty Ltd and Barada Kabalbara Yetimarala People. The Darumbal People have a current Native Title claim over the area where the TLF Options 1 – 4 are proposed and the Barada Kabalbara Yetimarala People have a current Native Title claim over the area where the mine pits and ancillary infrastructure are proposed. The area associated with TLF Option 5 has not had a Native Title claim determined as yet.

A search of the Australian Heritage Place Inventory and Aboriginal Cultural Heritage Database and Register did not identify any listed area within the immediate Project area.

The activities associated with exploration and mining within the Project site have been assessed as 'category 5', being activities causing additional ground surface disturbance. Category 5 activities generally carry a high risk of harm to cultural heritage values and should not proceed without cultural heritage assessment.

In accordance with the cultural heritage duty of care, an archaeological inspection was conducted within the MLA area during preliminary exploration drilling undertaken in June/July 2011. A single Indigenous cultural heritage site was identified within the MLA area. The site comprised an 'isolated find' of a single stone artefact generally considered to be of very low scientific value. No other archaeological sites were recorded during the inspection of drill pad sites.

The Project area can be described as largely flat, featureless and cleared of vegetation. There is minimal change in relief across the site. The only significant drainage features are networks of small ephemeral waterways that run in a southwest direction across the site.

Typically, such landscapes tend to be of low to very low archaeological sensitivity, reflecting very sparse past occupation. That is, it is unlikely that archaeological sites would be found in such terrain, because in the past they were rarely used as camping places and were generally only visited sporadically.

Natural vegetation for the study area has been cleared for farming and much of the area has been ripped.

4.10.1 Potential Impacts

Potential impacts on cultural heritage values within the MLA are expected to be low given the low archaeological sensitivity of the landscape and the very low scientific value of the artefact find. It is considered that further surveys are unlikely to reveal many more finds considering the low archaeological sensitivity of the general landscape.

The site of the artefact find will be avoided and left undisturbed where possible. Should further development be proposed at this site in future, the find will be salvaged by a qualified archaeologist and in consultation with the Aboriginal parties for the area.

4.11 Socio-Economics

The agriculture, forestry and fishing sector (which can be assumed to be predominately beef cattle) is the main employer in the local area of the Project. Although well known for its cattle production, the region has a more diverse and mature economy, with employment levels highest in retail trade, health care, manufacturing, construction, transportation and public administration.

The Project will positively contribute to the local (Ogmore, Marlborough and St Lawrence) and regional area with increased direct employment opportunities and indirect opportunities through the ongoing requirement for services and support.

During construction and operations, the Project will require the hiring of 200 and 250 full-time employees, respectively. Given the relatively small scale of the Project, and considering the majority of employees will be local it's not expected that adverse social impacts will arise as a result of the Project.

4.11.1 Potential Impacts

Local procurement will generate local business activity and generate indirect employment. A significant proportion of the goods and services are expected to be sourced from Mackay and Rockhampton, and will therefore benefit Central Queensland. Mackay in particular has a large pool of mine contractors and an established capacity to serve the coal mining industry.

The mine will have a relatively small but negative impact on cattle production. Five properties will potentially lose grazing land. These properties represent a relatively small proportion of grazing land in the Styx Basin and the local area.

Neighbouring cattle properties may be impacted by dust, which may reduce pasture production and its palatability, particularly during dry periods when the dust is not washed off on a regular basis. Given the extensive nature of cattle production systems in the area the actual impact on pasture production and cattle productivity is expected to be low. Furthermore, any decline in cattle production will be low relative to the economic benefits derived from the Project.

Most impacts are considered to be minimal primarily due to the relative isolation of the Project; the predominantly non-resident workforce; and the limited number of residents living in the vicinity of the Project.

The impacts on Indigenous people are regarded as low for the same reasons as above (isolated Project, size and predominantly non-resident workforce), and because few of the traditional owners are believed to reside in the local area.

4.12 Traffic and Transportation

The Project construction and operational activities will require the transport of plant and equipment, construction material, heavy vehicles and oversized loads and employees from various locations. The transport methods are being assessed and negotiations are underway with local landholders and Queensland Rail to access and to utilise the existing North Coast Rail Line that is located adjacent to the mine site to transport product coal to the port. The preferred option is to transfer coal internally to a rail loop and TLF, or by transporting coal via truck to nearby rail sidings which will be upgraded as required. Locating the TLF at an external rail siding will require truck haulage along the Bruce Highway to Wulmagi to the north of the MLA area or via the Bruce Highway to Kooltandra to the south of the MLA area.

Access to the south and north pits (i.e. either side of the Bruce Highway) is proposed via a level crossing. The location and design of the crossing is currently under investigation as part of the Project's feasibility assessment.

4.12.1 Potential Impacts

The increased traffic in the Project area and in the wider region has the potential to result in a number of potential impacts. The Bruce Highway will be the major road that will be utilised for the Project activities. Depending on which TLF option is selected one or more local roads may also be utilised by haul trucks. A traffic impact assessment will be conducted as part of the EIS process to identify and mitigate potential traffic impacts.

At this stage of the project design, no estimates are available for the likely number and type of transport trips required for the project. Procedures for the movement and transport of vehicles and personnel during the construction and operation of the mine will be prepared to ensure that these traffic movements do not cause unnecessary damage to local or regional roads. Traffic movement on local roads will be minimised where practicable and restricted in areas of high sensitivity.

A Road Use Management Plan (RMP) and Traffic Management Plan (TMP) will be developed in conjunction with relevant State and local road authorities. The RMP and TMP will be adopted by the Project's management team and will be implemented by the workforce and contractors delivering goods to or removing goods from the site to ensure that Project traffic movements do not cause unnecessary damage to local or regional roads.

5 Stakeholder Engagement

The Proponent will prepare a consultation program prior to the commencement of construction activities to ensure Project stakeholders have access to relevant information, are able to voice their concerns and suggestions in relation to the Project and its impacts, and participate as valued partners in the development and operation of the mine. Affected and interested stakeholders to be included in consultation include:

- Property owners within and immediately adjacent to the mine footprint;
- Mining and petroleum tenement holders within and immediately adjacent to the Project;
- Local and regional service providers;
- Livingstone Shire Council, Isaac Regional Council and Rockhampton Regional Council,
- State government agencies;
- Commonwealth government agencies;
- Community interest groups/non-government organisations;
- Emergency service groups; and
- Aboriginal parties (Darumbal Enterprises Pty Ltd and Barada Kabalbara Yetimarala People – Area A).

The consultation program will include:

- Establishing mechanisms for providing access to Project information and communicating key information to stakeholders;
- Establishing a grievance and dispute resolution mechanism for employees, contractors and other stakeholders; and
- Involving stakeholders in the identification of social impacts, the preparation of social mitigation strategies, the monitoring of mitigation strategies and an annual process of review (to be described in detail in the draft Social Impact Management Plan).

The above control strategies will be described in detail in the EIS and appropriate management strategies outlined in the EIS commitments chapter. The management measures, will be consistent with the Queensland Government Coordinator-General Social Impact Assessment Guideline 2013 and the tools provided by the International Council on Mining and Metals (ICMM).

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STYX COAL PROJECT

Draft Terms of Reference

Meeting Date: 9 May 2017

Attachment No: 2

Draft terms of reference for the environmental impact statement for the Styx Coal Project

Proposed by Fairway Coal Pty Ltd

April 2017

Contents

Glossary

The following acronyms, initialisms and abbreviations have been used in this document.

Acronym/abbreviation	Definition
AADT	average annual daily traffic
AEP	annual exceedence probability
AHD	Australian height datum
ARI	average reoccurrence interval
ARMIS	a road management information system
Bilateral agreement	an agreement between the Commonwealth and the State of Queensland under section 45 of the *Environment Protection and Biodiversity Conservation Act 1999* relating to environmental assessment
CSG	coal seam gas
EA	environmental authority
EHP	Department of Environment and Heritage Protection
EIS	environmental impact statement
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
EPP	environmental protection policy (under the EP Act)
EP Regulation	Environmental Protection Regulation 2008
ERA	environmentally relevant activity
FIFO	fly-in-fly-out
GDA94	Geocentric Datum of Australia 1994
IESC	Independent Expert Scientific Committee
MNES	matters of national environmental significance
MSES	matters of state environmental significance
RMP	road-use management plan
TOR	terms of reference
WONS	weeds of national significance

1 Information about the proposed Styx Coal Project

1.1 Project proponent

The Project will be developed and operated by Fairway Coal and Styx Coal. Both companies are private companies and are subsidiaries of Mineralogy Pty Ltd.

Fairway Coal is a privately owned Australian coal exploration and coal development company that holds extensive mining concessions within the rich mineral basins of Laura, Bowen, Surat, Moreton, Nymboida and the Northern Territory, in addition to the Styx Basin.

Fairway Coal's head office is located in Brisbane at the following address:

Fairway Coal

380 Queen Street

BRISBANE QLD 4001

1.2 Project description

Styx Coal Proprietary Limited (Styx Coal) and Fairway Coal Proprietary Limited (Fairway Coal) (the joint Proponents), both wholly owned subsidiaries of Mineralogy Proprietary Limited propose to develop the Styx Coal Project (the Project) located 130 km northwest of Rockhampton in the Styx Basin in Central Queensland (see Figure 1 1). The Project will be located within Mining Lease Application (MLA) 80178, which is adjacent to Mineral Development Licence (MDL) 468 and Exploration Permit for Coal (EPC) 1029.

The Project will initially involve the mining of an approximately 2 million tonnes per annum (Mtpa) with options of increasing to 5 or 10 Mtpa of high grade thermal coal (HGTC) and/or semi-soft coking coal (SSCC). Development of the Project is expected to commence in 2018 and extend for approximately 20 – 25 years until the current reserve is depleted.

The Project consists of two open cut pit operations that will be mined using a truck and shovel methodology. The run-of-mine (ROM) coal will commence at 2 Mtpa with options to ramp up to approximately 5 Mtpa during Stage 1 (Year 1-2), where coal will be crushed and screened to HGTC with an estimated 95% yield. Stage 2 of the Project (Year 2-20) will include further processing of the coal within a coal handling and preparation plant (CHPP) which will be located in the Mine Industrial Area (MIA) to produce SSCC, with an estimated 80% yield. During Stage 2 of operation, production could potentially increase to a combined 10 Mtpa of HGTC and SSCC.

A new train loadout facility (TLF) will be developed to connect into the existing North Coast Rail Line. The TLF will require all new infrastructure and connect to the existing north coast rail network which will allow transport of the product coal to the established coal loading infrastructure at the Dalrymple Bay Coal Terminal (DBCT). There also exists the option to utilise southern coal terminals in Gladstone. Since the preparation of the Project's Initial Advice Statement and the Referral of the Project to the Federal Department of the Environment and Energy, Fairway Coal has advanced its assessment of proposed TLF. Based on the outcomes of the assessments to date, Fairway Coal has taken the decision to exclude TLF Options 4 and 5 from further assessment. As such only TLF Options 1,2 and 3 will be assessed as part of the environmental impact assessment.

The Project is located within the Livingstone Shire Regional Council area and is located on gently undulating plains and slopes. The nearest major regional centre is Rockhampton, located approximately 130 km to the south of the Project.

The Project will require the hiring of 200 employees during construction and 250 employees during operations with an option to increase to 500 employees should operations increase to maximum throughput tonnages. The Project labour resources will be sourced from within the general local area (Marlborough, St Lawrence, Sarina, Mackay and Rockhampton) as a drive-in drive-out workforce. A small portion of the workforce is anticipated to come from outside the broader central Queensland coalfields area on a fly-in fly-out basis.

The current mine plan is based on commencing construction in Q1 2018 with first production in Q2 2018, following a construction period of approximately six months.

Key components of the Project include:

- two open cut pits with a maximum production rate of 10 Mtpa (combined HGTC and SSCC)
- CHPP
- waste rock dumps, mine water dams and associated infrastructure
- internal haul roads and access roads

- MIA including the run of mine and product coal stockpiles, administration offices, workshops and fuelling facilities
- raw and potable water supply from local aquifers and surface water
- power requirements sourced from onsite generators located within the MIA
- offsite haul road and TLF Options 1, 2 and 3.

1.3 *Environmental Protection Act 1994* (Queensland)

On 16 December 2016 Fairway Coal submitted an application to the Department of Environment and Heritage Protection (EHP) for approval to prepare a voluntary environmental impact statement for the proposed Styx Coal Project. On 27 January 2017, EHP issued a Notice of decision regarding preparation of a voluntary environmental impact statement granting approval of the preparation of a voluntary environmental impact statement (EIS) for the proposed Styx Coal Project.

1.4 *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

The proposed project was referred on 21 January 2016 to the Australian Government Department of the Environment and Energy (EPBC 2016/7851). On 3 February 2017, the Department of the Environment and Energy determined the proposed project to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlling provisions are:

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland (section 45 of the EPBC Act) using the EIS prepared under the *Environmental Protection Act 1994* (EP Act).

1.5 Objectives and outcomes for the project

The project must achieve several objectives for environmental management. Many of the objectives are derived from Schedule 5 of the Environmental Protection Regulation 2008, while the rest derive from current best practice environmental management.

Performance outcomes corresponding to environmental objectives are also stated in Schedule 5 of the EP Regulation. The proponent should supply sufficient evidence in the EIS (through studies and proposed management measures) to show that the outcomes can be achieved for the project.

The objectives that the EIS must address with regard to the design of the project and its outcomes are as follows:

Land

The activity is operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.

The choice of the site, at which the activity is to be carried out, avoids or minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places.

The location for the activity on a site protects all environmental values relevant to adjacent sensitive use.

The design of the facility permits the operation of the site, at which the activity is to be carried out, in accordance with best practice environmental management.

Water

The activity will be operated in a way that protects environmental values of waters.

The activity will be operated in a way that protects the environmental values of groundwater and any associated surface ecological systems.

The activity will be managed in a way that prevents or minimises adverse effects on wetlands

Water resources

With regard to water resources, the project shall meet the following objectives:

- equitable, sustainable and efficient use of water resources
- maintenance of environmental flows and water quality to support the long term condition and viability of terrestrial, riverine, wetland, lacustrine, estuarine, coastal and marine ecosystems
- maintenance of the stability of beds and banks of watercourses, and the shores of waterbodies, estuaries and the coast
- maintenance of supply to existing users of surface and groundwater resources, including consideration of cumulative increased water demand from ancillary users during construction and operational phases of the project.

Flooding

The construction and operation of the project should aim to ensure that the risk and potential adverse impacts from flooding are avoided, minimised or mitigated to protect people, property and the environment.

Regulated structures

The design of the facility permits the operation of the site, at which the activity is to be carried out, in accordance with best practice environmental management.

The potential consequences of the failure of a regulated structure on human life and the environment require that the highest standards are used for their design, construction, operation, modification and decommissioning. The industry, government and the Australian National Committee on Large Dams Inc. (ANCOLD) have published several guidelines, which should be used to further develop objectives and outcomes for individual projects and the regulated structures they involve.

Flora and fauna

The activity will be operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.

There will be no potential or actual adverse effect on a wetland as part of carrying out the activity.

The project minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places.

The location for the activity on a site protects all environmental values relevant to adjacent sensitive use.

The project manages the impacts on the environment by seeking to achieve ecological sustainability, including, but not limited to, protected wildlife and habitat.

Critical habitat receives special management considerations and protection through a management plan for the project.

The project avoids significant residual impacts to matters of national environmental significance (MNES) and matters of state environmental significance (MSES), mitigates impacts where they cannot be avoided, and offsets any residual impacts.

The project provides for the conservation of the marine environment.

The construction, operation and decommissioning of the project must be consistent with all statutory and regulatory requirements of the Commonwealth, state and local government and be consistent with their relevant plans, strategies, policies and guidelines that relate to the terrestrial and aquatic ecological environment.

Coastal environment

The project's objective for the coastal environment is that its activities are operated in a way that avoids or minimises adverse impacts on coastal environmental values, processes, and resources.

The construction, operation and decommissioning of the project must be consistent with all statutory and regulatory requirements of the Commonwealth, state and local government and be consistent with their relevant plans, strategies, policies and guidelines that relate to the coastal environment. The coastal environment is taken to include estuarine, littoral and marine environmental values, and the amenity of important natural coastal landscapes, views and vistas.

Biosecurity

The construction, operation and decommissioning of the project shall ensure:

- the introduction and spread of weeds, pests (including marine pests) and disease, pathogens and contaminants are avoided or minimised
- existing weeds and pests, including marine pests, are controlled, including biosecurity threats and their management
- the performance outcomes correspond to the relevant policies, legislation and guidelines, and that sufficient evidence is supplied (through studies and proposed management measures) to show these outcomes are achieved.

Air

The activity will be operated in a way that protects the environmental values of air.

Noise

The activity will be operated in a way that protects the environmental values of the acoustic environment.

Waste

Any waste generated, transported, or received as part of carrying out the activity is managed in a way that protects all environmental values.

Hazards and safety

The construction and operation of the project should ensure:

- the risk of, and the adverse impacts from, natural and man-made hazards are avoided, minimised or mitigated to protect people and property
- the community's resilience to natural hazards is maintained or enhanced
- developments involving the storage and handling of hazardous materials are appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.
- the project prevents or minimises the production of hazardous contaminants and waste
- if the production of hazardous contaminants and waste is unavoidable, the project treats and/or contains hazardous contaminants until their disposal at an approved facility.

Cultural heritage

The construction and operation of the project should achieve the purposes of the *Aboriginal Cultural Heritage Act 2003* with respect to the project site, and ensure that the nature and scale of the project does not compromise the cultural heritage significance of a heritage place or heritage area.

Social and economic matters

The construction and operation of the project should aim to:

- avoid or mitigate adverse social and economic impacts arising from the project
- capitalise on opportunities potentially available to affected communities for capable local industries and communities where this does not have a significant negative impact on the project or reduce net economic benefits to the state.

Transport

The construction and operation of the project should aim to:

- maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users
- avoid and mitigate impacts including those on the condition of transport infrastructure
- ensure any required works are compatible with existing infrastructure and future transport corridors.

2 Content requirements for the EIS

This section outlines the content requirements for the EIS for the proposed Styx Coal Project.

2.1 Executive summary

Describe the project and convey the most important and preferred aspects and environmental management commitments relating to the project in a concise and readable form.

2.2 Introduction

Clearly explain the function of the EIS, why it has been prepared and what it sets out to achieve. Include an overview of the structure of the document.

2.2.1 Project proponent

Provide information about the proponent(s) and their business, including:

- the proponent's full name, street and postal address, and Australian Business Number, including details of any joint venture partners
- the nature and extent of the proponent's business activities
- proponent's environmental record, including a list of any breach of relevant environmental laws during the previous 10 years
- the proponent's environmental, health, safety and community policies.

2.2.2 The environmental impact statement process

Outline the steps of the environmental impact statement process, note which steps have been completed, and provide an estimated completion date for each remaining step. Highlight the steps in which the public will have the opportunity for input The information in this section is required to ensure readers are informed of the process and are aware of their opportunities for input and participation.

Inform the reader how and when properly made public submissions on the EIS can be made, and outline how the submissions are taken into account in the decision-making process.

2.2.3 Project approvals process

Describe the approvals that are required to enable the project to be constructed and operated, and note the legislation under which the approvals are assessed and issued. Explain how the EIS fits into the assessment and approval processes for the environmental authority, leases, licences, and permits required by the proponent before construction and operations can start[1].

Describe the approvals process under the EPBC Act if this project is to be assessed under the bilateral agreement between the Queensland and the Australian Governments.

2.2.4 Statutory information requirements

The EIS should provide sufficient information to meet the requirements of sections 125 and 126A as relevant to the specific project.

2.2.5 Project description

Describe all aspects of the project that are covered by the EIS's assessment. If there are any aspects of the project that would be assessed separately, describe what they are, and how they would be assessed and approved.

[1] Guidance on typical associated approvals can be accessed from https://www.business.qld.gov.au/industry

The project description should include all on and off lease activities relevant to the project including construction, operation and decommissioning activities. If the delivery of the project is to be staged, the nature and timing of the stages should be fully described.

2.2.5.1 Proposed development

Describe and illustrate the following specific information about the proposed project, including but not limited to:

- project's title
- project objectives
- expected capital expenditure
- rationale for the project
- project description, including the nature and scale of all project components and activities
- whether it is a greenfield or brownfield site
- regional and local context of the project's footprint with maps at suitable scales
- proposed timing of the development, including construction staging and likely schedule of works
- relationship to other major projects or developments of which the proponent should reasonably be aware
- the workforce numbers for all project phases
- where personnel would be accommodated and the likely recruitment and rostering arrangements to be adopted
- proposed travel arrangements of the workforce to and from work, including use of a fly-in-fly-out (FIFO) workforce.

2.2.5.2 Site description

Provide real property descriptions of the project land and adjacent properties, any easements, any existing underlying resource tenures, and identification number of any resource activity lease for the project land that is subject to application.

Describe and illustrate with scaled maps the key infrastructure in and around the site, including state-controlled and local roads, rail lines and loading yards, airfields, ports or jetties, electricity transmission infrastructure, pipelines, and any other infrastructure in the region relevant to the project.

Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Map the location and boundaries of the project's footprint including all infrastructure elements and development necessary for the project. Show all key aspects including excavations, stockpiles, areas of fill, services infrastructure, plant locations, water or tailings storages, buildings, bridges and culvert, haul and access roads, causeways, stockpile areas, barge loading facilities and any areas of bed levelling. Include discussion of any environmental design features of these facilities including bunding of storage facilities.

Describe and map in plan and cross-sections the geology and terrestrial and/or coastal landforms of the project area. Indicate the boundaries of water catchments that are significant for the drainage of the site. Show geological structures, such as aquifers, faults and economic resources that could have an influence on, or be influenced by, the project's activities.

Describe and illustrate the precise location of the proposed project in relation to any designated and protected areas and waterbodies. This is to include the location of any proposed buffers surrounding the working areas; and lands identified for conservation, either through retention in their current natural state or to be rehabilitated.

Describe, map and illustrate soil types and profiles of the project area at a scale relevant to the site. Identify soils that would require particular management due to wetness, erosivity, depth, acidity, salinity or other feature, including acid sulfate soils.

2.2.5.3 Proposed construction and operations

Describe the following information about the proposal, and provide maps and concept/layout plans:

- existing land uses and any previous land use that might have affected or contaminated the land
- existing buildings, infrastructure and easements on the potentially affected land

- all pre-construction activities (including vegetation clearing, site access, interference with watercourses, wetlands and floodplain areas)
- the proposed construction methods, associated equipment and techniques
- road and rail infrastructure, and stock routes, including new constructions, closures and/or realignments
- location, design and capacity of all other required infrastructure, including water supply and storage, sewerage, electricity from the grid, generators and fuels (whether gas, liquid and/or solid), and telecommunications
- changes to watercourses and overland flow on or off the site, including stream diversions and flood levees
- any infrastructure alternatives, justified in terms of ecologically sustainable development (including energy and water conservation)
- hours of construction and operation
- the proposed extractive and processing methods, associated equipment and techniques
- the sequencing and staging of activities
- the proposed methods and facilities to be used for the storage, processing, transfer, and loading of product
- the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used
- any activity that would otherwise be a prescribed environmentally relevant activity if it were not undertaken on a mining or petroleum lease
- any new borrow pits, stream bed excavations, or expanded quarry and screening operations that may be required to service construction or operation of the project.

2.2.5.4 Feasible alternatives

Present feasible alternatives of the project's configuration (including conceptual, technological and locality alternatives to the project and individual elements) that may improve environmental outcomes. Summarise the comparative environmental, social and economic impacts of each alternative, with particular regard to the principles of ecologically sustainable development.

Discuss alternatives in sufficient detail to enable an understanding of the reasons for preferring certain options and courses of action while rejecting others.

Discuss the consequences of not proceeding with the project.

2.2.5.5 Consultation process

Provide information on the development and implementation of a consultation plan for the people and organisations identified as affected or interested persons, or stakeholders for the project. Describe issues of potential concern to any and all stakeholders at various stages of the project from project planning to commencement, project operations and decommissioning. The description should at least include the following matters:

- the objectives of the consultation process
- timing of consultation
- the number and interests of the people and organisations involved in the consultation (particularly the affected and interested persons defined in sections 38 and 41 of the EP Act)
- methods of consultation and communication
- reporting and feedback methods of the consultation process
- an assessment explaining how the consultation objectives have been met
- an analysis of the issues raised and their completed or planned resolution, including any alterations to the proposed project as a result of the received feedback.

2.3 Climate

Describe the project area's climate patterns that are relevant to the environmental assessment, with particular regard to discharges to water and air, and the propagation of noise. Climate data should be provided in a statistical

form including long-term averages and extreme values. It should also be illustrated by bar charts, wind rose diagrams, etc.

Assess the vulnerability of the area to natural and induced hazards, including floods, bushfires and cyclones. Consider the relative frequency and magnitude of these events together with the risk they pose to the construction, operation and rehabilitation of the project. Measures that would be taken to minimise the risks of these events should be described.

Assess the project's vulnerabilities to climate change (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the region.

2.4 Land

Conduct the impact assessment in accordance with the EHP's *EIS information guideline—Land*, and, if any quarry material is needed for construction, use EHP's *EIS information guideline—Quarry material*.

Describe potential impacts of the proposed land uses taking into consideration the proposed measures that would be used to avoid or minimise impacts. The impact prediction must address the following matters:

- Any changes to the landscape and its associated visual amenity in and around the project area.
- Any existing or proposed mining tenement under the *Mineral Resources Act 1989*, petroleum authority under the *Petroleum and Gas (Production and Safety) Act 2004*, petroleum tenure under the *Petroleum Act 1923*, geothermal tenure under the *Geothermal Energy Act 2010* and greenhouse gas tenure under the *Greenhouse Gas Storage Act 2009* overlying or adjacent to the project site.
- Temporary and permanent changes to land uses of the project site and adjacent areas, considering actual and potential agricultural uses, regional plans and local government planning schemes, and any Key Resources Areas that were identified as containing important extractive resources of state or regional significance which the state considers worthy of protection[23].
- Identify any existing or proposed incompatible land uses within and adjacent to the site, and including the impacts on economic resources and the future availability and viability of the resource including extraction, processing and transport location to markets.
- Identify any infrastructure proposed to be located within, or which may have impacts on, the Stock Route Network[45] and the *Stock Route Management Act 2002*.
- Propose suitable measures to avoid or minimise impacts related to land use.

Assess the project against the requirements of the *Regional Planning Interests Act 2014*[6], including any relevant Regional Plan. Further advice is provided in the '*DILGP Companion guide – A guide for state agencies and proponents on the requirements of the Regional Planning Interests Act 2014 in the planning and development process* (Department of Infrastructure, Local Government and Planning, July 2016[7]) and the *DAFF Environmental Impact Assessment Companion Guide*' (Department of Agriculture, Fisheries and Forestry, August 2014[8]). Describe how the project will avoid or minimise impacts on any land identified as Strategic Cropping Land on the Trigger Map for Strategic Cropping Land[9].

Show how the land form during and after disturbance will be stable over time and will meet any requirements of project or property plans under the *Soil Conservation Act 1986*.

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[2] https://www.business.qld.gov.au/industry/mining/quarries/key-resource-areas

[3] http://www.statedevelopment.qld.gov.au/resources/guideline/spp/spp-guideline-mining-extractive-resources.pdf

[4] https://www.qld.gov.au/environment/land/stock-routes/about/

[5] https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0010/99622/stock-route-management-strategy.pdf

[6] http://www.dilgp.qld.gov.au/planning/regional-planning/regional-planning-interests-act.html

[7] http://www.dilgp.qld.gov.au/planning/regional-planning/rpi-act-forms-guidelines-and-fact-sheets.html

[8] https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c

[9] https://www.dnrm.qld.gov.au/land/accessing-using-land/strategic-cropping-land

For underground mines and any other projects likely to cause land subsidence, assess and provide comprehensive surface subsidence predictions using tools or techniques that enable the location, extent and scale of subsidence, and its effect over time on surface landforms and hydrology to be understood[10]. Propose detailed mitigation measures for any significant impacts that would result from subsidence.

Detail any known or potential sources of contaminated land that could be impacted by the project. Describe how any proposed land use may result in land becoming contaminated.

Identify existing or potential native title rights and interests possibly impacted by the project and the potential for managing those impacts by an Indigenous Land Use Agreement or other measure in accordance with the *Native Title (Queensland) Act 1993* and consistent with the Queensland Government *Native Title Work Procedures*[11].

2.4.1 Rehabilitation

Conduct impact assessment in accordance with the EHP's *EIS information guideline—Rehabilitation*.

The EIS should provide information based on relevant guidelines (including the departmental 'Guideline: Rehabilitation requirements for mining resource activities (EM1122)), current best practice approaches and legislative requirements about the strategies and methods for progressive and final rehabilitation of the environment disturbed by construction, operation, and decommissioning of the project.

The EIS should propose completion criteria and a rehabilitation strategy based on the following considerations:

a) develop rehabilitation criteria for disturbed areas and post mining land uses across the mine as outlined in *EHP Guideline: Rehabilitation requirements for mining projects (EM1122)*
b) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation
c) explain planned native vegetation rehabilitation areas and corridors
d) explain development and rehabilitation of improved pastures and grazing landforms
e) detail rehabilitation methods applied to disturbed areas, including map(s) to identify proposed rehabilitation types and methods in different areas
f) contain landform design criteria including end of mine design
g) where suitable remnant vegetation sites are available, identify an appropriate number for the development of rehabilitation success criteria and comparison with progressive rehabilitation at the mine
h) identify success criteria for rehabilitation areas and itemise revegetation criteria
i) detail how landform design will be consistent with the surrounding topography
j) include detailed flood modelling for 2 year Average Recurrence Interval (ARI), 50 year ARI (i.e. 1 in 50), 100 year ARI (i.e. 1 in 100), and 1,000 year ARI
k) detail how surrounding environmental values will be protected
l) describe rehabilitation indicators, projected progressive rehabilitation, and the monitoring program to be used
m) develop a contingency plan for rehabilitation maintenance or design.

2.5 Water quality

The assessment of water quality is considered a critical matter given the proximity of the Great Barrier Reef World Heritage Area and usage of water resources for grazing purposes in the area.

Conduct impact assessment in accordance with the EHP's *EIS information guideline—Water*.

With reference to the Environmental Protection (Water) Policy 2009 and section 9 the EP Act, identify the environmental values of surface waters within the project area, downstream and upstream that may be affected by the project, including any human uses of the water and any cultural values.

Define the relevant water quality objectives applicable to the environmental values, and demonstrate how these will be met by the project during construction, operation and following completion.

[10] http://www.environment.gov.au/system/files/resources/e9b69ac4-647c-4bbc-84db-83642227ab0d/files/background-review-subsidence_0.pdf
[11] https://www.dnrm.qld.gov.au/land/indigenous-land/queensland-government-native-title-work-procedures

Detail the chemical, physical and biological characteristics of surface waters and groundwater within the area that may be affected by the project and at suitable reference locations using sufficient data to define natural variation.

Describe the quantity, quality, location, duration and timing[12] of all potential and/or proposed releases of contaminants addressing applicable standards from any relevant regional water quality management plans, strategies, or guidelines relating to water quality. Releases may include controlled water discharges to surface water streams, uncontrolled discharges when the design capacity of storages is exceeded, spills of products during loading or transportation, contaminated run-off from operational areas of the site (including seepage from waste rock dumps), or run-off from disturbed acid sulphate soils.

Assess the likely impacts of any releases from point or diffuse sources on all relevant environmental values of the receiving environment. The assessment should consider the quality and hydrology of receiving waters and the assimilative capacity of the receiving environment.

Describe how impacts on water quality objectives and environmental would be avoided or minimised through the implementation of management strategies that comply with the management hierarchy and management intent of the Environmental Protection (Water) Policy 2009. Appropriate management strategies may include the use of erosion and sediment control practices, and the separation of clean storm water run-off from the run-off from disturbed and operational areas of the site.

Describe how monitoring would be used to demonstrate that objectives were being assessed, audited and met. For example, provide measureable criteria, standards and/or indicators that will be used to assess the condition of the ecological values and health of surface water environments. Propose corrective actions to be used if objectives are being met.

2.6 Water resources

The assessment of surface water and groundwater resources is considered a critical matter given the usage of water resources for grazing purposes in the area.

Conduct impact assessment in accordance with the EHP's *EIS information guidelines—Water*.

Describe present and potential users and uses of water in areas potentially affected by the project, including municipal, agricultural[13], industrial, recreational and environmental uses of water.

Provide details of any proposed changes to, or use of, surface water or groundwater. Identify any approval or allocation that would be needed under the *Water Act 2000*.

Describe all aquifers that would be impacted by the project, including the following information:

- Nature of the aquifer/s;
- Geology/stratigraphy - such as alluvium, volcanic, metamorphic;
- Aquifer type - such as confined, unconfined;
- Depth to and thickness of the aquifers;
- Groundwater quality and volume;
- Current use of groundwater in the area;
- Survey of existing groundwater supply facilities (e.g. bores, wells, or excavations);
- Information to be gathered for analysis to include:
    - Location;
    - Pumping parameters;
    - Drawdown and recharge at normal pumping rates; and
    - Seasonal variations (if records exist) of groundwater levels.
- Proposal to develop network of groundwater monitoring bores before and after the commencement of the project.

Include maps of suitable scale showing the location of diversions and other water-related infrastructure in relation to mining/gas infrastructure. Detail any significant diversion or interception of overland flow, including the effects of subsidence.

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[12] Duration and timing are important aspects of the risk characteristics that affect the impacts of mine and CSG water releases; e.g. for how long will water be released in total and when will it occur with respect to existing 'natural' flows

[13] https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c

Describe the options for supplying water to the project and assess any potential consequential impacts in relation to the objectives of any water resource plan and resource operations plan that may apply.

Describe how 'make good' provisions would apply to any water users that may be adversely affected by the project.

Describe the proposed supply of potable water for the project, including temporary demands during the construction period. Also describe on-site storage and treatment requirements for waste water from accommodation and/or offices and workshops.

Describe the practices and procedures that would be used to avoid or minimise impacts on water resources.

2.6.1 The Independent Expert Scientific Committee

The EIS must include a specific section responding to the information requirements contained in the IESC's *Information guidelines for proposals relating to the development of coal seam gas and large coal mines where there is a significant impact on water resources* (Commonwealth of Australia, 2015[14]*)*.

2.7 Flooding

The assessment of surface water and groundwater resources is considered a critical matter given the use of the area for cattle grazing and the need to protect the environmental values of water resources.

Describe current flood risk for a range of annual exceedance probabilities up to the 1,000 year flood for the project site. Use flood modelling to assess how the project may potentially change flooding and run-off characteristics on-site and upstream and downstream of the site. The assessment should consider all infrastructure associated with the project including levees, roads, and linear infrastructure, and all proposed measures to avoid or minimise impacts.

Evidence should be provided that the securing of storage containers of hazardous contaminants during flood events meets the requirements of schedule 5, table 2 of the EP Regulation.

Describe and illustrate where any residual voids and waste rock dumps would lie in relation to the extent of the 1,000 year flood.

Assess the project's vulnerabilities to climate change (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the project.

2.8 Regulated structures

Conduct impact assessments on regulated structures in accordance with the EHP's *EIS information guideline—Regulated structures*, EHP's *Guideline on structures which are dams of levees constructed as part of environmentally relevant activities*[15], and EHP's *Manual for assessing hazard categories and hydraulic performance of structures*[16].

Describe the purpose of all dams or levees proposed on the project site. Show their locations on appropriately scaled maps, and provide plans and cross-sections, illustrating such features as embankment heights, spillways, discharge points, design storage allowances, and maximum volumes. Describe how storage structures and other infrastructure would be sited to avoid or minimise risks from flooding.

Where project infrastructure comprises dams or other structures for storing potentially hazardous materials, undertake a consequence category assessment for each dam or levee, according to the criteria outlined in EHP's *Manual for assessing consequence categories and hydraulic performance of structures*. The assessment must be undertaken for the three different failure event scenarios described in EHP's manual, i.e. for seepage, overtopping and dam break. Regulated structures must comply with the *Manual for assessing consequence categories and hydraulic performance of structures* in accordance with schedule 5, table 2 of the EP Regulation.

[14] http://www.iesc.environment.gov.au/publications

[15] http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-structures-dams-levees-eras.pdf

[16] https://www.ehp.qld.gov.au/assets/documents/regulation/era-mn-assessing-consequence-hydraulic-performance.pdf

Following the consequence category assessment, determine the consequence category ('low, significant, or high') according to table 1 of EHP's *Manual for assessing hazard categories and hydraulic performance of structures* and provide certified copies of these the consequence category determination for each of the proposed dams or levees.

Describe how risks associated with dam or storage failure, seepage through the floor, embankments of the dams, and/or with overtopping of the structures will be avoided, minimised or mitigated to protect people, property and the environment.

2.9 Flora and fauna

Describe the potential direct and indirect impacts on the biodiversity and natural environmental values of affected areas arising from the construction, operation and decommissioning of the project. Take into account any proposed avoidance and/or mitigation measures. The EIS should provide information based on relevant guidelines, including but not limited to EHP's EIS information guidelines that cover flora and fauna, aquatic ecology, coastal issues, ground-dependent ecosystems, water, matters of national environmental significance, and biosecurity. The assessment should include the following key elements:

- identification of all significant ecological species and communities, including MSES and MNES, listed flora and fauna species, and regional ecosystems, on the project's site and in its vicinity
- terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interactions
- biological diversity
- the integrity of ecological processes, including habitats of listed threatened, near threatened or special least-concern species
- connectivity of habitats and ecosystems
- the integrity of landscapes and places, including wilderness and similar natural places
- chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
- impacts (direct or indirect) on terrestrial and aquatic species and ecosystems whether due to: vegetation clearing; hydrological changes; discharges of contaminants to water, air or land; noise; etc.
- impacts of waterway barriers on fish passage in all waterways mapped on the Queensland Waterways for Waterway Barrier Works spatial data layer

Describe any actions of the project that require an authority under the *Nature Conservation Act 1992*, and/or would be assessable development for the purposes of the *Vegetation Management Act 1999*, the *Regional Planning Interests Act 2014,* the *Fisheries Act 1994* and the *Sustainable Planning Act 2009*[17]. Features to consider include regional ecosystems, environmentally sensitive areas, wetlands, nature refuges, protected areas and strategic environmental areas.

Propose practical measures to avoid, minimise, mitigate and/or offset direct or indirect impacts on ecological environmental values. Assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any listed threatened, near-threatened or special least concern species.

Propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation.

Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors. The assessment should take account of the role of buffer zones in maintaining and enhancing riparian vegetation to enhance water quality and habitat connectivity.

Propose rehabilitation success criteria, in relation to natural values, that would be used to measure the progressive rehabilitation of disturbed areas. Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed. Proposals for the rehabilitation of disturbed areas should incorporate, in suitable habitat, provision of nest hollows and ground litter.

[17] This is notwithstanding that the Vegetation Management Act 1999 does not apply to mining projects. Refer also to https://www.qld.gov.au/environment/land/vegetation/clearing/

Specifically address any obligations imposed by State or Commonwealth legislation or policy or international treaty obligations, such as the China–Australia Migratory Bird Agreement, Japan–Australia Migratory Bird Agreement, or Republic of Korea–Australia Migratory Bird Agreement.

2.9.1 Offsets

For any significant residual impact, propose offsets that are consistent with the following requirements as set out in applicable State and Commonwealth legislation or policies:

- Where a significant residual impact will occur on a prescribed environmental matter as outlined in the Environmental Offsets Regulation 2014, the offset proposal(s) must be consistent with the requirements of Queensland's *Environmental Offsets Act 2014* and the latest version of the Queensland Environmental Offsets Policy[18].
- Where Commonwealth offset policy requires an offset for significant residual impacts on a MNES, the offset proposal(s) must be consistent with the requirements of the EPBC Act Environmental Offsets Policy (October 2012), the *Offsets Assessment Guide* and relevant guidelines[19] (refer to also section xxx of this TOR).

2.10 Biosecurity

Conduct impact assessment in accordance with the EHP's *EIS information guideline—Biosecurity*.

Propose detailed measures to remove, control and limit the spread of pests, weeds disease, pathogens and contaminants on the project site and any areas under the proponent's control, particularly declared plants and animals under Queensland's *Biosecurity Act 2014*, the Commonwealth *Biosecurity Act 2015* and weeds of national significance (WONS).

Weed and pest animal management measures should be aligned with local government pest management priorities.

Detail a monitoring program that would audit the success of measures, whether objectives have been met, and describe corrective actions to be used if monitoring shows that objectives are not being met.

2.11 Air

Describe the existing air environment at the project site and the surrounding region.

Provide an emissions inventory and description of the characteristics of contaminants or materials that would be released from point and diffuse sources and fugitive emissions when carrying out the activity (point source and fugitive emissions). The description should address the construction, commissioning, operation, upset conditions, and closure of the project. .

Predict the impacts of the releases from the activity on environmental values of the receiving environment using established and accepted methods and in accordance with the EP Regulation, Environmental Protection (Air) Policy 2008 (EPP (Air), and EHP's *EIS information guideline—Air*. The description of impacts should take into consideration the sensitivity and assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must address the cumulative impact of the release with other known releases of contaminants, materials or wastes associated with existing development and possible future development (as described by approved plans and existing project approvals). It should also quantify the human health risk and amenity impacts associated with emissions from the project for all contaminants whether or not they are covered by the National Environmental Protection (Ambient Air Quality) Measure or the EPP (Air).

Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. The EIS must address the compatibility of the project's air emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, or State Development Areas, etc.

[18] https://www.qld.gov.au/environment/pollution/management/offsets/

[19] http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy

Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

Proponents are responsible for determining if they have obligations under the Commonwealth *National Greenhouse and Energy Reporting Act 2007* (NGER Act) and ensuring that information provided in their NGER report meets the requirements of this Act and its subordinate legislation[20].

Provide an inventory of projected annual emissions for each relevant greenhouse gas, with total emissions expressed in 'CO2 equivalent' terms. Estimate emissions from upstream activities associated with the proposed project, including the fossil fuel based electricity to be used. Briefly describe the methods used to make the estimates. NGER guidelines can be used as a reference source for emission estimates and supplemented by other sources where practicable and appropriate. Coal mining projects must include estimates of coal seam methane to be released as well as emissions resulting from such activities as transportation of products and consumables, and energy use at the project site.

Assess the potential impacts of operations within the project area on the state and national greenhouse gas inventories and propose greenhouse gas abatement measures, including:

- a description of the proposed measures (alternatives and preferred) to avoid and/or minimise greenhouse gas emissions directly resulting from activities of the project, including such activities as transportation of products and consumables, and energy use by the project
- an assessment of how the preferred measures minimise emissions and achieve energy efficiency
- a comparison of the preferred measures for emission controls and energy consumption with best practice environmental management in the relevant sector of industry
- a description of any opportunities for further offsetting greenhouse gas emissions through indirect means.

2.12 Noise and vibration

Describe and illustrate the locations of any sensitive receptors that are listed in Schedule 1 of the Environmental Protection (Noise) Policy 2008. Also describe any other environmental values that could be impacted by emissions from the proposed project.

Fully describe the sources and characteristics of noise and vibration that would be emitted during the construction, commissioning, operation, upset conditions, and closure of the project. Conduct noise and vibration impact assessment in accordance with the EHP's EIS *information guideline—Noise and vibration*. The assessment must address low-frequency (<200 Hz) noise emissions and potential cumulative impact of the project with other emissions of noise from any existing developments and known possible future development in the area.

Describe how the proposed activity would be managed to be consistent with best practice environmental management. The EIS must address the compatibility of the project's noise emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, or State Development Areas, etc.

Describe how the achievement of the environmental management objectives would be monitored, audited and reported, and how corrective actions would be managed.

2.13 Waste management

Conduct impact assessment in accordance with the EHP's *EIS information guidelines—Waste management*.

Describe all the expected waste streams from the proposed project activities during the construction, operational, rehabilitation and decommissioning phases of the project. Waste streams for resource projects would typically include: waste rock, tailings and coarse rejects from mining and mineral processing; salt from petroleum and gas projects; and brackish, saline or mine affected water from all types of resource projects.

Describe the quantity, and physical and chemical characteristics of each significant waste, any attributes that may affect its dispersal in the environment, and its associated risk of causing environmental harm.

[20] http://www.cleanenergyregulator.gov.au/NGER

Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes.

Assess the proposed management measures against the preferred waste management hierarchy, namely: avoid waste generation; cleaner production; recycle; reuse; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of waste.

Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives would be monitored, audited and managed.

Detail waste management planning for the proposed project especially how measures have been applied to prevent or minimise environmental impacts due to waste at each stage of the project.

Use a material/energy flow analysis to provide details of natural resource use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse.

Identify the quantity, quality and location of all potential discharges of water and contaminants (including treated wastewater/sewage) by the project. Describe whether the discharges would be from point sources (whether uncontrolled and controlled discharges) or diffuse sources (such as irrigation to land of treated wastewater/sewage effluent), and describe the receiving environment (such as land or surface waters).

Provide a risk assessment of the potential impacts on surface waters (in the near-field or far-field) due to any controlled or uncontrolled discharges from the site. The EIS should address the following matters with regard to every potential discharge of contaminated water:

- Describe the circumstances in which controlled and uncontrolled discharges might occur.
- Provide stream flow data and information on discharge water quality (including any potential variation in discharge water quality) that will be used in combination with proposed discharge rates to estimate in-stream dilution and water quality. Chemical and physical properties of any waste water (including concentrations of constituents) at the point of entering natural surface waters should be discussed along with toxicity of effluent constituents to human health, flora and fauna.
- Provide an assessment of the available assimilative capacity of the receiving waters given existing background levels and other potential point source discharges in the catchment. Options for controlled discharge at times of natural stream flow should be investigated to ensure that adequate flushing of waste water is achieved.
- Provide water quality limits that are appropriate to maintain background water quality and protect water uses.
- Describe the necessary streamflow conditions in receiving waters under which controlled discharges will be allowed.

Provide relevant information on existing and proposed sewage infrastructure (related to environmentally relevant activity (ERA) 63) by referring to relevant EHP policies and guidelines[21], depending on the proposed collection (sewer infrastructure), treatment of sewage, and proposed reuse/disposal of treated wastewater and sewage wastes generated.

Identify beneficial use options under the *Waste Reduction and Recycling Act 2011* as per the relevant guidelines for irrigation, drilling mud, and associated water. The uses might include aquaculture, coal washing, dust suppression, construction, landscaping and revegetation, industrial and manufacturing operations, research and development and domestic, stock, stock intensive and incidental land management.

2.14 Hazards and safety

Describe the potential risks to people and property that may be associated with the project in the form of a risk assessment for all components of the project and in accordance with relevant standards. The assessment should address the following matters:

- potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence

[21] E.g. https://www.ehp.qld.gov.au/licences-permits/guidelines.html

- hazard analysis and risk assessment in accordance with *AS/NZS ISO 31000:2009 Risk management—principles and guidelines* and with *HB203:2006 Environmental risk management principles and processes*
- demonstrate that any major hazard facility involving dangerous and hazardous materials is appropriately located in accordance with *Sustainable Planning Act 2009*, *State Development Assessment Provisions, Module 13*
- identify all hazardous substances and any explosives to be used, transported, stored, processed or produced and the rate of usage; evaluate the risks associated with the secure storage, use and transportation of explosives to ensure the risks are within an acceptable standard in accordance with *Australian Standard AS2187.1*[22]
- potential wildlife hazards, including a development of a mosquito management plan in accordance with Queensland Health guidelines[23], natural events (e.g. cyclone, storm tide inundation, flooding, bushfire) and implications related to climate change and adaptation
- describe natural hazards that may affect the site with at least a 1% annual exceedance probability (AEP) or 100 year average reoccurrence interval (ARI) level, including mapping of the potential hazard areas at the site
- how siting, layout and operation of the development will avoid or mitigate the risks, particularly with regard to the release of hazardous materials during natural hazard events
- how natural processes and the protective function of landforms and vegetation will be maintained in sea erosion and storm tide inundation areas.

Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.

Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.

Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

2.15 Cultural heritage

Conduct impact assessment in accordance with the EHP's *EIS information guideline—Indigenous cultural heritage and non-Indigenous cultural heritage*.

Unless section 86 of the *Aboriginal Cultural Heritage Act 2003* applies, the proponent must develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of the *Aboriginal Cultural Heritage Act 2003*.

For non-Indigenous historical heritage, undertake a study of, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the project. Any such study should be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.

2.16 Social and economic

In accordance with the Coordinator-General's *Social impact assessment guideline*[24], assess the potential adverse and beneficial social impacts on affected communities, and the proposed mitigation measures for adverse impacts. The EIS should at least address community and stakeholder engagement, workforce management, housing and accommodation, local business and industry content, health, and community well-being.

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[22] *Australian Standard AS 2187*, Explosives-storage transport and use

[23] E.g. Queensland Health – *Guidelines to minimise mosquito and biting midge problems in new developments*, available from http://www.health.qld.gov.au/ph/documents/cdb/14804.pdf

[24] http://www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf

Also assess the potential adverse and beneficial economic impacts of the project. Separately address the major stages of the project (e.g. construction, operation, etc.). Quantify economic impacts where suitable data and methodology can be applied; otherwise, qualitatively assess the impacts. The EIS should at least address: labour demand, including the ability for labour to be drawn from the existing local workforce, and the potential effects this may have on local businesses; and relevant prices, which might include wages, input costs and/or household goods and services.

Describe the strategies for accommodating the workforce over the life of the project.

The assessment should identify opportunities to capture the social and economic benefits of the project, including:

- strategies and implementation plans enabling local suppliers of goods and services to receive full, fair and reasonable opportunity to tender for work throughout the life of the project through adopting policies such as the Queensland Resources and Energy Sector Code of Practice for Local Content administered by Queensland Resources Council
- employment strategies and implementation plans for local and regional residents, including Indigenous people, women and people with a disability across Queensland
- opportunities to support strategic development priorities within the agricultural[25] and tourism sectors
- regional workforce development plans, including recruitment, training development programs and initiatives to be offered
- strategies that promote the location of workers and their families in regional centres[26]
- a description of estimated proportions, use and characteristics of FIFO workers during the construction and operational phases of the project.

Identify recreational, commercial or indigenous fisheries potentially impacted and undertake consultation.

2.17 Transport

The EIS should include a clear summary of the total transport task for the project, including workforce, inputs and outputs, during the construction and operational phases. Proponents should make appropriate choices for modes of transport to ensure efficiency and minimise impacts on the community.

Undertake the impact assessment in accordance with the EHP's *EIS information guideline—Transport*. The methods used should include the following matters:

- for impacts on roads: a Road impact assessment (RIA) report in accordance with the *Guidelines for assessment of road impacts of development* (Department of Main Roads, 2006[27]), with traffic data in DTMR-suitable formats
- for impacts on rail level crossings: the *Australian Level Crossing Assessment Model* (ALCAM)[28]
- for impacts on maritime operations: the *Maritime Safety Queensland guidelines for major development proposals* (Department of Transport and Main Roads, April 2015[29]).

Present the transport assessment for each project-affected mode (road, rail, air and sea) as appropriate for each phase of the project. Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (e.g. local roads and state-controlled roads).

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[25] https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c

[26] Refer to the Coordinator-General's Workforce Management Principles:
- anyone must be able to apply for a job, regardless of where they live:
- provided they can meet the requirements of the job, people must have choice where they live and be able to apply for jobs related to the project
- the percentage of FIFO workers must be less than 100%

[27] http://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guidelines-for-assessment-of-road-impacts-of-development.aspx

[28] http://alcam.com.au/

[29] http://www.msq.qld.gov.au/Waterways/Major-development-proposals.aspx

Discuss how identified impacts will be mitigated for each transport mode. Mitigation strategies may include works, contributions or other strategies that can be documented in a *Road-use Management Plan* (RMP)[30]. The strategies should be prepared in close consultation with relevant transport authorities (including local government). Strategies should consider the transport authorities' works programs and forward planning, and be in accordance with the relevant methodologies, guidelines and design manuals.

3 Content of the EIS for matters of national environmental significance

The proposed project was referred on 21 January 2016 to the Australian Government Department of the Environment and Energy (EPBC 2016/7851). On 3 February 2017, the Department of the Environment and Energy determined the proposed project to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlling provisions are:

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

The EIS must state the controlling provisions for the project and describe the particular aspects of the environment leading to the controlled action declaration under the EPBC Act. The EIS must address relevant impacts on the 'controlling provisions' and all matters relating to them and provide enough information about the projects and its impacts to allow the Australian Government Environment Minister to make an informed decision on whether to approve the project under the EPBC Act.

The assessment of the potential impacts, mitigation measures and any offsets for residual significant impacts must be dealt with in a stand-alone section of the EIS that fully addresses the matters relevant to the controlling provisions. Requirements for MNES are set out in Appendix 2 (Matters of national environmental significance of the TOR). The information provided on these matters must be consistent with the relevant aspects of other sections in the EIS, for example Section 8.2 Flora and fauna.

The EIS must also address the matters prescribed in section 6 and in Schedule 1 of the EP Regulation.

4 Appendices to the EIS

Appendices to the EIS should provide the complete technical data collected, and evidence used, to develop assertions and findings in the main text of the EIS.

No significant issue or matter including statements of uncertainty associated with assertions and findings should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.

Include a table listing the section of the EIS, including sub-sections where each requirement of the TOR is addressed.

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GPO Box 2454, Brisbane Qld 4001
Tel: 13 QGOV (13 74 68)
Fax: +61 7 3330 5875
Email : EIS@ehp.qld.gov.au

[30] Contact the Department of Transport and Main Road on MDP@tmr.qld.gov.au

Appendix 1 Policies, guidelines and references

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- http://www.ehp.qld.gov.au/land/mining/guidelines.html;
- http://www.ehp.qld.gov.au/licences-permits/guidelines.html
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Appendix 2 Matters of national environmental significance (critical matter)

Terms of reference for *Environment Protection and Biodiversity Conservation Act 1999* requirements[31]

The proposed project was referred on 21 January 2016 to the Australian Government Department of the Environment and Energy (EPBC 2016/7851). On 3 February 2017, the Department of the Environment and Energy determined the proposed project to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlling provisions are:

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland (section 45 of the EPBC Act) using the EIS prepared under the *Environmental Protection Act 1994* (EP Act).

General content

The following Terms of Reference (TOR) should be addressed by the proponent in a stand-alone section that primarily focuses on the matters of national environmental significance (MNES) listed above. This section (henceforth called the 'MNES section') should contain sufficient information to be read alone with reference to technical data or supplementary reports where appropriate. Any detailed technical information to support the text in the MNES section should be included as appendices to the draft Environmental Impact Statement (EIS).

If it is necessary to make use of material that is considered by the proponent to be of a confidential nature, the proponent should consult with the Department of the Environment and Energy on the preferred presentation of that material, before submitting it for approval for publication.

The MNES section should take into consideration the EPBC Act Significant Impact Guidelines that can be downloaded from the following web site: https://www.environment.gov.au/epbc/policy-statements.

The proponent should ensure that the MNES section assesses compliance of the action with the principles of Ecologically Sustainable Development as set out in the EPBC Act, and the objects of the Act at Attachment 1. A copy of Schedule 4 of the EPBC Regulations, Matters to be addressed by draft public environment report and environmental impact statement is in Attachment 2.

Style

The MNES section should be written so that any conclusions reached can be independently assessed. To this end all sources must be appropriately referenced using the Harvard standard. The reference list should include the address of any Internet "web" pages used as data sources.

Maps, diagrams and other illustrative material should be included where appropriate. The MNES section should be produced on A4 size paper capable of being photocopied, with maps and diagrams on A4 or A3 size and in colour where possible.

The proponent should consider the format and style of the document appropriate for publication on the Internet. The capacity of the website to store data and display the material may have some bearing on how the document is constructed.

[31] provided by the Commonwealth Department of the Environment and Energy

Background and description of the action

The MNES section must include background to the action and describe in detail all components of the action for example (but not limited to), the construction, operation and (if relevant) decommissioning components of the action. This must include the precise location of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of the action that may have impacts on MNES.

The description of the action must also include details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those aspects of the structures or elements of the action that may have relevant impacts.

The MNES section must include how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action. A map showing relevant regional projects must be provided.

The MNES section must provide details on the current status of the action as well as any feasible alternatives to the action to the extent reasonably practicable, including:

- if relevant, the alternative of taking no action;
- a comparative description of the impacts of each alternative on the MNES protected by controlling provisions of Part 3 of the EPBC Act for the action; and
- sufficient detail to make clear why any alternative is preferred to another.

Short, medium and long-term advantages and disadvantages of the options should also be discussed.

Should the proponent wish to conduct development and associated offsets in stages, the EIS must include a description of stages, using maps where appropriate, and discuss any risks and or benefits of staging the action.

Description of the environment including MNES

The MNES section must provide a description of the environment of the proposal site and the surrounding areas that may be affected by the action. It is recommended that this include the following information:

- Listed threatened and migratory species and ecological communities (including suitable habitat) that are likely to be present in the vicinity of the site, including details of the scope, timing (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas that may be impacted by the project). Include details of:
    - how best practice survey guidelines are applied; and
    - how the surveys are consistent with (or a justification of divergence from) published Australian Government guidelines and policy statements

Relevant impacts

The MNES section must include a description of all of the relevant impacts of the action. Relevant impacts are impacts that the action will have or is likely to have on MNES. Impacts during both the construction, operational and (if relevant) the decommissioning phases of the project should be addressed, and the following information provided:

- a description of the relevant impacts (direct, indirect and consequential) of the action on MNES taking account of any relevant approved Conservation Advices for listed threated species and communities as well as any agreements or plans that cover impacts on MNES including (but not limited to): threat abatement plans for processes that threaten species; wildlife conservation plans, management plans for Ramsar wetlands, strategic assessments, etc.);
- a detailed analysis of the nature and extent of the likely direct, indirect and consequential impacts relevant to MNES, including likely short-term and long-term impacts – refer to the Significant Impact Guidelines 1.1 - Matters of National Environmental Significance for guidance on the various types of impact that need to be considered;
- a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- any technical data and other information used or needed to make a detailed assessment of the relevant impacts;
- an explanation of how Indigenous stakeholders' views of the action's impacts to biodiversity and cultural heritage have been sought and considered in the assessment, including where relevant, how guidelines published by the Commonwealth in relation to consulting with Indigenous peoples for proposed actions that are under assessment have been considered and applied; and

- where the proposal is a coal seam gas development or large coal mining development and likely to significantly impact on a water resource refer to the :
    - *Independent Expert Scientific Committee's (IESC) information guidelines for proposals relating to the development of coal seam gas and large coal mines where there is a significant impact on water resources.*
    - *Significant Impact guidelines 1.3: Coal seam gas and large coal mining developments - impacts on water resources.*

The MNES section should also provide a detailed assessment of any likely impact that this proposed action may facilitate on the following (at the local, regional, state, national and international scale):

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).
-

The MNES section should identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future expansions or developments by the proponent and other proponents in the region and vicinity). The MNES section should also address the potential cumulative impact of the proposal on ecosystem resilience. The cumulative effects of climate change impacts on the environment must also be considered in the assessment of ecosystem resilience.

Proposed avoidance and mitigation measures

Avoidance and Mitigation Measures

The MNES section must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action on MNES.

The information provided must discuss how the proposed action is not inconsistent with:

- any relevant threat abatement plan for listed threatened species and communities;
- any relevant recovery plan for listed threatened species and communities; and
- relevant conventions and agreements of which a migratory species is listed, including the Bonn Convention, CAMBA, JAMBA and agreements relevant to the conservation of the species.

The MNES section must include, and substantiate, specific and detailed descriptions of the proposed avoidance and mitigation measures, based on best available practices and must include the following elements:

- A consolidated list of avoidance and mitigation measures proposed to be undertaken to prevent or minimise the relevant impacts of the action on MNES, including:
    - a description of proposed avoidance and mitigation measures to deal with relevant impacts of the action, including mitigation measures proposed to be taken by State/Territory governments, local governments or the proponent;
    - assessment of the expected or predicted effectiveness of the mitigation measures, including the scale and intensity of impacts of the proposed action and the on-ground benefits to be gained through each of these measures;
    - a description of the outcomes that the avoidance and mitigation measures will achieve; and
    - any statutory or policy basis for the mitigation measures.
- A detailed outline of a Construction Environmental Management Plan (CEMP) for the continuing management, mitigation and monitoring of relevant impacts of the action on MNES. The CEMP must be consistent with the Department's Environmental Management Plan Guidelines (2014), and must include:
    - objectives;
    - risk assessment;
    - environmental management activities and mitigation measures;
    - the timing of actions;
    - a monitoring program, which must include:

  - performance indicators (clear and concise criteria against which achievement of outcomes are to the measured), which are capable of accurate and reliable measurement;
  - outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes);
  - monitoring requirements (timing and frequency of monitoring to detect changes in the performance indicators, to determine if outcomes are being achieved, and to inform adaptive management); and
  - trigger values for corrective actions.
- Potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed.
- Roles and responsibilities (clearly stating who is responsible for activities); and
- Auditing and review mechanisms.

Residual impacts/offsets

The MNES section must provide details of:

- residual significant impacts on MNES that are likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account;
- where residual significant impacts are likely to occur, the reasons why the avoidance or mitigation of these significant impacts is not expected to be achieved.

The MNES section must include details of an offset package proposed to be implemented to compensate for the residual significant impact of the project, as well as an analysis about how the offset(s) meets the requirements in the Department's Environment Protect and Biodiversity Conservation Act 1999 Environmental Offsets Policy October 2012 (EPBC Act Offset Policy).

The offset package can comprise a combination of direct offsets and other compensatory measures, so long as it meets the requirements of the EPBC Act Offset Policy. Offsets should align with conservation priorities for the impacted protected matter and be tailored specifically to the attribute of the protected matter that is impacted in order to deliver a conservation gain.

Offsets should compensate for an impact for the full duration of the impact (i.e. should impacts be in perpetuity the offsets should also be in perpetuity).

Offsets must directly contribute to the ongoing viability of the MNES impacted by the project and deliver an overall conservation outcome that improves or maintains the viability of the MNES as compared to what is likely to have occurred under the status quo, that is, if neither the action not the offset had taken place.

Offsets required by the State can be applied if the offsets meet the Department's EPBC Act Offset Policy. The outcomes of the offset strategy need to be specific, measurable and achievable, and should be based on robust baseline data.

Note: offsets do not make an unacceptable impact acceptable and do not reduce the likely impacts of a proposed action. Instead, offsets compensate for any residual significant impact.

The MNES section must include an offset strategy to compensate for significant residual impacts on MNES. The offsets strategy must include:

- objectives;
- quantity of impacts which are being offset;
- the type of offsets proposed (direct/indirect);
- the location (including a geo-referenced map) and suitability of proposed direct offsets;
- current land tenure of any proposed offset and the method of securing enduring protection of the offset site and managing the offset for the life of the impact;
- how any proposed staging of the overall development will impact the delivery of offsets;
- specific environmental outcomes to be achieved, and reasoning for these in reference to relevant statutory recovery plans, conservation advices and threat abatement plans;
- a completed 'offsets guide'. All figures used to determine the suitability of offsets including habitat quality scores at the project site must be derived using a suitably robust and repeatable framework. Details about each framework must also be provided;
- risk assessment;

- environmental management activities and mitigation measures or customize, by referring to specific measures as follows, including the timing of actions;
- a monitoring program, which must include:
    - performance indicators (clear and concise criteria against which achievement of outcomes are to the measured), which are capable of accurate and reliable measurement;
    - outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes);
    - monitoring requirements (timing and frequency of monitoring to detect changes in the performance indicators, to determine if outcomes are being achieved, and to inform adaptive management); and
    - trigger values for corrective actions;
- potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed;
- roles and responsibilities (clearly stating who is responsible for activities);
- auditing and review mechanisms; and
- an analysis of how the offset package meets the requirements of the EPBC Act Offsets Policy.

Environmental record of person(s) proposing to take the action

The information provided must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- the person proposing to take the action;
- for an action for which a person has applied for a permit, the person making the application; and
- if the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.

Economic and social matters

The economic and social impacts of the action, both positive and negative, must be analysed. Matters of interest may include:

- details of any public consultation activities undertaken, and their outcomes;
- details of any consultation with Indigenous stakeholders;
- projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies;
- employment opportunities expected to be generated by the project (including construction and operational phases).

Economic and social impacts should be considered at the local, regional and national levels. Details of the relevant cost and benefits of alternative options to the proposed action should also be included. Identification of affected parties is required, including a statement mentioning any communities that may be affected and describing their views.

Documentation must be provided substantiating how estimated benefit/cost figures have been derived.

Information sources

For information given in the MNES section, the proponent must state:

- the source of the information;
- how recent the information is;
- how the reliability of the information was tested;
- what uncertainties (if any) are in the information; and
- what guidelines, plans and/or policies were considered.

Conclusion

An overall conclusion as to the environmental acceptability of the proposal on each MNES should be provided, including:

- a discussion on compliance with the requirements of the EPBC Act, including the objects of the EPBC Act, the principles of ecologically sustainable development and the precautionary principle;

- reasons justifying undertaking the proposal in the manner proposed, including the acceptability of the avoidance and mitigation measures; and
- if relevant, a discussion of residual impacts and any offsets and compensatory measures proposed or required for significant residual impacts on MNES, and the relative degree of compensation and acceptability.

Attachment 1

The objects and principles of the EPBC Act; sections 3 and 3A

3 Objects of the Act

(a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
(b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
(c) to promote the conservation of biodiversity;
(d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples;
(e) to assist in the co-operative implementation of Australia's international environmental responsibilities;
(f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
(g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

3A Principles of ecologically sustainable development

The following principles are principles of ecologically sustainable development.

(a) Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.
(b) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
(c) The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
(d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.
(e) Improved valuation, pricing and incentive mechanisms should be promoted.

Attachment 2

Matters that must be addressed in a per and EIS (Schedule 4 of the EPBC Regulations 2000)

1 General information

The background of the action including:

(a) the title of the action;
(b) the full name and postal address of the designated proponent;
(c) a clear outline of the objective of the action;
(d) the location of the action;
(e) the background to the development of the action;
(f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
(g) the current status of the action; and
(h) the consequences of not proceeding with the action.

2 Description

A description of the action, including:

(a) all the components of the action;

(b) the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
(c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
(d) relevant impacts of the action;
(e) proposed safeguards and mitigation measures to deal with relevant impacts of the action;
(f) any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action;
(g) to the extent reasonably practicable, any feasible alternatives to the action, including:
    i. if relevant, the alternative of taking no action;
    ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and
    iii. sufficient detail to make clear why any alternative is preferred to another;
(h) any consultation about the action, including:
    i. any consultation that has already taken place;
    ii. proposed consultation about relevant impacts of the action; and
    iii. if there has been consultation about the proposed action—any documented response to, or result of, the consultation; and
(i) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

3 Relevant impacts

Information given under paragraph 2.01(d) must include

(a) a description of the relevant impacts of the action;
(b) a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;
(c) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
(d) analysis of the significance of the relevant impacts; and
(e) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

4 Proposed safeguards and mitigation measures

Information given under paragraph 2.01(e) must include:

(a) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures;
(b) any statutory or policy basis for the mitigation measures;
(c) the cost of the mitigation measures;
(d) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
(e) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program; and
(f) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by State governments, local governments or the proponent.

5 Other Approvals and Conditions

Information given under paragraph 2.01(f) must include:

(a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
    i. what environmental assessment of the proposed action has been, or is being carried out under the scheme, plan or policy; and
    ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;
(b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action;
(c) a statement identifying any additional approval that is required; and

(d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

6 Environmental record of person proposing to take the action

Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

(a) the person proposing to take the action; and
(b) for an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation—details of the corporation's environmental policy and planning framework.

7 Information sources

For information given the PER/EIS must state:

(a) the source of the information; and
(b) how recent the information is; and
(c) how the reliability of the information was tested; and
(d) what uncertainties (if any) are in the information.

11.6 DEVELOPING NORTHERN AUSTRALIA CONFERENCE 2017

File No:	**4705**
Attachments:	**1. Conference Program 2017**
Authorising Officer:	**Ross Cheesman - Acting Chief Executive Officer**
Author:	**Scott Waters - General Manager Regional Development and Aviation**

SUMMARY

Council has previously attended the Developing Northern Australia Conferences in 2015 and 2016. The conference for 2017 will be held in Cairns and, given Council's Advance Rockhampton initiative and re-positioning of the region, it is viewed that a broader level of representation is required and that Council play a more active role in future Conferences.

OFFICER'S RECOMMENDATION

THAT Council attend the 2017 Developing Northern Australia Conference, with delegates to include Mayor, Councillors (to be decided) and up to 3 Council Officers; and

THAT furthermore the Chief Executive Officer:

- explore sponsorship and exhibition opportunities at the Conference to showcase the region;
- commence discussions and submit an expression of interest to host the next conference in Rockhampton; and
- discuss Council's expression of interest with Central Western and neighbouring Councils and seek support in hosting a future conference.

BACKGROUND

The 2017 Developing Northern Australia Conference will focus upon Initiatives for Progress, Growth and Investment. The Conference will be held at the Pullman Cairns International Hotel on 19 and 20 June.

Following the highly successful conferences in Townsville in 2015 and Darwin in 2016 as well as the implementation of the government White Paper, the focus of the 2017 conference will be on initiatives to drive progress, growth and investment in the development of northern Australia.

The Conference Program (copy attached) includes feature speakers discussing key issues, session presentations from industry leaders on specialist topic areas, thought provoking forums, sector exhibitions and networking events. Early bird registration prior to 12 May 2017 is $790.00 per person.

COMMENTARY

Ongoing discussions within Council have demonstrated the requirement for the Rockhampton Region to increase the current proactivity in external engagement to develop and grow the region. The 2017 Developing Northern Australia Conference is seen as a key National and International level event, to promote development and investment opportunities for the region.

BUDGET IMPLICATIONS

A reallocation of budget from the Surat Basin Mining Expo to the Developing Northern Australia Conference will occur full costs are yet to be determined and are awaiting advice from the Conference secretariat.

CONCLUSION

Given the significant, positive economic impact that the Federal Government's Northern Australia initiative will have in the future, it is strongly recommended that the Rockhampton Region attend this year's conference.

DEVELOPING NORTHERN AUSTRALIA CONFERENCE 2017

Conference Program 2017

Meeting Date: 9 May 2017

Attachment No: 1


DEVELOPING
NORTHERN AUSTRALIA
Conference 2017
Progress, Growth
and Investment
Pullman
Cairns International
19 - 20 JUNE 2017
DEVELOPING NORTHERN
AUSTRALIA
CONFERENCE 2017
northaust.org.au

Day 1 - Monday 19th June 2017

7.15 am—8.30 am	**Registration & Arrival Tea and Coffee**	**Conference Foyer & Tully Rooms**	
	Conference Opening	**Grand Ballroom**	**Chair:**
8.30 - 8.45am	Welcome and Housekeeping Welcome to Country: **Gimoy Walabara Yidinji Group** Conference Chair Address: **Dr Allan Dale**, Professor of Tropical Regional Development, The Cairns Institute, James Cook University		
8.45 - 9.00am	Welcome to Cairns: **Cr Bob Manning,** Mayor of Cairns, Cairns Regional Council		
9.00 - 9.30am	**Mr Bernard Salt**, Partner, KPMG		
9.30 - 10.00am	**Ms Sharon Warburton,** Chair, Northern Australia Infrastructure Facility		
10.00 - 10.30am	**Joe Morrison,** CEO, Northern Land Council		
10.30 - 11.00am	**Morning Tea, Exhibition & Poster Presentations**	**Conference Foyer & Tully Rooms**	
	Plenary Session 1	**Grand Ballroom**	**Chair:**
11.00 - 11.30am	**Ms Tracey Hayes,** CEO, Northern Territory Cattlemen's Association		
11.30am - 12.00pm	**Mr Mark Coffey,** Head, Office of Northern Australia *The government's role in driving growth and investment in northern Australia*		
12.00 - 12.30pm	**Ms Sheriden Morris,** Chair, Cooperative Research Centre (CRC) for Developing Northern Australia *The fundamental importance of collaboration in developing Northern Australia*		
12.30 pm—1.30 pm	**Lunch, Exhibition & Poster Presentations**	**Conference Foyer & Tully Rooms**	

Day 1 - Monday 19th June 2017 continued..

Concurrent Session 1	Towards Indigenous-Led Northern Development: Highlighting the Successes	Regional Approaches to Development Planning	Research Development and Innovation	Innovation and Leadership in Agri-Food Production	Open
1.30 - 3.04pm	***Kuranda*** **Session Chair:**	***Mossman*** **Session Chair:**	***Bluewater I*** **Session Chair:**	***Bluewater II*** **Session Chair:**	***Rosser*** **Session Chair:**
1.30 - 2.00pm	Coming soon..	Building collaboration in Biosecurity Innovation Systems **Prof Cathy Robinson,** Research Director/Principal Research Scientist, CSIRO-CDU	A northern hub for medical research - Building capacity and enabling new investment **A/Prof Anna Ralph** Senor Clinical Research Fellow, Menzies School of Health Research	Project Sea Dragon - A world scale aquaculture project for Northern Australia **Mr Dallas Donovan,** Chief Operating Officer, Seafarms Group Ltd	Engaging beyond the usual suspects. Developing a long term plan for the Cairns Region. **Ms Amanda Newbery,** Director, Articulous Communications
2.02 - 2.32pm		Northern Territory Marine Science end user needs analysis project **Dr Ian Poiner,** Chair, Reef and Rainforest Research Centre Ltd **Ms Melissa George,** CEO, North Australian Indigenous Land and Sea Management Alliance	Efficient and equitable health investment for economic growth **Dr Emily Callander,** Senor Research Fellow, James Cook University	Unlocking the food value chain: Industrial Transformation Hub. (Australian food industry transformation for Asian markets) **Ms Melindee Hastie,** Extension Consultant, The University of Melbourne	From Pilbara cities to the new Pilbara **Mr Terry Hill,** CEO, Pilbara Development Commission
2.34 - 3.04pm		Optimising crown land in Western Australia **Mr Colin Slattery,** Director General, Department of Lands	Sight saving science for remote communities **Dr Justin Boyle,** Research Scientist, CSIRO	Vertical integration of location technology within the agricultural and livestock industries **Mr Michael Kaminski,** Director, OTB Spatial	A case study of EIS works for development in the coastal environment of Northern Australia **Dr Christine Lachlan Arrowsmith,** Group Manager/Principle Engineer, Water Technology
3.05 - 3.30pm	**Afternoon Tea, Exhibition & Poster Presentations**		**Conference Foyer & Tully Rooms**		

Day 1 - Monday 19th June 2017 continued..

Concurrent Session 2	Forum Opportunities for Sustainable	Regional Approaches to Development Planning	Towards a Northern Infrastructure Plan	Energy Futures for Northern Australia	Open
3.30 - 5.04pm	***Kuranda*** **Session Chair:**	***Mossman*** **Session Chair:**	***Bluewater I*** **Session Chair:**	***Bluewater II*** **Session Chair:**	***Rosser*** **Session Chair:**
3.30 - 4.00pm	Impact investments - Can they provide a major uplift in Indigenous social and economic development across the North? **Mr Christopher Croker,** MD, Impact Investment Partners Transitioning to an inclusive, sustainable land sector in North Australia **Prof Jeremy Russell-Smith,** Professor, Charles Darwin University Fire management, ecosystem services and developing alterative economies on Indigenous lands in Northern Australia **Dr Luke Preece,** Northern Australia Conservation Officer, The Nature Conservancy An economic development strategy for the NT Aboriginal Land Estate **Mr Vincent Lange,** CEO, ALSEDA/ Centrefarm Remote Indigenous infrastructure projects - A logical framework for community engagement **Mr Khaled Aly,** Project Manager, NT Project Services	Developing Cape York Sandalwood for Indigenous forestry **A/Prof David Lee,** Associate Professor of Plant Genetics, University of the Sunshine Coast	Putting the Northern Australia Jigsaw together **Mr Patrick Hill,** Chairman, Outback Highway Development Council Inc **Ms Helen Lewis,** General Manager, Outback Highway Development Council Inc	Powering the Pilbara: Turning a mining town into a renewable energy city **Mr Peter Long,** Mayor, City of Karratha	Northern Australia's innovation advantage in the Asia Pacific **Mr Harley Paroulakis,** CEO, Paspalis
4.02 - 4.32pm		Indigenous interests and involvement in developing Northern Australia **Mr Richie Ah Mat,** Chair, Cape York Land Council	The importance of regional capital cities to the Northern Australia Agenda **Mr Shane Van Styn,** Chair, Regional Capitals Australia	Securing investment into the clean energy sector **Ms Tracey Lines,** Reef Development Director, Clean Energy Finance Corp	Immigration. Communities. Regional Australia. **Ms Beth Fitzpatrick,** Director, Hinterland Migration
4.34 - 5.04pm		What's holding back the North – A producer groups view **Mr Andrew Freeman,** Senior Advisor, AgForce	The infrastructure mix: Planning the right balance of economic, industrial and community infrastructure **Mr Chris Adams,** CEO, City of Karratha	Spinning the reserve: creating a hub for the future of Northern Australia's energy development **Ms Ruth Elvin,** Senior Manager, Programs, Desert Knowledge Australia **Ms Lauren Ganley,** CEO, Desert Knowledge Australia	Exploring for the future: Unlocking Northern Australia's minerals, energy and groundwater resources **Dr Narelle Neuman,** Branch Head - Groundwater, Geoscience Australia
5.05 - 6.30pm	**Welcome Reception at the Daintree's Pooldeck**				

Day 2 - Tuesday 20th June 2017			
8.00 - 8.30am	**Registration & Arrival Tea and Coffee**	**Conference Foyer & Tully Rooms**	
	Plenary Session 2	**Grand Ballroom**	**Chair:**
8.30 - 9.00am	**Professor Sandra Harding,** Vice Chancellor and President, James Cook University		
9.00 - 9.30am	**Ms Fiona Jose,** Executive General Manager, Cape Operations, Cape York Partnership *Indigenous empowerment and development on Indigenous land*		
9.30 - 10.00am	**Mr Philip Davies**, CEO, Infrastructure Australia *Delivering resilient infrastructure for Northern Australia*		
10.00 - 10.30am	**Professor Hurriyet Babacan,** CEO, Tablelands Regional Council		
10.30 - 11.00am	**Morning Tea, Exhibition & Poster Presentations**	**Conference Foyer & Tully Rooms**	

Day 2 - Tuesday 20th June 2017 continued..

Concurrent Session 3	Resolving Complex Land & Water Conflicts Forum	Medical Research Development and Innovation	Business Opportunities - Indigenous Engagement	Rethinking Place - Based Approaches to Destination Development	Industry Workforce Needs
11.00 - 12.34pm	***Kuranda*** **Session Chair:**	***Mossman*** **Session Chair:**	***Bluewater I*** **Session Chair:**	***Bluewater II*** **Session Chair:**	***Rosser*** **Session Chair:**
11.00 - 11.30am	Reconciling complex knowledge systems and values for Northern Australia development **Dr Jane Addison,** Research Fellow, James Cook University Time for a northern water initiative: Resolving jurisdictional inconsistencies in water access to promote Northern Australian development **Mr Jeremy Fisher,** Principal Practitioner, Kingfisher Law	Mental health for Northern Australia through research and service development **Prof Zoltan Sarnyai,** Professor, James Cook University	Developing market-based Indigenous watershed conservation for Cape York and the northern Great Barrier Reef **Dr Marcus Barber,** Senior Research Scientist, CSIRO	Reducing risk in regional tourism developments through a new place-based design protocol **Dr Neil Thompson,** Postgraduate Research Fellow, Queensland University of Technology	Local workforce opportunities: Employment forecasts enabling the understanding of local workforce development opportunities and strategies **Mr Nick Byrne,** Principal Consultant, REMPLAN **Ms Teresa Bullock-Smith,** Principal Economist, REMPLAN
11.32 - 12.02pm	A new regional NRM plan for the Southern Gulf Aligns to the goals of the Northern Australia White Paper **Mr Andrew Maclean,** Chief Executive Officer, Southern Gulf NRM	Preventing obesity by design intervention **Dr Deepika Mathur,** Research Associate, Charles Darwin University	Carbon farming agribusiness in FNQ **Mr Rowan Foley,** General Manager, Aboriginal Carbon Fund	Progressing tourism and urban redevelopment in waterfront cities - Six success factors **Ms Priscilla Radice,** Asia Pacific Ports Business Leader, Arup	Developing creative industries in Northern Australia: A report on key developments and outcomes in the City of Townsville, North Queensland **Prof Ryan Daniel,** Professor of Creative Arts and Creative Industries, James Cook University **Mr Simon Millock,** Team Manager, Economic Development, Townsville City Council
12.04 - 12.34pm	A fair go! It's an Australian thing. **Dr Keith Noble,** Rural Planner, Insideout Architects Supporting prosperity: Pathways to manage land and water conflicts in Northern Australia **James Purtill,** Director—General, Department of Natural Resources and Mines, Queensland	Cultural knowledge and technology: Collaborations to enhance indigenous health autonomy **Dr Dana Bradford,** Senior Research Scientist, CSIRO **Ms Tabs Basit,** Psychologist, Institute for Urban Indigenous Health	Improving participation rates of Indigenous SME's in the supply chains of major projects and large regional industry sectors **Mr Rob Barton,** Chief Executive Officer, Aspire Professional Development	A bit of engenuity for tourism **Ms Kirsty McInnes,** Director, UNO Management Services	Growth and investment needs a workforce to match! **Mrs Wendy Perry,** Managing Director, Workforce BluePrint
12.34 - 1.30pm	**Lunch, Exhibition & Poster Presentations**		**Conference Foyer & Tully Rooms**		

Day 2 - Tuesday 20th June 2017 continued..

Concurrent Session 4	Tourism Forum	Digital And Remote Technologies	Securing Indigenous Employment Opportunities	Strategic Thinking In Transport Networks	Open
1.30 - 3.04pm	***Kuranda*** **Session Chair:**	***Mossman*** **Session Chair:**	***Bluewater I*** **Session Chair:**	***Bluewater II*** **Session Chair:**	***Rosser*** **Session Chair:**
1.30 - 2.00pm	Tourism Forum **Mr Russell Boswell,** Manager, Savannah Way Limited Rethinking Northern Australia's tourism industry **Prof Bruce Prideaux,** Director Centre for Tourism and Regional Opportunities, Central Queensland University	Northern Regional Development Australia Alliance (NRDAA) in partnership with Distant Curve – a Pilot to explore alternative and affordable remote telecommunications options **Mr Matthew James,** Managing Director, Distant Curve **Ms Kate Peake,** CEO, RDA Northern Territory	Employing local staff: Case studies of remote local government organisations **Dr Don Zoellner,** University Fellow, Charles Darwin University	Improving certainty in environmental decision-making: the role of marine science in supporting sustainable growth of coastal and maritime industries in Northern Australia **Dr Richard Brinkman,** Research Program Leader – Sustainable Coastal Ecosystems and Industries in Tropical Australia, Australian Institute of Marine Science	Attracting productive investment into the North - Austrade's initiatives for helping develop Northern Australia **Mr Christopher Rees,** Assistant General Manager - Northern Australia Delivery, Australian Trade and Investment Commission
2.02 - 2.32pm	Education and industry partnership to improve training pathways for youth workforce in tourism **Ms Allison Anderson,** Tourism Planning Lecturer, CQUniversity	5 ways new technology will change Australia's north forever **Ms Carley Scott,** CEO, Developing East Arnhem Limited	Work needs to be meaningful to improve Indigenous employment outcomes: Findings from the Interplay Wellbeing Framework **A/Prof Sheree Cairney,** Principal Research Leader, Flinders University/Ninti One	Informing Northern Australia's freight and supply chain strategy using TraNSIT **Dr Andrew Higgins,** Principal Research Scientist, CSIRO Land & Water	Developing with dialogue **Ms Raelene Webb,** President, National Native Title Tribunal
2.34 - 3.04pm	**Ms Miriam Ham,** Education Lecturer, CQ University **Ms Mary Taylor,** Reef Community Education Coordinator, Reef Magic Cruises	Digital technologies bridging physical gaps **Mr Adrian Nair,** CEO, AAN Advisory and Delivery Group	Opportunity from a menace. The power of partnerships for exploring novel Indigenous lead business opportunities in Northern Australia **Dr Justin Perry,** Researcher, CSIRO **Mr Dion Creek,** CEO, Kalan Enterprises	Gladstone port access road upgrade - Building the Road from producers to Asia **Mr Michel Colen,** Manager Executive Services, Gladstone Regional Council	Northern Regional Development Australia Alliance - Collaboration delivers **Prof Allan Dale,** Chair, RDA FNQ&TS
3.05 - 3.30pm	**Afternoon Tea , Exhibition & Poster Presentations**		**Conference Foyer & Tully Rooms**		

Day 2 - Tuesday 20th June 2017 continued..

	Plenary Session 3	**Grand Ballroom**	**Chair:**
3.30 - 3.50pm	**Keynote Introduction into Panel Discussion** **Mr Luke Bowen,** General Manager, Northern Australia Development & Trade, Business & Innovation *Developing the North*		
	Coming soon!	**Grand Ballroom**	**Chair:**
3.50 - 4.50pm	Coming soon!		
	Conference Outcomes	**Grand Ballroom**	
4.50 - 5.20pm	Coming soon!		
5.20 - 5.30pm	**Conference Close & Prize Draw**	**Grand Ballroom**	

Poster position	POSTER PRESENTATIONS
1	**Dr Delwar Akbar,** Research Fellow/Senior Lecturer, CQUniversity Connecting people, commodities and trades: Developing land ports in Northern Australia
2	**Dr Julianne Biddle,** Phd Graduate, The University of Queensland Promoting a Coconut Industry for Northern Australia
3	**Ms Nerida Bradley,** Executive General Manager, Queensland Trust for Nature Abundant Landscapes
4	**Dr Sheree Cairney**, Project Leader, Interplay Project, Ninti One Limited 'Bringing together Stories and Numbers' with the Interplay Wellbeing Framework for remote Aboriginal communities
5	**Mrs Anna Goat,** Account Director, Boab Design Attracting and retaining a sustainable population in North Australia
6	**Mandy Hopkins**, Programme Co-Coordinator, CSIRO, **Ms Karen Pearce**, Communications Advisor, Bloom Communications Climate change science for Northern Australia: Informing policy and management decisions
7	**Mr John Hogarth,** Commercial Manager, Peats Soil & Garden Supplies Organic waste is a resource
8	**Mr David Hooper,** Councillor , Town of Port Hedland 5 Best Speaking Steps
9	**Dr Fran Humphries,** Research Fellow, Griffith University Access and Benefit Sharing Rules for Northern Australian Genetic Resources
10	**Mrs Minnie King,** Managing Director, Embley Contracting From Country to Contract: A Remote Aboriginal Business Perspective
11	**Mrs Joyce Mcculloch,** Mayor of Mount Isa, Mount Isa City Council Transformational Economies - Mount Isa and North West Minerals Province
12	**Dr Geraldine Mcguire,** Managing Director, Rainforest Bounty New supply chain models for the Australian native fruit industry
13	**Mr Paul Richardson,** Company Director, Cocotap Co Coconut in northern Australia
14	**Ms Ingrid Steed,** Chief Executive Officer, Health Reimagined HealthE Platform taking mental health service delivery to the next level
15	**Mr Rens Van Der Vegt,** Phd Candidate, Northern Institute, Charles Darwin University Liquefied Natural Gas Development in Gladstone - Risk Governance, Impact Assessment and Public Engagement

Poster position	POSTER PRESENTATIONS
16	**Mr Phil Walcott,** Managing Director, PJ Walcott Psychological Services NT An innovative approach to youth engagement in the NT...a 20 year vision
17	**Mr Lee Wilson,** Partner, Wilson Partners Law Natural resource supplies - tenure and regulatory framework
18	**Mr David Winfield,** Senior Consultant Water and Natural Resources Strategy, Alluvium Consulting Australia Reinventing the wheel for Northern Australia? Reflections on what we've learnt about water infrastructure, regulation, governance and water markets

11.7 ADVANCE ROCKHAMPTON - ECONOMIC DEVELOPMENT ADVISORY COMMITTEE

File No: 1291

Attachments: 1. Draft Terms of Reference - Advance Rockhampton Economic Development Advisory Committee

Authorising Officer: Ross Cheesman - Acting Chief Executive Officer

Author: Scott Waters - General Manager Regional Development and Aviation

SUMMARY

Council adopted the Advance Rockhampton Region Economic Action Plan 2017 – 2020. A key deliverable for the implementation of the plan was the formation of the Mayor's Economic Development Advisory Committee – Advance Rockhampton. This report contains a draft suggested terms of reference for the Committee.

OFFICER'S RECOMMENDATION

THAT:

1. Council receive the draft Terms of Reference for the Advance Rockhampton – Economic Development Advisory Committee, as per the implementation of Council's Economic Action Plan; and
2. Any comments on the draft Terms of Reference be provided to the Chief Executive Officer by 17 May 2017.

BACKGROUND

Rockhampton Regional Council adopted the 'Advance Rockhampton Region – Economic Action Plan 2017 – 2020' in late 2016. A key deliverable was the forming of the Advance Rockhampton Committee to be Chaired by the Mayor. Draft terms of reference have been compiled for Council to review prior to the commencement of this Committee.

It is requested that this review be completed by 17 May to prepare reports for formal adoption of the terms at the Council meeting on 24 May, hence any comments should be forwarded to the General Manager Regional Development and Aviation by this date. The intention is to hold the inaugural Advance Rockhampton in June/July 2017.

COMMENTARY

The Advance Rockhampton Region – Economic Action Plan 2017 – 2020, focuses upon 10 key economic opportunities:

- Resources
- Water and Agribusiness
- Health Care
- Education and Training
- Defence
- Smart Regional Centre
- CBD Development
- Tourism and Events
- Transport and Logistics
- International Relations

These economic opportunities will be assisted via Council's position around Economic Enablers:

- Lobbying and Advocacy
- Promotion
- Research and Analysis
- Business Skills
- Investment Friendly Regulation
- Infrastructure Investment
- Prudent Policy and Planning

The Committee will be formed on an official invitation basis from the Mayor and be made up of representatives from the following 10 sectors aligned with the key economic opportunities:

- The Resource Sector
- Water and Agribusiness
- Defence
- The Smart Economy
- The Development Industry
- Tourism and Events
- Transport and Logistics
- International Relations and Trade
- CQ University
- Central Queensland Health and Hospital Service

Proposed dates for the Advance Rockhampton Committee to meet are:

- June/July (after budget adoption)
- September
- November/December
- March
- May (presentation to full Council)

It is also proposed that Advance Rockhampton events be held in-conjunction with committee meetings.

The committee meetings will primarily revolve around the Economic Development team within Council presenting their progress with projects identified with the Economic Action Plan. The committee as per the draft terms of reference will provide expertise and advice in assisting Council in achieving the project objectives of the Economic Action Plan. It should be noted that the committee does not have influence on the day to day operations of the Economic Development Team, nor will it have the ability to override the position of Council on any matters. The committee will be aligned to Council's Code of Conduct, The Local Government Act (2009) and The Local Government Regulation (2012).

Ultimately the implementation of the Economic Action Plan will provide the Economic Development team within Rockhampton Regional Council with additional strategic direction and advice as well as being accountable for the delivery of the plan as adopted by Council.

BUDGET IMPLICATIONS

Nil

CONCLUSION

It is recommended that Council receive the draft terms of reference and comments on the draft terms of reference be provided to the Chief Executive Officer prior to 17 May 2017.

ADVANCE ROCKHAMPTON - ECONOMIC DEVELOPMENT ADVISORY COMMITTEE

Draft Terms of Reference - Advance Rockhampton Economic Development Advisory Committee

Meeting Date: 9 May 2017

Attachment No: 1

MAYOR'S ECONOMIC DEVELOPMENT ADVISORY COMMITTEE – ADVANCE ROCKHAMPTON

TERMS OF REFERENCE

1. Background

The Rockhampton Regional Council has two key documents driving the economic direction of the Rockhampton Region.

1. Rockhampton Region Economic Development Strategy, Rockhampton 2050, prepared by RPS Australia East
2. Rockhampton Regional Council Economic Action Plan, Advance Rockhampton Region 2017 – 2020, prepared by Empower Economics

The strategy and plan intersect, the plan is focused upon short to medium high priority projects, with the strategy, providing an all-encompassing framework for the growth and development of the region to 2050. The Action Plan outlines what Council will do to generate economic activity within the region. It identifies 10 broad areas for growth and the actions required to achieve against all of them.

The intent is to provide an immediate framework of action to be pursued through a partnership with the Rockhampton Business Community and Government. This partnership will be enacted through the foundation of the Mayor's Economic Development Advisory Committee – Advance Rockhampton, made up of local Industry Champions representing:

- The Resources Sector;
- Water and Agribusiness;
- Defence;
- The Smart Economy;
- The Development Industry;
- Tourism and Events;
- Transport and Logistics;
- International Relations and Trade;
- Central Queensland University;
- Central Queensland Health and Hospital Service.

Meeting quarterly and chaired by the Mayor, the Mayor's Economic Development Advisory Committee – Advance Rockhampton will monitor progress, and provide operational guidance and assistance in implementing this Action Plan. The Mayors Economic Development Advisory Committee will report annually to the full Council in May.

2. Role of the Economic Development Advisory Committee

The role of the Economic Development Advisory Committee – Advance Rockhampton (AR) is as follows:

- Ensures projects are aligned to the Economic Development Action Plan and where appropriate the Strategy

- Assist with resolving strategic level issues and risks
- Approve or reject changes to projects with a high impact on timelines and budget
- Assess project progress
- Provide advice and guidance on business issues facing the project
- Use influence and authority to assist the projects in achieving their outcomes
- Provide advice, guidance and necessary introductions to key stakeholders to assist in consultation and project deliverables
- Senior Advocacy and Grants officer to act as executive officer for the committee

3. Responsibilities of the Economic Development Advisory Committee (AR) Chair

The Economic Development Advisory Committee Chair is to be Mayor Councillor Margaret Strelow.

The responsibilities of the EDAC Chair, (supported by the Committee Executive Officer) are as follows:

- Sets the agenda for each meeting
- Ensure that agendas and supporting materials are delivered to members in advance of meetings
- Makes the purpose of each meeting clear to members and explains the agenda at the beginning of each meeting
- Clarifies and summarises key elements of each meeting
- Ensures meetings are kept to two hours or less
- Encourages broad participation
- Ends each meeting with a summary
- Delegate authority to committee members as required

4. Responsibilities of Economic Development Advisory Committee (AR) Members

Individual EDAC members have the following responsibilities:

- Understand the goals and objectives of the Action Plan and Strategy
- Understand and represent the interest of their stakeholders
- Take a genuine interest in the committee's outcomes and overall success
- Act on opportunities to communicate positively
- Check that advocacy is aligned through the Action Plan and Strategy
- Actively participate in meetings through attendance, discussion, review of minutes, papers and other AR documents
- Support open discussion and debate, and encourage fellow AR members to voice their insights

The Advance Rockhampton Committee must:

- Seek approval of the Chair before inviting an external representative to attend meetings of, or otherwise participate in, the committee and/or any subsequent working groups
- The committee is not authorised to make or change budgets, program or policy affecting the relevant areas
- The committee can provide recommendations to the Chair on priorities but they cannot direct operational or day to day matters
- The committee will work through Mayor, Chief Executive Officer or appropriate General Manager in respect to operational matters
- Abide by Council's Code of Conduct and requirements of the Local Government Act 2009 and the Local Government Regulation 2012

5. General

5.1 The below lists the membership of the Advance Rockhampton Economic Development Advisory Committee:

Name	Title	Organisation
Cr Margaret Strelow	Mayor	RRC
Councillor's to attend on an open invitation basis	Councillors	RRC
Mr Evan Pardon	Chief Executive Officer	RRC
Mr Scott Waters	General Manager Regional Development and Aviation	RRC
Mr Chris Ireland	Manager Regional Development and Promotions	RRC
Industry Members representing: - The Resources Sector - Water and Agribusiness - Defence - The Smart Economy - The Development Industry - Tourism and Events - Transport and Logistics - International Relations and Trade - CQ University - Central Queensland Health and Hospital Service		

5.2 Quorum and Decision-Making

5.2.1 Quorum

A minimum of 3 industry members are required for decision making processes

5.2.2 Decision Making Process

- Majority: a course of action requires support from more than 50% member who attend the meeting if there is a quorum.
- An update will be provided to Council after each meeting
- The Advance Rockhampton Economic Development Advisory Committee is a sub-committee of the Rockhampton Regional Council and is advisory only. As such, decisions outside delegated authority will not be actioned until support of the Council is obtained through Council Resolution.

5.3 Frequency of Meetings

Quarterly, with a full report to Council on the progress of the Economic Development Action Plan in May of each year.

5.4 Agenda, Minutes and Decision Papers

A package will be sent to members three to five business days in advance of a committee meeting.

The package will include the following:

- Agenda for upcoming meeting
- Minutes of previous meeting
- A Progress Report
- Decision Paper
- Any other documents/information to be considered at the meeting

11.8 APPOINTMENT OF CHAIRMAN TO CQ UNIVERSITY REGION ENGAGEMENT COMMITTEE

File No:	**3540**
Attachments:	**1. CQ University RREC Terms of Reference**
Authorising Officer:	**Ross Cheesman - Acting Chief Executive Officer**
Author:	**Scott Waters - General Manager Regional Development and Aviation**

SUMMARY

Council had previously held positions on the Rockhampton Region Engagement Committee of CQ University. The position of Chair was recently vacated and the General Manager Regional Development and Aviation was nominated for the position. An election was held within the committee for the position and the General Manager Regional Development and Aviation was successful in the election process.

OFFICER'S RECOMMENDATION

THAT Council note the appointment of the General Manager of Regional Development and Aviation to the position of Chairman of CQ University's Rockhampton Region Engagement Committee.

BACKGROUND

Rockhampton Regional Council previously held a committee level position on the CQ University Rockhampton Region Engagement Committee (RREC) and the General Manager Regional Development and Aviation held the committee position. Due to the Chairman role being vacated, the General Manager Regional Development and Aviation was nominated for the vacant position of Chair and has accepted after an internal committee election process.

COMMENTARY

The appointment of the General Manager Regional Development and Aviation to the role of Chairman of the RREC is a positive step in continuing the strong relationship between Rockhampton Regional Council and CQ University. The committee is made up of a broad cross section of the Rockhampton community, with a view to strengthening the overall relationship between the University and the region (Terms of Reference are attached)

BUDGET IMPLICATIONS

Nil

CONCLUSION

It is recommended that Council note the appointment of the General Manager Regional Development and Aviation to the position of Chairman of the CQ University RREC.

APPOINTMENT OF CHAIRMAN TO CQ UNIVERSITY REGION ENGAGEMENT COMMITTEE

CQ University RREC Terms of Reference

Meeting Date: 9 May 2017

Attachment No: 1

REGION ENGAGEMENT COMMITTEE TERMS OF REFERENCE

Contents

1 ESTABLISHMENT

The Vice-Chancellor and President aims to establish a Region Engagement Committee (hereafter called committee/s) in each region to provide advice and reports to the Deputy Vice-Chancellor (Engagement and Campuses). Committees will be established in each of the University's required, as follows:

- Cairns and Far North Queensland
- Central Highlands
- Gladstone
- Mackay-Whitsunday
- New South Wales
- Rockhampton
- South Australia
- South East Queensland
- Townsville and North West Queensland
- Victoria
- Western Australia
- Wide Bay Burnett

2 FUNCTIONS AND RESPONSIBILITIES

In consultation with the Vice-Chancellor and President and Associate Vice-Chancellors, the Deputy Vice-Chancellor (Engagement and Campuses) has determined that each region's committee functions are to:

2.1 build and strengthen relationships with the local community and link CQUniversity, to local issues

2.2 through consultation, information sharing, collaboration, planning and advocacy, contribute to the regional vision and associated engagement and development objectives, supporting the development of sustainable communities and building CQUniversity's profile within the local community.

2.3 contribute to the University's annual review of its strategic plan and provide input into the University's strategic directions as they relate to communities within the region

2.4 contribute to CQUniversity's broader vision and mission of CQUniversity, particularly the University's strong to great strategy, in which CQUniversity aspires to be:

- recognised as Australia's most engaged university
- a provider of the highest quality student experience possible
- an inclusive university
- a leading distance education provider
- a research-focused university
- a university that gives back and
- a national university.

The committees are responsible for:

2.5 nominating and appointing co-opted committee members to their region's Engagement Committee, and to Engagement Reference Groups (established as needed to assist Engagement Committees with specific projects)

2.6 capitalising on opportunities within the region as they arise, whilst ensuring that activities and projects remain aligned with identified community needs and with the University's Strategic Plan

2.7 monitoring progress and reporting to the Deputy Vice-Chancellor (Engagement and Campuses) on matters relating to the region's Engagement Committee and Reference Group activities and recommendations, and

2.8 with support from the Associate Vice-Chancellor's office, developing and maintaining an active work plan (e.g. priorities, objectives, and associated actions), together with a stakeholder engagement plan where practicable, against which to measure and ultimately improve ongoing performance.

3 REFERRAL OF MATTERS

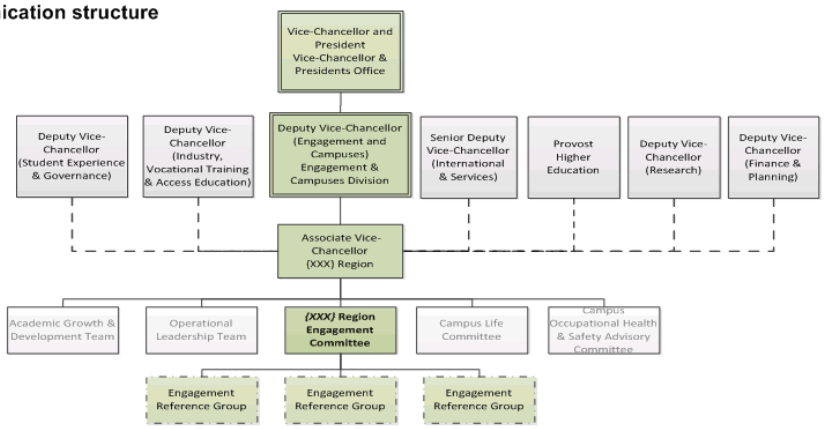
Committees may refer any item to the Deputy Vice-Chancellor (Engagement and Campuses for discussion, consideration and/or action, and may refer relevant matters for action or noting to other committees as appropriate.

4 COMMITTEES

Each committee may establish sub-committees (or reference groups) of a standing or ad hoc nature as it deems appropriate, and approve their terms of reference. These sub-committees must be constructed to ensure consistency and coordination between the functions of all standing committees.

Committees shall receive reports from such sub-committees and be responsible for monitoring and evaluating the activities of each sub-committee against their functions and responsibilities.

Communication structure



5 MEMBERSHIP AND TERMS OF OFFICE

Each region's variables and geography will inform the number of internal and external members for each committee. Each region's Associate Vice-Chancellor will determine committee membership based on the representation principles below.

Committees shall comprise a combination of the following:

Appointed or nominated members:

- Community representatives appointed by the Deputy Vice-Chancellor (Engagement and Campuses) and the region's Associate Vice-Chancellor (and/or Committee Chair) in consultation with the Vice-Chancellor and President, using the following principles:
  - Wherever possible, community representative members should represent a broad cross section of stakeholders relevant to higher and vocational education (tertiary education) with a vested interest in supporting local community development and be willing to assume an ambassadorial role on behalf of the University in the wider community.
  - Each Committee will include at least one Indigenous representative member to represent the interests of Aboriginal and Torres Strait Islander Australians in the region. This member must be impartial to any specific group and have an interest in supporting a cross section of Indigenous views and the diverse and specific interests of local Indigenous groups.
  - Each Associate Vice-Chancellor will liaise with the Pro Vice-Chancellor (Indigenous Engagement) to identify possible Indigenous representative candidates. Once appointed to the committee, the Indigenous representative will identify (if required) a nominee to attend meetings on their behalf if/when the Indigenous representative is unable to attend. The Indigenous representative's nominee must be impartial to any specific group and have an interest in supporting a cross section of Indigenous views and the diverse and specific interests of local Indigenous groups.
  - Committee membership will also include representation from other equity groups as appropriate to the region/context in which the committee operates. For example, such groups may include: people from socio-economically disadvantaged backgrounds, Australian South Sea Islander people, and people with a disability.
  - Alumni of the University (VET and HiEd) are considered a good fit for membership of Region Engagement Committees. The Alumni Relations team can assist with the identification and recruitment of appropriate alumni.

Ex-officio members:

- Associate Vice-Chancellor of their region
- Dean/s and/or Deputy Dean/s as practicable, or their nominee, to represent higher and vocational education operations in the region and
- A University Council member (appointed by the Chancellor).

NB Please see section 6 on standing rights of audience and debate in relation to Senior Executive participation.

Co-opted members:

- Lead roles, external or internal to the University, who have the capacity to support identified priorities in the region and
- Student representative/s as appropriate to the committee's activities.

Appointed or nominated members shall serve for a term of three years, after which they may nominate for re-election. Nominations for re-election are subject to both the Chair's and Deputy Chair's approval. Members normally would not serve for more than two consecutive three year terms, however may do so with the approval of the Chair and Deputy Chair.

Committees should aim for a 50 percent turnover of appointed or nominated members at the end of every three year cycle (with the first cycle ending in July 2017). This may occur through natural attrition, e.g. members leaving their jobs or moving away, without the need for a formal process.

Co-opted members shall serve for a term relevant to the project/activity to which they are contributing, subject to Committee consideration and the Chair's approval.

This Committee's membership must include appropriate gender representation.

6 RIGHTS OF AUDIENCE AND DEBATE

Committees may extend rights of audience and debate on a standing or ad hoc basis.

The Vice-Chancellor and President, Provost and Deputy Vice-Chancellors shall have standing rights of audience and debate and voting rights at all committee meetings. Senior Executive members, located in a region in which a committee meeting is being held, will be invited as an optional attendee.

All other Vice-Chancellor's Advisory Committee (VCAC) members shall have standing rights of audience and debate at committee meetings, but no voting rights. VCAC members planning to attend a committee meeting however are to advise the Chair or Deputy Chair of their intention to do so before the meeting date.

7 CHAIR (AND DEPUTY CHAIR)

Each Chair shall be elected from the appointed or nominated members and must be an external representative. Each Chair's appointment shall be determined by a majority member vote conducted by that committee's Deputy Chair. If this process does not result in a consensual appointment of a Chair, the Deputy Chair will resolve the matter in consultation with the Deputy Vice-Chancellor (Engagement and Campuses).

Each Chair shall serve for a term of office equal to the duration of their current appointment/nomination to the committee.

Each Deputy Chair shall be the Associate Vice-Chancellor responsible for driving engagement in their region.

If the Chair is absent, the Deputy Chair shall act as the Chair. If the Chair and Deputy Chair are absent from a meeting, the members present will elect one of their number as Chair of that meeting.

8 SECRETARY

A Secretary, and the associated secretariat duties, will be made available through the office of the Deputy Chair.

9 CASUAL VACANCIES

If necessary, a casual vacancy shall be filled in accordance with section 5 of these terms of reference during the vacancy only. The member vacating office should nominate a person to attend on their behalf where possible.

10 REMOVAL OF A MEMBER FROM OFFICE

Committees may terminate a person's committee membership for misconduct by a vote of two-thirds of those present at a committee meeting called in accordance with these terms of reference and for which due notice of the motion to terminate the person's membership has been given.

The Vice-Chancellor and President or the Deputy Vice-Chancellor (Engagement and Campuses) also may terminate a person's committee membership for misconduct.

Committee Chairs and Deputy Chairs together have discretion to remove a member from office who is absent for more than three meetings in succession or four meetings in a year.

11 QUORUM

A quorum for a meeting is defined as a majority of the membership in attendance, e.g. an eight-member team would require five present, a five-member team would require three present, and so on.

Where a loss of quorum is identified, the meeting may be adjourned until such time as the Chair determines, however, where possible, the meeting should continue as scheduled.

12 CONFLICT OF INTEREST

Committee members are required to declare to the Chair any conflict of interest or potential conflict the member may have with any item on the meeting agenda.

If the Chair deems a committee member to have a real or perceived conflict of interest in a matter being considered at a meeting, the Chair and Deputy Chair together, may excuse that member from committee discussions and deliberations relevant to that particular issue. In all cases, the member will be excused before any votes are cast.

For further information on conflict of interest, please refer to CQUniversity's Conflict of Interest Policy and Procedure

13 MEETINGS

Committee meetings may be held face-to-face, by telephone, videoconference, or other electronic means.

At least four committee meetings must be held each year; however, six or more meetings may be required depending on the committee's work plan. The Chair, Deputy Vice-Chancellor (Engagement and Campuses) or the Vice-Chancellor and President may call a special committee meeting.

These meetings are of strategic importance locally, and to the University as a whole. As such, members are expected to make every reasonable effort to attend all scheduled meetings, and are required to prepare fully for each meeting, having read the documentation in advance.

Committee decisions may be made at a duly called and constituted meeting, or by a resolution in writing to all committee members and be physically or electronically signed by at least a quorum of committee members who are entitled to vote on the resolution, other than those on approved leave.

A joint meeting of committee Chairs and Deputy Chairs from each region, together with the Vice-Chancellor and President and the Deputy Vice-Chancellor (Engagement and Campuses), will be held once per annum. This meeting will be conducted face-to-face (where possible) and be an opportunity to share experiences and ensure that all committees remain aligned with the University's strategic direction.

14 ACCESS TO RESOURCES

Committee members will be provided with access to any resources reasonably required to fulfil their duties as a committee member.

15 OBSERVERS AND VISITORS

Observers and visitors must have received the Chair's prior permission to attend meetings and must leave the meeting if any matters are to be considered *in camera*.

16 AGENDAS, MINUTES AND REPORTING

The Secretary is responsible for coordinating and preparing agendas, minutes and other relevant meeting correspondence.

The Secretary will distribute agendas and associated documentation five working days before the meeting, via email wherever possible.

Except with the Chair's express permission, late papers will not be accepted, nor will the tabling of papers. All papers must be submitted to the Secretary no later than eight working days before the next meeting.

Members are encouraged to bring laptops, iPads or similar to the meetings to view the agenda online during the meeting. If this is not an option, the agenda documentation is easily printed from the website.

Committee records are subject to the Queensland *Public Records Act 2002* and therefore must be retained in accordance with the University's Records Management Policy and Procedure. Under the Chair's direction, the Secretary is responsible for ensuring appropriate committee records management. All documentation shall be retained in the University's electronic records management system.

The Secretary will prepare minutes for each committee meeting. The Chair will review the draft minutes and action sheet of each meeting, after which the Secretary will circulate a copy to all members as soon as practicable. A copy of the minutes will be included in the agenda papers for the next committee meeting.

17 REPORTING

In addition to the meeting minutes noted above, each Chair (with their Secretary's support) will provide a written report (summary) after each meeting to the Deputy Vice-Chancellor (Engagement and Campuses), who will use it to distribute actions and/or channel recommendations throughout the University as appropriate. These reports will also be used to update the University Council, the Senior Executive, and/or Vice-Chancellor's Advisory Committee of outcomes.

18 EVALUATION AND REVIEW

To ensure that Committees are fulfilling their duties, each committee will undertake an annual self-assessment of its performance against these terms of reference and provide that information to the Deputy Vice-Chancellor (Engagement and Campuses), along with any information the Deputy Vice-Chancellor (Engagement and Campuses) requests to facilitate each committee's review of performance and its members.

The Deputy Vice-Chancellor (Engagement and Campuses) will review these terms of reference every two years. As part of this review, each committee will be given an opportunity to comment and make recommendations to the Deputy Vice-Chancellor (Engagement and Campuses) regarding these terms of reference.

19 FEEDBACK

University staff and students may provide feedback about this document by emailing policy@cqu.edu.au.

20 APPROVAL AND REVIEW DETAILS

Approval and Review	Details
Approval Authority	Vice-Chancellor and President
Advisory Committee to Approval Authority	Vice-Chancellor's Advisory Committee
Administrator	Deputy Vice-Chancellor (Engagement and Campuses)
Next Review Date	12/10/2018

Approval and Amendment History	Details
Original Approval Authority and Date	Council 17/08/1992
Amendment Authority and Date	Council 15/02/1993; Council 6/12/1993; Council 28/02/2005; Vice-Chancellor and President 21/08/2006; Vice-Chancellor and President 26/06/2010; Vice-Chancellor and President 01/11/2012; Vice Chancellor and President 02/09/2014; Minor Amendments Deputy Vice-Chancellor (Engagement and Campuses) 26/05/2016; Vice-Chancellor and President 12/10/2016.
Notes	This document replaces the former "Regional Engagement Committee Terms of Reference" and prior to that the "Campus Advisory Committee Terms of Reference".

12 NOTICES OF MOTION

Nil

13 QUESTIONS ON NOTICE

Nil

14 URGENT BUSINESS/QUESTIONS

Urgent Business is a provision in the Agenda for members to raise questions or matters of a genuinely urgent or emergent nature, that are not a change to Council Policy and can not be delayed until the next scheduled Council or Committee Meeting.

15 CLOSED SESSION

In accordance with the provisions of section 275 of the *Local Government Regulation 2012,* a local government may resolve to close a meeting to the public to discuss confidential items, such that its Councillors or members consider it necessary to close the meeting.

RECOMMENDATION

THAT the meeting be closed to the public to discuss the following items, which are considered confidential in accordance with section 275 of the *Local Government Regulation 2012,* for the reasons indicated.

16.1 Capricornia Business Awards Sponsorship

This report is considered confidential in accordance with section 275(1)(e), of the *Local Government Regulation 2012*, as it contains information relating to contracts proposed to be made by it.

16 CONFIDENTIAL REPORTS

16.1 CAPRICORNIA BUSINESS AWARDS SPONSORSHIP

File No:	**8026**
Attachments:	**Nil**
Authorising Officer:	**Chris Ireland - Manager Regional Development and Promotions** **Scott Waters - General Manager Regional Development and Aviation**
Author:	**Rick Palmer - Senior Executive Industry Engagement**

This report is considered confidential in accordance with section 275(1)(e), of the *Local Government Regulation 2012*, as it contains information relating to contracts proposed to be made by it.

SUMMARY

This report outlines the offer received by Council to sponsor the regional business awards.

17 CLOSURE OF MEETING