

# **TOWN PLANNING REPORT**

## **APPLICATION TO MAREEBA SHIRE COUNCIL FOR DEVELOPMENT PERMIT FOR**

**A) MATERIAL CHANGE OF USE – IMPACT ASSESSMENT  
FOR SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND RETENTION OF EXISTING RURAL USES; AND**

**B) ENVIRONMENTAL AUTHORITY (EA) FOR PRESCRIBED  
(CONCURRENCE) ENVIRONMENTALLY RELEVANT  
ACTIVITY (ERA) 7(4A) “CHEMICAL MANUFACTURING  
(4) MANUFACTURING IN A YEAR, THE FOLLOWING  
QUANTITIES OF FERTILISER (A) 200 TONNES TO 5,000  
TONNES”**

**on land located at**

**203 LEAFGOLD WEIR ROAD, DIMBULAH**

**on land described as**

**LOT 1 ON SP173508**

**for**

**AGRI TECHNOVATION PTY LTD**

**VGf – C1211  
JULY 2021**



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# DA Form 1 – Development application details

Approved form (version 1.3 effective 28 September 2020) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) and parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*. For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

**Note:** All terms used in this form have the meaning given under the *Planning Act 2016*, the *Planning Regulation 2017*, or the *Development Assessment Rules (DA Rules)*.

## PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (individual or company full name)	<b>Agri Technovation Pty Ltd</b>
Contact name (only applicable for companies)	<b>Nick Hardy</b>
Postal address (P.O. Box or street address)	<b>c/- Victor G Feros Town Planning Consultants PO Box 1256</b>
Suburb	<b>CAIRNS</b>
State	<b>QLD</b>
Postcode	<b>4870</b>
Country	<b>AUSTRALIA</b>
Contact number	<b>07 4031 3663</b>
Email address (non-mandatory)	<a href="mailto:cairns@ferosplanning.com.au">cairns@ferosplanning.com.au</a>
Mobile number (non-mandatory)	<b>0412 756 622</b>
Fax number (non-mandatory)	
Applicant's reference number(s) (if applicable)	<b>C1211</b>

### 2) Owner's consent

2.1) Is written consent of the owner required for this development application?

- Yes – the written consent of the owner(s) is attached to this development application**  
 No – proceed to 3)



## PART 2 – LOCATION DETAILS

### 3) Location of the premises (complete 3.1) or 3.2), and 3.3) as applicable)

**Note:** Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.

#### 3.1) Street address and lot on plan

- Street address **AND** lot on plan (all lots must be listed), **or**  
 Street address **AND** lot on plan for an adjoining or adjacent property of the premises (appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).

a)	Unit No.	Street No.	Street Name and Type	Suburb
		<b>203</b>	<b>Leafgold Weir Road</b>	<b>Dimbulah</b>
	Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)
		<b>1</b>	<b>SP173508</b>	<b>Mareeba Shire Council</b>
b)	Unit No.	Street No.	Street Name and Type	Suburb
	Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)

#### 3.2) Coordinates of premises (appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)

**Note:** Place each set of coordinates in a separate row.

- Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) (if applicable)
		<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> Other: <input type="text"/>	

- Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) (if applicable)
		<input type="checkbox"/> 54 <input type="checkbox"/> 55 <input type="checkbox"/> 56	<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> Other: <input type="text"/>	

#### 3.3) Additional premises

- Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application  
 Not required

### 4) Identify any of the following that apply to the premises and provide any relevant details

In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:

On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:

Name of port authority for the lot:

In a tidal area

Name of local government for the tidal area (if applicable):

Name of port authority for tidal area (if applicable):

On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*

Name of airport:

<input type="checkbox"/> Listed on the Environmental Management Register (EMR) under the <i>Environmental Protection Act 1994</i>
EMR site identification: <input type="text"/>
<input type="checkbox"/> Listed on the Contaminated Land Register (CLR) under the <i>Environmental Protection Act 1994</i>
CLR site identification: <input type="text"/>

**5) Are there any existing easements over the premises?**  
*Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see [DA Forms Guide](#).*

**Yes – All easement locations, types and dimensions are included in plans submitted with this development application**

No

## PART 3 – DEVELOPMENT DETAILS

### Section 1 – Aspects of development

**6.1) Provide details about the first development aspect**

a) What is the type of development? *(tick only one box)*

**Material change of use**     Reconfiguring a lot     Operational work     Building work

b) What is the approval type? *(tick only one box)*

**Development permit**     Preliminary approval     Preliminary approval that includes a variation approval

c) What is the level of assessment?

Code assessment     **Impact assessment (requires public notification)**

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):*

Refer to **Section 6.02** of the **Town Planning Report**

e) Relevant plans  
*Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms guide: Relevant plans](#).*

**Relevant plans of the proposed development are attached to the development application**

**6.2) Provide details about the second development aspect**

a) What is the type of development? *(tick only one box)*

Material change of use     Reconfiguring a lot     Operational work     Building work

b) What is the approval type? *(tick only one box)*

Development permit     Preliminary approval     Preliminary approval that includes a variation approval

c) What is the level of assessment?

Code assessment     Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):*

e) Relevant plans  
*Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms Guide: Relevant plans](#).*

Relevant plans of the proposed development are attached to the development application

**6.3) Additional aspects of development**

Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application

Not required

## Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	<input checked="" type="checkbox"/> <b>Yes – complete division 1 if assessable against a local planning instrument</b>
Reconfiguring a lot	<input type="checkbox"/> Yes – complete division 2
Operational work	<input type="checkbox"/> Yes – complete division 3
Building work	<input type="checkbox"/> Yes – complete <i>DA Form 2 – Building work details</i>

### Division 1 – Material change of use

**Note:** This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.

8.1) Describe the proposed material change of use			
Provide a general description of the proposed use	Provide the planning scheme definition <i>(include each definition in a new row)</i>	Number of dwelling units <i>(if applicable)</i>	Gross floor area (m <sup>2</sup> ) <i>(if applicable)</i>
Refer to <b>Section 6.02</b> of the <b>Town Planning Report</b>			

8.2) Does the proposed use involve the use of existing buildings on the premises?	
<input checked="" type="checkbox"/> <b>Yes</b>	
<input type="checkbox"/> No	

### Division 2 – Reconfiguring a lot

**Note:** This division is only required to be completed if any part of the development application involves reconfiguring a lot.

9.1) What is the total number of existing lots making up the premises?	
9.2) What is the nature of the lot reconfiguration? <i>(tick all applicable boxes)</i>	
<input type="checkbox"/> Subdivision <i>(complete 10)</i>	<input type="checkbox"/> Dividing land into parts by agreement <i>(complete 11)</i>
<input type="checkbox"/> Boundary realignment <i>(complete 12)</i>	<input type="checkbox"/> Creating or changing an easement giving access to a lot from a constructed road <i>(complete 13)</i>

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				
10.2) Will the subdivision be staged?				
<input type="checkbox"/> Yes – provide additional details below				
<input type="checkbox"/> No				
How many stages will the works include?				
What stage(s) will this development application apply to?				

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?

Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment

12.1) What are the current and proposed areas for each lot comprising the premises?

Current lot		Proposed lot	
Lot on plan description	Area (m <sup>2</sup> )	Lot on plan description	Area (m <sup>2</sup> )

12.2) What is the reason for the boundary realignment?

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? (attach schedule if there are more than two easements)

Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? (e.g. pedestrian access)	Identify the land/lot(s) benefitted by the easement

### Division 3 – Operational work

*Note: This division is only required to be completed if any part of the development application involves operational work.*

14.1) What is the nature of the operational work?

<input type="checkbox"/> Road work	<input type="checkbox"/> Stormwater	<input type="checkbox"/> Water infrastructure
<input type="checkbox"/> Drainage work	<input type="checkbox"/> Earthworks	<input type="checkbox"/> Sewage infrastructure
<input type="checkbox"/> Landscaping	<input type="checkbox"/> Signage	<input type="checkbox"/> Clearing vegetation
<input type="checkbox"/> Other – please specify:		

14.2) Is the operational work necessary to facilitate the creation of new lots? (e.g. subdivision)

Yes – specify number of new lots: \_\_\_\_\_

No

14.3) What is the monetary value of the proposed operational work? (include GST, materials and labour)

\$ \_\_\_\_\_

## PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application

**Mareeba Shire Council**

16) Has the local government agreed to apply a superseded planning scheme for this development application?

Yes – a copy of the decision notice is attached to this development application

The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached

**No**

## PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?

**Note:** A development application will require referral if prescribed by the Planning Regulation 2017.

No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the Planning Act 2016:**

- Clearing native vegetation
- Contaminated land (*unexploded ordnance*)
- Environmentally relevant activities (ERA) (only if the ERA has not been devolved to a local government)**
- Fisheries – aquaculture
- Fisheries – declared fish habitat area
- Fisheries – marine plants
- Fisheries – waterway barrier works
- Hazardous chemical facilities
- Heritage places – Queensland heritage place (*on or near a Queensland heritage place*)
- Infrastructure-related referrals – designated premises
- Infrastructure-related referrals – state transport infrastructure
- Infrastructure-related referrals – State transport corridor and future State transport corridor
- Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
- Infrastructure-related referrals – near a state-controlled road intersection
- Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
- Koala habitat in SEQ region – key resource areas
- Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
- Ports – Brisbane core port land – environmentally relevant activity (ERA)
- Ports – Brisbane core port land – tidal works or work in a coastal management district
- Ports – Brisbane core port land – hazardous chemical facility
- Ports – Brisbane core port land – taking or interfering with water
- Ports – Brisbane core port land – referable dams
- Ports – Brisbane core port land – fisheries
- Ports – Land within Port of Brisbane’s port limits (*below high-water mark*)
- SEQ development area
- SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
- SEQ regional landscape and rural production area or SEQ rural living area – community activity
- SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
- SEQ regional landscape and rural production area or SEQ rural living area – urban activity
- SEQ regional landscape and rural production area or SEQ rural living area – combined use
- Tidal works or works in a coastal management district
- Reconfiguring a lot in a coastal management district or for a canal
- Erosion prone area in a coastal management district
- Urban design
- Water-related development – taking or interfering with water
- Water-related development – removing quarry material (*from a watercourse or lake*)
- Water-related development – referable dams
- Water-related development – levees (*category 3 levees only*)
- Wetland protection area

Matters requiring referral to the **local government:**

- Airport land
- Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government*)

<input type="checkbox"/> Heritage places – Local heritage places
Matters requiring referral to the <b>Chief Executive of the distribution entity or transmission entity:</b> <input type="checkbox"/> Infrastructure-related referrals – Electricity infrastructure
Matters requiring referral to: <ul style="list-style-type: none"> <li>• The <b>Chief Executive of the holder of the licence</b>, if not an individual</li> <li>• The <b>holder of the licence</b>, if the holder of the licence is an individual</li> </ul> <input type="checkbox"/> Infrastructure-related referrals – Oil and gas infrastructure
Matters requiring referral to the <b>Brisbane City Council:</b> <input type="checkbox"/> Ports – Brisbane core port land
Matters requiring referral to the <b>Minister responsible for administering the Transport Infrastructure Act 1994:</b> <input type="checkbox"/> Ports – Brisbane core port land <i>(where inconsistent with the Brisbane port LUP for transport reasons)</i> <input type="checkbox"/> Ports – Strategic port land
Matters requiring referral to the <b>relevant port operator</b> , if applicant is not port operator: <input type="checkbox"/> Ports – Land within Port of Brisbane’s port limits <i>(below high-water mark)</i>
Matters requiring referral to the <b>Chief Executive of the relevant port authority:</b> <input type="checkbox"/> Ports – Land within limits of another port <i>(below high-water mark)</i>
Matters requiring referral to the <b>Gold Coast Waterways Authority:</b> <input type="checkbox"/> Tidal works or work in a coastal management district <i>(in Gold Coast waters)</i>
Matters requiring referral to the <b>Queensland Fire and Emergency Service:</b> <input type="checkbox"/> Tidal works or work in a coastal management district <i>(involving a marina (more than six vessel berths))</i>

<b>18) Has any referral agency provided a referral response for this development application?</b>		
<input type="checkbox"/> Yes – referral response(s) received and listed below are attached to this development application		
<input checked="" type="checkbox"/> <b>No</b>		
Referral requirement	Referral agency	Date of referral response
Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application <i>(if applicable)</i> .		

## PART 6 – INFORMATION REQUEST

<b>19) Information request under Part 3 of the DA Rules</b>
<input checked="" type="checkbox"/> <b>I agree to receive an information request if determined necessary for this development application</b>
<input type="checkbox"/> I do not agree to accept an information request for this development application
<b>Note:</b> <i>By not agreeing to accept an information request I, the applicant, acknowledge:</i>
<ul style="list-style-type: none"> <li>• <i>that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties</i></li> <li>• <i>Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.</i></li> </ul>
<i>Further advice about information requests is contained in the <a href="#">DA Forms Guide</a>.</i>

## PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? (e.g. a preliminary approval)			
<input type="checkbox"/> Yes – provide details below or include details in a schedule to this development application <input checked="" type="checkbox"/> <b>No</b>			
List of approval/development application references	Reference number	Date	Assessment manager
<input type="checkbox"/> Approval <input type="checkbox"/> Development application			
<input type="checkbox"/> Approval <input type="checkbox"/> Development application			

21) Has the portable long service leave levy been paid? (only applicable to development applications involving building work or operational work)		
<input type="checkbox"/> Yes – a copy of the receipted QLeave form is attached to this development application <input type="checkbox"/> No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid <input checked="" type="checkbox"/> <b>Not applicable</b> (e.g. building and construction work is less than \$150,000 excluding GST)		
Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
\$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?
<input type="checkbox"/> Yes – show cause or enforcement notice is attached <input checked="" type="checkbox"/> <b>No</b>

23) Further legislative requirements			
<b>Environmentally relevant activities</b>			
23.1) Is this development application also taken to be an application for an environmental authority for an <b>Environmentally Relevant Activity (ERA)</b> under section 115 of the <i>Environmental Protection Act 1994</i> ?			
<input checked="" type="checkbox"/> <b>Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below</b> <input type="checkbox"/> No <i>Note: Application for an environmental authority can be found by searching "ESR/2015/1791" as a search term at <a href="http://www.qld.gov.au">www.qld.gov.au</a>. An ERA requires an environmental authority to operate. See <a href="http://www.business.qld.gov.au">www.business.qld.gov.au</a> for further information.</i>			
Proposed ERA number:	7(4a)	Proposed ERA threshold:	200 tonnes to 5,000 tonnes
Proposed ERA name:	Chemical Manufacturing (4) Manufacturing in a year, the following quantities of fertiliser (a) 200 tonnes to 5,000 tonnes		
<input type="checkbox"/> Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.			
<b>Hazardous chemical facilities</b>			
23.2) Is this development application for a <b>hazardous chemical facility</b> ?			
<input type="checkbox"/> Yes – <i>Form 69: Notification of a facility exceeding 10% of schedule 15 threshold</i> is attached to this development application <input checked="" type="checkbox"/> <b>No</b> <i>Note: See <a href="http://www.business.qld.gov.au">www.business.qld.gov.au</a> for further information about hazardous chemical notifications.</i>			



### Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

**No**

**Note:** 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.  
2. See <https://www.qld.gov.au/environment/land/vegetation/applying> for further information on how to obtain a s22A determination.

### Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

**No**

**Note:** The environmental offset section of the Queensland Government's website can be accessed at [www.qld.gov.au](http://www.qld.gov.au) for further information on environmental offsets.

### Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

Yes – the development application involves premises in the koala habitat area in the koala priority area

Yes – the development application involves premises in the koala habitat area outside the koala priority area

**No**

**Note:** If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at [www.des.qld.gov.au](http://www.des.qld.gov.au) for further information.

### Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the Water Act 2000**?

Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

**No**

**Note:** Contact the Department of Natural Resources, Mines and Energy at [www.dnrme.qld.gov.au](http://www.dnrme.qld.gov.au) for further information.

DA templates are available from <https://planning.dsdmip.qld.gov.au/>. If the development application involves:

- Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1
- Taking or interfering with water in a watercourse, lake or spring: complete DA Form 1 Template 2
- Taking overland flow water: complete DA Form 1 Template 3.

### Waterway barrier works

23.7) Does this application involve **waterway barrier works**?

Yes – the relevant template is completed and attached to this development application

**No**

DA templates are available from <https://planning.dsdmip.qld.gov.au/>. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

### Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants**?

Yes – an associated resource allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

**No**

**Note:** See guidance materials at [www.daf.qld.gov.au](http://www.daf.qld.gov.au) for further information.



### **Quarry materials from a watercourse or lake**

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000*?

- Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development  
 **No**

**Note:** Contact the Department of Natural Resources, Mines and Energy at [www.dnrme.qld.gov.au](http://www.dnrme.qld.gov.au) and [www.business.qld.gov.au](http://www.business.qld.gov.au) for further information.

### **Quarry materials from land under tidal waters**

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995*?

- Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development  
 **No**

**Note:** Contact the Department of Environment and Science at [www.des.qld.gov.au](http://www.des.qld.gov.au) for further information.

### **Referable dams**

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the *Water Supply Act*)?

- Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the *Water Supply Act* is attached to this development application  
 **No**

**Note:** See guidance materials at [www.dnrme.qld.gov.au](http://www.dnrme.qld.gov.au) for further information.

### **Tidal work or development within a coastal management district**

23.12) Does this development application involve **tidal work or development in a coastal management district**?

- Yes – the following is included with this development application:
- Evidence the proposal meets the code for assessable development that is prescribed tidal work (*only required if application involves prescribed tidal work*)
  - A certificate of title
- No**

**Note:** See guidance materials at [www.des.qld.gov.au](http://www.des.qld.gov.au) for further information.

### **Queensland and local heritage places**

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

- Yes – details of the heritage place are provided in the table below  
 **No**

**Note:** See guidance materials at [www.des.qld.gov.au](http://www.des.qld.gov.au) for information requirements regarding development of Queensland heritage places.

Name of the heritage place:		Place ID:	
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### **Brothels**

23.14) Does this development application involve a **material change of use for a brothel**?

- Yes – this development application demonstrates how the proposal meets the code for a development application for a brothel under Schedule 3 of the *Prostitution Regulation 2014*  
 **No**

### **Decision under section 62 of the Transport Infrastructure Act 1994**

23.15) Does this development application involve new or changed access to a state-controlled road?

- Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)  
 **No**

### Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.16) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

No

**Note:** See guidance materials at [www.planning.dsdmip.qld.gov.au](http://www.planning.dsdmip.qld.gov.au) for further information.

## PART 8 – CHECKLIST AND APPLICANT DECLARATION

### 24) Development application checklist

I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17

Yes

**Note:** See the *Planning Regulation 2017* for referral requirements

If building work is associated with the proposed development, Parts 4 to 6 of [DA Form 2 – Building work details](#) have been completed and attached to this development application

Yes

Not applicable

Supporting information addressing any applicable assessment benchmarks is with the development application

**Note:** This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see [DA Forms Guide: Planning Report Template](#).

Yes

Relevant plans of the development are attached to this development application

**Note:** Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms Guide: Relevant plans](#).

Yes

The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (see 21)

Yes

Not applicable

### 25) Applicant declaration

By making this development application, I declare that all information in this development application is true and correct

Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001*

**Note:** It is unlawful to intentionally provide false or misleading information.

**Privacy** – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website.

Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, *Planning Regulation 2017* and the *DA Rules* except where:

- such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the *Planning Regulation 2017*, and the access rules made under the *Planning Act 2016* and *Planning Regulation 2017*; or
- required by other legislation (including the *Right to Information Act 2009*); or
- otherwise required by law.

This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

**PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY**

---

Date received:  Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment			
<i>Note: For completion by assessment manager if applicable</i>			
Description of the work			
QLeave project number			
Amount paid (\$)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

**Company owner's consent to the making of a development application under the *Planning Act 2016***

I, Theuns Oosthuizen

*[Insert name in full.]*

Director of the company mentioned below.

and I, Gillian Oosthuizen

*[Insert name in full.]*

Company secretary of the company mentioned below

**Of Leadwood Farms Pty Ltd A.C.N. 630 646 507**

the company being the owner of the premises identified as follows:

**Lot 1 on SP173508**

consent to the making of a development application under the *Planning Act 2016* by:

**Agri Technovation Pty Ltd**

on the premises described above for:

**APPLICATION TO MAREEBA SHIRE COUNCIL FOR DEVELOPMENT PERMIT FOR**

- A) MATERIAL CHANGE OF USE – IMPACT ASSESSMENT FOR SPECIAL INDUSTRY (LIQUID FERTILISER PLANT) AND RETENTION OF EXISTING RURAL USES; AND**
- B) ENVIRONMENTAL AUTHORITY (EA) FOR PRESCRIBED (CONCURRENCE) ENVIRONMENTALLY RELEVANT ACTIVITY (ERA) 7(4A) “CHEMICAL MANUFACTURING (4) MANUFACTURING IN A YEAR, THE FOLLOWING QUANTITIES OF FERTILISER (A) 200 TONNES TO 5,000 TONNES”**

Company seal *[if used]*

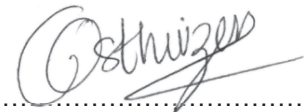
Company Name and ACN: Leadwood Farms Pty Ltd 630646507



.....  
Signature of Director

07/07/2021

.....  
Date



.....  
Signature of Director/Secretary

07/07/2021

.....  
Date

# CURRENT TITLE SEARCH

DEPARTMENT OF RESOURCES, QUEENSLAND

Request No: 36423144  
Search Date: 25/02/2021 09:16

Title Reference: 50543644  
Date Created: 04/03/2005

Previous Title: 50533089

## REGISTERED OWNER

Dealing No: 720533212 19/01/2021

LEADWOOD FARMS PTY LTD A.C.N. 630 646 507

## ESTATE AND LAND

Estate in Fee Simple

LOT 1 SURVEY PLAN 173508  
Local Government: MAREEBA

## EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by  
Deed of Grant No. 40045627 (Lot 105 on CP HG340)
2. EASEMENT No 708479796 03/03/2005 at 16:11  
burdening the land to  
LOT 3 ON SP173508  
OVER EASEMENT B ON SP173508
3. EASEMENT No 708479801 03/03/2005 at 16:11  
burdening the land to  
LOT 2 ON SP173508  
OVER EASEMENT A ON SP173508
4. MORTGAGE No 720533213 19/01/2021 at 12:06  
AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED A.C.N. 005  
357 522

ADMINISTRATIVE ADVICES - NIL

UNREGISTERED DEALINGS - NIL

Caution - Charges do not necessarily appear in order of priority

\*\* End of Current Title Search \*\*

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Requested By: D-ENQ PROPERTY & TITLE SEARCH

# **TOWN PLANNING REPORT**

## **APPLICATION TO MAREEBA SHIRE COUNCIL FOR DEVELOPMENT PERMIT FOR**

**A) MATERIAL CHANGE OF USE – IMPACT ASSESSMENT  
FOR SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND RETENTION OF EXISTING RURAL USES; AND**

**B) ENVIRONMENTAL AUTHORITY (EA) FOR PRESCRIBED  
(CONCURRENCE) ENVIRONMENTALLY RELEVANT  
ACTIVITY (ERA) 7(4A) “CHEMICAL MANUFACTURING  
(4) MANUFACTURING IN A YEAR, THE FOLLOWING  
QUANTITIES OF FERTILISER (A) 200 TONNES TO 5,000  
TONNES”**

**on land located at**

**203 LEAFGOLD WEIR ROAD, DIMBULAH**

**on land described as**

**LOT 1 ON SP173508**

**for**

**AGRI TECHNOVATION PTY LTD**

**VGf – C1211  
JULY 2021**



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## TOWN PLANNING REPORT

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**Amended 11:45AM, 13 JULY 2021**





## **FIGURES**

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<b>APPENDIX B</b>	<b>PLAN OF SURVEY</b>
<b>APPENDIX C</b>	<b>SITE PHOTOGRAPHS</b>
<b>APPENDIX D</b>	<b>OPERATION REPORT</b>
<b>APPENDIX E</b>	<b>PROPOSAL PLANS AND BUND WALL HEIGHTS</b>
<b>APPENDIX F</b>	<b>RESPONSE TO PLANNING SCHEME CODES</b>
<b>APPENDIX G</b>	<b>ENVIRONMENTAL AUTHORITY APPLICATION – SUPPORTING INFORMATION</b>

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### **TOWN PLANNING REPORT MATERIAL CHANGE OF USE – IMPACT ASSESSMENT FOR SPECIAL INDUSTRY (LIQUID FERTILISER PLANT) AND RETENTION OF EXISTING RURAL USES AND DEVELOPMENT APPROVAL FOR ENVIRONMENTAL AUTHORITY (EA) FOR PRESCRIBED (CONCURRENCE) ENVIRONMENTALLY RELEVANT ACTIVITY (ERA) 7(4A) “CHEMICAL MANUFACTURING (4) MANUFACTURING IN A YEAR, THE FOLLOWING QUANTITIES OF FERTILISER (A) 200 TONNES TO 5,000 TONNES”**

#### **203 LEAFGOLD WEIR ROAD, DIMBULAH**

---

#### **1.00 INTRODUCTION**

We act on behalf of Agri Technovation Pty Ltd, the applicant and proponent in relation to establishment of a liquid fertiliser plant on the subject site located at 203 Leafgold Weir Road, Dimbulah and described as Lot 1 on SP173508.

A Development Permit is sought for the following:-

- a) Material Change of Use – Impact Assessment for Special Industry (Liquid Fertiliser Plant) and retention of existing rural uses; and
- b) Environmental Authority (EA) for prescribed (Concurrence) Environmentally Relevant Activity (ERA) 7(4a) “*Chemical Manufacturing (4) Manufacturing in a year, the following quantities of fertiliser (a) 200 tonnes to 5,000 tonnes*”.

This Report addresses the Application and the merits upon which the Mareeba Shire Council’s (Council) support is requested in terms of the Mareeba Shire Council Planning Scheme (2016) Version 3 and is based on the combined investigations and research of the following practices:-

- a) Victor G Feros Town Planning Consultants – Statutory and Land Use Planning; and
- b) NRA Environmental Consultants – Environmental Impact Assessment.

#### IN CONTINUOUS PRACTICE SINCE 1976

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## 2.00 SITE AND APPLICATION SUMMARY

<b>Applicant</b>	Agri Technovation Pty Ltd
<b>Real Property Description</b>	Lot 1 on SP173508
<b>Land Owner</b>	Leadwood Farms Pty Ltd
<b>Location</b>	203 Leafgold Weir Road, Dimbulah
<b>Area</b>	12.95ha
<b>Existing Use</b>	Lime Orchard and storage shed
<b>Proposed Use</b>	Liquid Fertiliser Plant and retention of Lime Orchard
<b>Type of Application</b>	Material Change of Use – Impact Assessment for Special Industry (Liquid Fertiliser Plant) and retention of existing rural uses  Environmental Authority (EA) for prescribed (Concurrence) Environmentally Relevant Activity (ERA) 7(4a) “ <i>Chemical Manufacturing (4) Manufacturing in a year, the following quantities of fertilise (a) 200 tonnes to 5,000 tonnes</i> ”
<b>Town Planning Allocations within Mareeba Shire Council Planning Scheme (2016) Version 3</b>	
<b>Strategic Framework</b>	Rural Agricultural Area
<b>Zoning</b>	Rural

## 3.00 PRE-LODGEMENT ADVICE

As part of the investigations undertaken for the preparation of this Application, Pre-lodgement advice was sought from the Mareeba Shire Council and the Department of State Development, Infrastructure, Local Government and Planning and in particular the State Assessment and Referral Agency (SARA). A copy of the following advice is attached as **Appendix A – Pre-lodgement Advices:-**

- a) Pre-lodgement Advice dated 28 April 2021 provided by the Mareeba Shire Council; and
- b) Pre-lodgement Advice provided by SARA dated 6 May 2021.

The advice contained in both responses together with further discussions with Council and SARA was used to inform the preparation of the Application.



## 4.00 THE SITE

### 4.01 Location and Real Property Description

The subject site is located at 203 Leafgold Weir Road, Dimbulah and is situated approximately 2km north west from the Leafgold Weir Road and Burke Developmental Road Intersection.

The site is located approximately 6km south west from Dimbulah and 43km south west from Mareeba.

The location and locality of the subject site is shown in **Figure 1 – Location** and **Figure 2 – Locality**.

The subject site is described as Lot 1 on SP173508 and contains an area of 12.95ha.

The eastern boundary of the site is defined by a frontage to Leafgold Weir Road of approximately 787m.

Easements for drainage purposes are located within the site and adjacent to the northern and southern boundaries.

A copy of the Plan of Survey for the subject site is attached as **Appendix B – Plan of Survey**.

### 4.02 Surrounding and Contextual Land Uses

The subject site is centrally located within a highly productive agricultural area located west of Mutchilba and extending along both sides of the Walsh River.

The irrigated produce in this area includes mangoes, citrus fruits, grapes and vegetables.

To the north, east and south the site is adjacent to land used for agricultural purposes.

The western boundary is defined by the adjoining irrigation channel with forested land located further to the west.

Farm residences and associated farm worker accommodation is also located within the vicinity of the site. Aspects in relation to positions of the residences and accommodation are discussed further in this Report.

The extent of the surrounding land uses is shown in **Figure 3 – Surrounding Land Uses**.



#### **4.03 Existing Site Uses and Features**

The subject site is presently used as a lime orchard. The trees are mature and are producing fruit.

A storage shed is centrally located within the site.

Buildings located in close proximity to the storage shed include:-

- a) covered water tanks;
- b) amenities building including a shower, toilet and kitchen; and
- c) pump room for on-site irrigation.

A bunded water storage area is located adjacent to the water intake as part of the irrigation channel adjoining the western boundary of the site.

The site has a water allocation of 57 megalitres from the channel.

An overhead powerline extends from the Leafgold Weir Road frontage to a pole located in close proximity to the pump room. Three phase power is provided to the site.

Access to the site and in particular the storage shed and associated buildings is via an existing connection to Leafgold Weir Road and an access extending over both the road reserve and the subject site.

It is noted that the connection point to Leafgold Weir Road is positioned to maximise traffic visibility to the north and south.

The site slopes in an easterly direction with the highest level adjacent to the western boundary (defined by the irrigation channel) and the lowest point adjacent to the eastern road frontage.

The location and extent of the existing uses identified above are shown in **Figure 4 – Site Uses**.

The site photographs attached as **Appendix C** show the existing site uses and features.



## 5.00 PROPOSAL

### 5.01 General Description

It is proposed to establish a liquid fertiliser plant within the existing storage shed located on the site.

The process required for production of the liquid fertiliser is accurately described as a mixing process whereby dry bulk raw materials are brought to the site and mixed with water drawn from the adjoining irrigation channel. The manufacture of the dry raw materials is not undertaken on site.

It is noted that the process to be undertaken on the subject site is the same process currently used by other land owners in the vicinity of the subject site to meet individual land owner requirements.

The proposal will allow for a purpose-built facility to be established on the site to service the surrounding rural area and in accordance with both Council and State requirements.

### 5.02 Service Catchment

The site has been selected for the proposed use to meet the specific needs of the surrounding farming community.

The establishment of the plant at this site will allow for local distribution in a convenient and efficient manner.

The service catchment for the proposal is generally identified by the existing intensive farming west of Dimbulah and defined by Class A Agricultural Land and the extent of the Mareeba Dimbulah Irrigation Scheme Boundary.

The catchment for the proposed use is shown in **Figure 5 – Indicative Service Catchment**.



### 5.03 Process Description

A detailed description of the process required for the production of the liquid fertiliser is included in the Operation Report prepared by Agri Technovation Pty Ltd and attached as **Appendix D**.

By way of summary the following aspects are noted in relation to the process:-

- a) the bulk dry raw material is delivered to the site by a heavy vehicle. All loads are covered and the material is enclosed in sealed bags;
- b) the heavy vehicle is parked on the defined loading/unloading area and pallets containing the raw material are unloaded from the vehicle by forklift and stored within the adjoining shed containing the plant;
- c) raw material is extracted from the stored containers and deposited into the mixing tanks with water added from the irrigation channel;
- d) following the completion of the mixing process the liquid fertiliser is transferred via a connecting pipe system to the storage tanks; and
- e) in response to specific customer requests the liquid fertiliser is discharged by a flexible hose into Intermediate Bulk Containers (IBC) for transport to the off-site (farm) locations.

Transport of the IBCs will be undertaken via a delivery truck operated by the proponent.

### 5.04 Development Elements

The proposal will repurpose and reuse, with some modifications the existing buildings and infrastructure located on the subject site.

In this regard the development will include the following features:-

- a) the existing storage shed with a floor area of 540m<sup>2</sup> (approx.) will be used for dry material storage and the production area including mixing tanks and storage tanks.

The additional works required for the storage shed will include:-

- i) installation of mixing and storage tanks and connecting pumps and pipe work;



- ii) the installation of the tanks will be undertaken in two (2) stages as follows

- Stage 1**
- two (2) mixing tanks with a combined capacity of 27,500L
  - five (5) storage tanks with a combined capacity of 113,650L
- Stage 2**
- one (1) mixing tank with a capacity of 13,750L
  - two (2) storage tanks with a combined capacity of 45,460L

At the completion of Stage 2 the mixing tanks will have a combined capacity of 41,250L and the storage tanks will have a combined capacity of **159,110L**;

- iii) bunding will be provided for all mixing and storage tanks to allow for 100% containment and will be linked to the establishment of Stage 1 and Stage 2. The calculations determining the bund wall heights are attached as **Appendix E – Proposal Plans and Bund Wall Heights**.
- iv) storage area for the bulk dry raw materials comprising 220m<sup>2</sup> for Stage 1 and 165m<sup>2</sup> for Stage 2; and
- v) in addition to the installation of the tanks and bunding, a new concrete slab will be provided within the covered area as part of the eastern section of the shed and a new concrete slab will be provided adjacent to the main entrance to provide a truck loading and unloading area.

b) Covered Water Tanks

The existing shelter containing the covered water tanks will form part of the use for the supply of water to the mixing tanks;

c) Office and Staff Amenities

The existing Office and Staff amenities building will form part of the use.

The existing waste water treatment system will be retained.

d) Water Storage

The existing bunded water storage area, supplied by the irrigation channel and associated pumps form part of the use. It is noted that the current use of this water storage area for on-site irrigation purposes will be retained; and





e) Vehicle Access and Parking

The existing alignment of the service access to the site will be retained for the proposed use.

It is proposed to upgrade the existing access as follows:-

- i) concrete crossover to Leafgold Weir Road in accordance with the FNQROC Standard Drawing for access crossovers;
- ii) 3m wide concrete driveway extending for 20m from the cross over;
- iii) 2.7m wide compacted gravel driveway for approximately 185m from the concrete driveway to the parking/loading area;
- iv) compacted gravel parking, loading and unloading area containing an area of approximately 457m<sup>2</sup>; and
- v) concrete loading and unloading bay containing 105m<sup>2</sup>.

f) On-site Fuel Storage

A 1,000L fuel storage tank is to be located along the western elevation of the storage shed to service the fuel requirements of the fork lift and the delivery truck.

The tank will be bunded in accordance with the relevant standards.

The location and extent of the development details are shown in the Site Plan and Detail Plan attached as **Appendix E**.

### 5.05 On-Site Machinery

The following machinery will used on the site as part of the proposal:-

- a) fork lift for unloading of dry raw material pallets and loading of IBCs onto a delivery truck;
- b) delivery truck (4 to 12 t); and
- c) electric agitators and pumps (three phase power available on-site).



### **5.06 Employees**

Three (3) staff including a supervisor will be employed as part of the proposal.

### **5.07 Water Usage**

The anticipated water usage for the site is as follows:-

- a) 0.6 to 0.7 megalitres in year 1; and
- b) 2.25 to 2.625 megalitres in year 5.

The current land owner (Leadwood Farms Pty Ltd) has a water allocation of 57 megalitres for the subject site and a further 190 megalitres allocated to other land in close proximity to the site.

The proponent will secure continued access to the water allocation as part of an agreement with the landowner.

### **5.08 Hours of Operation and Seasonal Production Variations**

The facility will be operated from 8am to 5pm, Monday to Saturday.

Given that the proposal will provide a delivery service, the general public will not be required to visit the site.

The peak production period extends from June to January and the non-peak period extends from February to May.

Anticipated production rates are noted as follows:-

Year 1	800t
Year 5	Up to 3,000t with the potential to increase to 5,000t subject to demand requirements and seasonal variations.



## 5.09 Traffic Generation

Based on the projected production rates and seasonal variations, the following traffic generation is identified by the following table:-.

Vehicle Movement Type	Frequency*	
	Year 1 (800t)	Year 5 (3,000t)
a) Delivery of bulk dry material to site (articulated truck 32-34 metric tons) <ul style="list-style-type: none"> <li>• June to January (Peak)</li> <li>• February to May (Non-Peak)</li> </ul>	2 / month 1 / month	2 / week 2 / month
b) Delivery of Liquid raw material to surrounding area <ul style="list-style-type: none"> <li>• June to January (Peak) (4-12 tonne truck)</li> <li>• February to May (Non-Peak) (12-20 tonne truck)</li> </ul>	1 / day 1 / week	2 / day 2 / week
c) Three (3) Staff Vehicles	30-40 / week	30-40 / week

\* Note: Represents maximum expected frequency for traffic generation.

The following additional observations are made in relation to traffic generation:-

- the general public are not required to visit the site as a delivery service is to be provided to customers;
- the traffic generation for the proposal will be in addition to the traffic generation associated with the existing lime orchard; and
- the frequency and type of vehicle used for the proposal is consistent with the existing traffic generated by the surrounding rural uses.



### 5.10 Stormwater Management

All existing stormwater arrangements associated with the existing buildings (including the storage shed) and farming activities will be retained.

The works associated with the provision of hardstand parking and loading areas, hardstand access driveway and crossover will comply with the required standards and suitable Council Conditions of Approval.

## 6.00 STATUTORY TOWN PLANNING CONSIDERATIONS

### 6.01 Mareeba Shire Council Planning Scheme (2016)

Within the provisions of the Mareeba Shire Council Planning Scheme (2016) (Version 3) the Town Planning allocations relevant to the subject site are summarised by the following table:-

Type	Allocation
a) Strategic Framework	Rural Agricultural Area (Refer to <b>Figure 6 – Strategic Framework Map</b> )
b) Zoning	Rural (Refer to <b>Figure 7 – Zoning</b> )
<b>c) Overlays</b>	
i) Agricultural Land Overlay	Class A (Refer to <b>Figure 8 – Agricultural Land Overlay</b> )
ii) Bushfire Hazard Overlay	The western part of the site is included within the Potential Impact Buffer (100 metres) (Refer to <b>Figure 9 – Bushfire Hazard Overlay</b> )
iii) Environmental Significance Overlay	The subject site does not include or adjoin any feature of environmental significance (Refer to <b>Figure 10 – Environmental Significance Overlay</b> )



<p><b>iv) Environmental Significance Waterways Overlay</b></p>	<p>The irrigation channel adjacent to the western boundary of the site is identified as a Waterway and a Waterway 100 metre buffer extends into the subject site. (Refer to <b>Figure 11 – Environmental Significance Waterways Overlay</b>).</p>
<p><b>v) Flood Hazard Overlay</b></p>	<p>The subject site is not located within a flood hazard overlay allocation. (Refer to <b>Figure 12 – Flood Hazard Overlay</b>)</p>
<p><b>vi) Transport Infrastructure Overlay</b></p>	<p>Leafgold Weir Road adjoining the eastern boundary of the site is a Minor Rural Road and connects to the south to the Burke Developmental Road a State Controlled Road. (Refer to <b>Figure 13 – Transport Infrastructure Overlay</b>).</p>

## 6.02 Use Description

Based on the review of the Planning Scheme, together with the guidance provided by the Council Pre-lodgement Response, the proposed use is encompassed by the following definition:-

Use	Definition	Examples Include	Does not include the following examples
<p>Special industry</p>	<p>Premises used for industrial activities that include the manufacturing, producing, processing, repairing, altering, recycling, storing, distributing, transferring or treating of products and have one or more of the following attributes:</p> <ul style="list-style-type: none"> <li>• potential for extreme impacts on sensitive land uses due to offsite emissions including aerosol, fume, particle, smoke, odour and noise</li> <li>• potential for extreme offsite impacts in the event of fire, explosion or toxic release</li> <li>• onsite controls are required for emissions and dangerous goods risks</li> <li>• the use generally involves night time and outdoor activities</li> <li>• the use may involve the storage and handling of large volumes of dangerous goods</li> <li>• requires significant separation from nonindustrial uses.</li> </ul>	<p>Tanneries, rendering plants, oil refineries, waste incineration, manufacturing or storing explosives, power plants, <u>manufacturing fertilisers</u> Note—additional examples may be shown in SC1.1.2 industry thresholds. <u>(emphasis added)</u></p>	<p>Low impact industry, medium impact industry, high impact industry, service industry</p>



On this basis and with the inclusion of the applicable Environmentally Relevant Activity the proposed use is described as follows:-

*“Development Permit for Material Change of Use – Impact Assessment for Special Industry (Liquid Fertiliser Plant) and retention of existing Rural Uses and Environmental Authority (EA) for prescribed (Concurrence) Environmentally Relevant Activity (ERA) 7(4a) “Chemical Manufacturing (4) Manufacturing in a year, the following quantities of fertiliser (a) 200 tonnes to 5,000 tonnes”*

Within the Rural Zone this use is Impact Assessable Development.

### 6.03 Applicable Codes

It is submitted that the following Codes are applicable to the subject site and the proposal:-

a) Zone Code

- Rural Zone Code

b) Overlay Codes

- Agricultural land overlay code
- Bushfire hazard overlay code
- Environmental Significant overlay code
- Transport Infrastructure overlay code

c) Development Codes

- Industrial activities code
- Landscape code
- Parking and access code
- Works, services and infrastructure code.

A detailed response to the Codes identified as relevant to the subject site and the proposal is provided by the assessment attached as **Appendix F - Response to Planning Scheme Codes** and the further specific responses are included within **Section 7.00** of this Report.



## 6.04 Strategic Framework

The Strategic Framework forming part of the Planning Scheme “sets the policy direction for the planning scheme and forms the basis for ensuring appropriate development occurs in the planning scheme area for the life of the planning scheme” (Part 3-25)

The following matters from the Strategic Framework have been identified as having direct relevance to the subject site and the proposal:-

a) 3.2.2 *The Way Forward: Mareeba in 2021*

*“Agriculture strengthens the character and identity of the area and is recognised for its contribution to the local economy, food security and stewardship of the land for future generations.”*

It is submitted that the proposal will provide a specialized rural service to the surrounding rural area.

b) 3.3.11 – *Element – Rural Areas*

Specific Outcomes

*“(1) Rural areas include rural activities and land uses of varying scale, consistent with surrounding land use, character and site conditions.”*

Response

The proposal is consistent with the surrounding land use and provides a complementary rural service to improve rural productivity.

*“7 Rural areas preserve land for future uses beyond the life of the planning scheme”*

Response

The proposal to include a rural service will assist in maintaining the productivity of the surrounding rural area and accordingly also assist with the long term viability of the area.

It is submitted that the establishment of the proposal at this location complies with the general intent of the Strategic Framework.



## 6.05 Far North Queensland Regional Plan 2009 – 2031

It is noted that the Mareeba Shire Council Planning Scheme (2016) and *“specifically the strategic framework appropriately advances the Far North Queensland Regional Plan 2009 – 2031 as it applies in the planning scheme area”*.

The subject site and the surrounding land are included within the Regional Production Areas allocation as shown in **Figure 14 – FNQ Regional Plan 2009 – 2031**.

The intent of this allocation is as follows:-

*“the regional landscape and rural production areas (RLRPA) includes lands that have regional landscape, rural production or other non-urban values, and protects these areas from encroachment by inappropriate development, particularly urban or rural residential development.”*

In response to this intent the following matters are noted:-

- a) the proposal will not result in the loss of any rural production area; and
- b) the proposal will meet the specific needs of the surrounding rural area to enhance and increase rural productively.

Other considerations within the Regional Plan relevant to the subject site and the proposal include:-

- a) an aligned strategy for the Rural Landscape Values notes that

*“2.1.B the value of sustainably managed agricultural land for food production, ecosystem services and contribution to the social character of the region is recognised and supported through appropriate land management practices and incentive programs”;*

- b) an objective for Primary Industries as part of Economic Development is to

*“Maintain a profitable and sustainable agricultural sector in rural areas and fishing industry adjacent to coastal areas, producing and marketing a diverse range of products for domestic and export markets”;* and





c) an objective and aligned strategy for Rural Water as part of Water Management is to

*“Ensure rural water needs are met in an efficient and sustainable way”*; and

*“The efficiency of rural water use is improved, particularly irrigation systems”*.

It is submitted that the proposed development for the site is consistent with the intent of the Regional Plan and supports that relevant objectives and aligned strategies within the Plan.

#### **6.06 State Development Assessment Provisions (SDAP)**

The SARA Pre-lodgement Advice (attached as **Appendix A**) has identified that Performance Outcomes PO1 – PO6 as part of Table 22.2.2: Material Change of Use within State Code 22: Environmentally Relevant Activities as part of the SDAP are to be addressed.

Detailed responses to those Performance Outcomes are included within Environmental Authority Application – Supporting Information attached as **Appendix G**. These responses also provide the basis for the response to the relevant Planning Scheme Codes.

It is submitted that the responses contained in **Appendix G** fully address the Performance Outcomes within the SDAP.

#### **6.07 State Development Assessment Mapping**

The State Development Assessment Mapping identifies a Fish Habitat Area Queensland Waterways for waterway barrier works “1 – Low” is located within the southern part of the site. Site observations indicate that this water course, while mapped, is not present on the site. No other allocations are identified for the subject site.

The mapped water course is shown in **Figure 15 – State Development Assessment Mapping**.

The State Development Assessment Mapping is also addressed in the Environmental Authority Application – Supporting Information attached as **Appendix G**.



### **6.08 State Regulated Vegetation Mapping**

The subject site does not contain any State regulated vegetation.

The mapping has identified that the site contains two (2) Stream Over 1 Water courses. Site observations indicate that these water courses, while mapped, are not present on the site.

These allocations are shown in **Figure 16** and **17 – State Regulated Vegetation Mapping**.

The State Regulated Vegetation Mapping, and in particular the water course, are also addressed in the Environmental Authority Application – Supporting Information attached as **Appendix G**.

### **6.09 State Referrals Trigger**

Based on review of the Planning Regulation 2017 and the Pre-lodgement Advice received, the Application requires referral to the Department of State Development, Infrastructure, Local Government and Planning as specified by Schedule 10, Part 5, Division 4, Table 2 in relation to non-devolved environmentally relevant activities.

### **6.10 Infrastructure Charges**

As noted in the Council Pre-lodgement Advice attached as **Appendix A**, it is reasonable to limit the applicable Infrastructure Charges rate to the roads component and not impose any charges in relation to water, sewer or parks. It is therefore appropriate for Council to issue an Infrastructure Charges Notice associated with a Decision Notice on this basis.



## 7.00 SPECIFIC RESPONSES TO CODES

### 7.01 Rural Zone Code Purpose

Responses to the stated purpose and outcomes of the Rural Zone Code is provided as follows:-

*(1) The purpose of the Rural zone code is to:*

*(a) provide for rural uses including cropping, intensive horticulture, intensive animal industries, animal husbandry, animal keeping and other primary production activities;*

#### **Response to (1)(a)**

The proposal provides a supporting rural service for surrounding land used for cropping.

*(b) provide opportunities for non-rural uses that are compatible with agriculture, the environmental features, and landscape character of the rural area where the uses do not compromise the long-term use of the land for rural purposes;*

#### **Response to (1)(b)**

The proposal provides a rural service and does not compromise the long-term use of the subject land for rural purposes.

*(c) protect or manage significant natural resources and processes to maintain the capacity for primary production.*

#### **Response to (1)(c)**

The proposal will assist with increasing the capacity of primary production in the surrounding area.



- (2) *Mareeba Shire Council's purpose of the Rural zone code is to recognise the importance of primary production to the economy of the region and to maintain and strengthen the range of primary industries which contribute to the rural economy.*

*The purpose of the Rural zone code is to:*

- (a) *recognise the diversity of rural uses that exists throughout the region;*

**Response to (2)(a)**

The proposal will support the diverse range of cropping in the surrounding area.

- (b) *protect the rural character of the region;*

**Response to (2)(b)**

The proposal will use existing structures and buildings. Accordingly there will be no material change to the rural character of the surrounding area.

- (c) *provide facilities for visitors and tourists that are accessible and offer a unique experience;*

**Response to (2)(c)**

The purpose is not applicable to the proposal or the subject site.

- (d) *protect the infrastructure of the Mareeba-Dimbulah Irrigation Scheme Area from development which may compromise long term use for primary production;*

**Response to (2)(d)**

The proposal has no impact on the infrastructure in the Mareeba-Dimbulah Irrigation Scheme Area.

- (e) *maintain distinct boundaries between the rural areas and the villages, towns and urban areas of the region;*

**Response to (2)(e)**

This purpose is not applicable to the proposal or the subject site.



- (f) *provide for a range of uses, compatible and associated with rural or ecological values including recreational pursuits and tourist activities;*

**Response to (2)(f)**

The purpose is not applicable to the proposal or the subject site.

- (g) *prevent adverse impacts of development on ecological values;*

**Response to (2)(g)**

The design and siting features of the proposal will ensure that there will be no impact on surrounding ecological values.

- (h) *preserve land in large holdings; and*

**Response to (2)(h)**

The proposal does not include the subdivision of the site.

- (i) *facilitate the protection of strategic corridors across the landscape which link remnant areas of intact habitat and transport corridors.*

**Response to (2)(i)**

The proposal has no impact on habitat or transport corridors.

- (3) *The purpose of the Rural zone code will be achieved through the following overall outcomes:*

- (a) *Areas for use for primary production are conserved and fragmentation below economically viable lot sizes is avoided;*

**Response to (3)(a)**

The proposal will not result in the fragmentation of a primary production area.



- (b) *The establishment of a wide range of rural pursuits is facilitated, including cropping, intensive horticulture, forestry, intensive animal industries, animal husbandry and animal keeping and other compatible primary production uses;*

**Response to (3)(b)**

The proposal provides a rural service to the cropping and primary production uses in the surrounding area.

- (c) *The establishment of extractive industries, mining and associated activities and alternative forms of energy generation is appropriate where environmental impacts and land use conflicts are minimised;*

**Response to (3)(c)**

This outcome is not relevant to the proposal.

- (d) *Uses that require isolation from urban areas as a consequence of their impacts such as noise or odour may be appropriate where land use conflicts are minimised;*

**Response to (3)(d)**

The proposal will incorporate measures to mitigate the impacts of noise or odour to ensure compatibility with the surrounding rural area.

- (e) *Development is reflective of and responsive to the environmental constraints of the land;*

**Response to (3)(e)**

The design and siting features of the proposal enable the development to be responsive to the environmental constraints (minimal) for the land.

- (f) *Residential and other development is appropriate only where directly associated with the rural nature of the zone;*

**Response to (3)(f)**

This outcome is not relevant to the proposal.



*(g) Low-impact tourism and recreation activities do not compromise the long-term use of the land for rural purposes;*

**Response to (3)(g)**

This outcome is not relevant to the proposal.

*(h) The viability of both existing and future rural uses and activities is protected from the intrusion of incompatible uses;*

**Response to (3)(h)**

The proposal provides rural service to the surrounding area and is compatible with the existing surrounding uses.

*(i) Visual impacts of clearing, building, materials, access ways and other aspects of development are minimised or appropriately managed;*

**Response to (3)(i)**

The impacts of the development both on-site and adjoining areas will be mitigated by compliance with relevant conditions of approval.

*(j) Adverse impacts of development both on-site and from adjoining areas are avoided and any impacts are minimised through location, design, operation and management; and*

**Response to (3)(j)**

The impacts of the development both on-site and adjoining areas will be mitigated by compliance with relevant conditions of approval.

*(k) Natural features such as creeks, gullies, waterways, wetlands and bushland are retained, managed, enhanced and separated from adjacent development.*

**Response to (3)(k)**

Given separation distances and the design and siting measures, the proposal will have no impact on existing mapped waterways.



Based on the above responses it is submitted that the proposed development accords with the intent of the stated purpose and outcomes for the Rural Zone.

## 7.02 Bushfire Hazard Overlay Code

**Performance Outcome 5 (PO5)** and **Acceptable Outcome 5 (AO5)** refers to the manufacture and storage of hazardous materials within a Potential Impact Buffer (100m).

As shown in **Figure 9 – Bushfire Hazard Overlay**, the proposal is located within the nominated buffer area.

In response to this matter the following aspects are identified:-

- a) the area surrounding the proposal is cleared;
- b) the existing lime orchard is regularly irrigated and the risk of these trees burning is minimal;
- c) the existing native forest (to the west) and proposed development are separated by the irrigation channel contained within a 25m wide cleared reserve;
- d) the dry raw material is to be stored within the shed and is not flammable;
- e) fuel storage will be provided in accordance with the required standards in relation to fire safety; and
- f) there are no residential uses in close proximity to the proposed use.

It is submitted that public safety and the environment are not compromised in relation to a potential bushfire hazard.

**Performance Outcome 8 (PO8)** and **Acceptable Outcome 8 (AO8)** refers to the location of private driveways with a Potential Impact Buffer (100m)

As shown by **Figure 9 – Bushfire Hazard Overlay** and the Proposal Plans attached as **Appendix E**, the driveway has an overall length of 185m. However most of this driveway is located outside the nominated buffer area and the alignment and surrounding uses would not impede emergency access.





It is submitted that the driveway access to the proposed use will allow for safe evacuation and easy access by fire-fighting appliances.

### **7.03 Environmental Significance Overlay Code**

**Performance Outcome 3 (PO3)** and **Performance Outcome 4 (PO4)** and **Acceptable Outcome 3.1 (AO3.1)** and **Acceptable Outcome 4.1 (AO4.1)** refer to minimum setbacks from a waterway identified by a "Waterway Buffer".

As shown in **Figure 11 – Environmental Significance – Waterway Overlay**, the proposed development is located within the nominated buffer.

In response to this matter the following aspects are identified:-

- a) buffer relates to an existing concrete lined irrigation channel;
- b) all activities associated with the proposed use are located below the level of the channel. Accordingly, stormwater flows or other outflows from the proposal into the channel are not possible and the proposal will not impact on water quality;
- c) no vegetation clearing is required for the proposal;
- d) the production area for the proposal is to be located within an existing storage shed with a setback of approximately 47m from the irrigation channel.

Given the local conditions and the contained nature of the production area, it is submitted that the intent of the Code in relation to vegetation, setbacks and maintaining water quality can be achieved.



## 7.04 Industrial Activities Code

**Performance Outcome 1 (PO1)** and **Acceptable Outcome 1 (AO1)** in relation to separation distances are noted as follows:-

Performance Outcome	Acceptable Outcome
<b>Separation</b>	
<p><b>PO1</b> Industrial activities are appropriately separated from sensitive uses to ensure their amenity is maintained, having regard to:</p> <ul style="list-style-type: none"> <li>(a) noise;</li> <li>(b) odour;</li> <li>(c) light; and</li> <li>(d) emissions.</li> </ul> <p>Note—Development proposed to be located closer than the separation distances specified in AO2 requires supporting investigations to demonstrate that the expected impacts from the industry use have been adequately mitigated in consideration of the local context.</p>	<p><b>AO1</b> Development is separated from sensitive uses as follows:</p> <ul style="list-style-type: none"> <li>(a) medium impact industry—250 metres; or</li> <li>(b) high impact industry—500 metres; or</li> <li>(c) <u>special industry— 1.5 kilometres.</u></li> </ul> <p><u>(emphasis added)</u></p>

As part of the assessment for this application and in response to separation distances for the proposed Special Industry Use, a detailed inspection of existing uses was undertaken within a 1.5km radius from the proposed use.

These investigations identified the location of sensitive uses including farm residences and farm worker accommodation uses located within the 1.5km radius.

The location of the sensitive uses in relation to the proposal is shown in **Figure 18 – Sensitive Use (1.5km Radius)** and **Figure 19 – Sensitive Uses (400m Radius)**.

The following observations are considered relevant in relation to the local context for sensitive uses:-

- a) the proposal is to be located on land within a rural area containing intensive farming and cropping activities.

The proposal to provide a rural service at this location would be complementary to the surrounding rural activities;

- b) the proposal will reuse, with minor modifications, existing buildings and structures on the subject site;



- c) the process to produce the liquid fertiliser will be undertaken within the existing storage shed; and
- d) further to item c) above the storage of the dry raw material and the discharge of the liquid fertiliser into the IBCs will be undertaken within the storage shed. The proposal will not require any outdoor production.

It is noted that detailed and specific responses to matters in relation to mitigating the impacts of the proposal on surrounding sensitive uses are included within the Environmental Authority Application – Supporting Information attached as **Appendix G**.

However by way of a summary, the following general responses are made in relation to the items specified in PO1:-

- a) Noise  
Mitigation measures including limiting traffic movements, limiting hours of operation, conducting noise generating activities inside the storage shed, and the use of noise reducing devices on vehicles and equipment and plant where practical can be implemented;
- b) Odour  
Given the design and siting of the proposal, including undertaking the process within an enclosed building, and the odourless nature of the raw materials, no odours that cause an impact on sensitive uses are expected;
- c) Lighting  
The use will be generally limited to daylight hours and any external security lighting will be shielded in accordance with the relevant standards to contain light overspill or glare; and
- d) Emissions  
Particulate emissions (dust) would be limited to the use of the access driveway. Suitable dust suppression measures can be implemented to minimize this potential impact.

Given the design and siting features of the proposal, combined with the local context of the site, it is submitted that the potential impact of the proposal on surrounding sensitive land uses can be mitigated by compliance with suitable Council Conditions of Approval and the associated conditions of approval and the operating requirements of the Environmental Approval.

It is further submitted that the planning intent of PO1 can be achieved.



## 7.05 Parking and Access Code

Table 9.4.3.3B within the Code specifies the following vehicle parking requirements for a Special Industry Use.

These requirements are as follows:-

- a) one (1) space per 90m<sup>2</sup> GFA or part thereof; and
- b) one (1) articulated vehicle (AV) space if the site has an area greater 2,000m<sup>2</sup>

It is submitted that given the storage shed to contain the proposed use has a floor area of approximately 540m<sup>2</sup>, the requirement to provide one (1) space per 90m<sup>2</sup> GFA or six (6) car parking spaces is not relevant or applicable to the proposal.

As shown by the proposal plans attached as **Appendix E**, a substantial hardstand parking and manoeuvring area is to be established adjacent to the storage shed.

In response to the PO1 and AO1 of the Code the following aspects are noted:-

- a) three (3) employees will be engaged as part of the operation of the use. There will be no requirements for customers to visit the site;
- b) it is appropriate that three (3) on-site parking spaces located and established as part of the hardstand area will be sufficient to meet the demand for on-site car parking;
- c) the proposed hardstand area also provides the parking, standing and manoeuvring area for the articulated vehicle, to be used for dry raw material delivery to the site and the truck used for customer delivery.

It is submitted that the proposed parking arrangements are suitable to meet expected demand requirements.



## **8.00 SITE REHABILITATION**

It is noted that at the end of the life of the liquid fertiliser plant, the following actions can be undertaken:-

- a) the mixing and storage tanks and associated pipework can be removed from the site;
- b) all raw dry material can be removed from the site;
- c) connecting infrastructure to the irrigation channel can be decommissioned;
- d) the existing storage shed can be used for another purpose as required or for general farm operations; and
- e) the access driveway and hardstand area can be retained for a new purpose or for general farm operations.

Significantly, the use of the site as proposed will not require the land to be included on the Environmental Management Register or the Contaminated Land Register.

## **9.00 SITE SUITABILITY**

It is submitted that the subject site is a suitable location for the proposed Liquid Fertiliser Plant.

In this regard, the following aspects are noted:-

- a) the site is centrally located to efficiently service the surrounding rural catchment; and
- b) the proposal can utilize existing infrastructure on the site including buildings, water supply infrastructure and access.



## 10.00 AMENITY CONSIDERATIONS

It is submitted that the proposal will have minimal impact on the amenity of the surrounding area given that:-

- a) the proposal will provide a rural service to the surrounding rural area and is consistent in terms of purpose and intensity with this area;
- b) the site has sufficient area and dimensions to enable the potential impact of the proposal to be contained within the site boundaries;
- c) the site and in particular the location of the existing storage shed to be used for the plant has substantial setbacks from surrounding sensitive uses;
- d) the proposal will utilize contemporary design standards to ensure that external impacts of the proposal are mitigated;
- e) the design and siting of the proposed development complies or is capable of demonstrating compliance with the relevant Planning Scheme Codes and other State Codes and requirements; and
- f) compliance with relevant Council and State Agency Conditions of Approval and annual monitoring and reporting will ensure the impact of the proposal can be mitigated.

## 11.00 CONCLUSIONS

The following conclusions are drawn in relation to the proposal:-

- a) the subject site is located at 203 Leafgold Weir Road and is located 6km south west from Dimbulah and 43km southwest from Mareeba;
- b) the site is located within a highly productive rural area of the Walsh River Valley and is located within the Mareeba Dimbulah Irrigation Scheme Area;
- c) the subject site is described as Lot 1 on RP173508, contains an area of 12.95ha and has a frontage of 787m to Leafgold Weir Road. The western boundary is defined by an irrigation channel;
- d) the site is presently used as a lime orchard and includes a storage shed, staff amenities and irrigation infrastructure;



- e) it is proposed to establish a liquid fertiliser plant on the site utilizing the existing storage shed and associated infrastructure. The existing lime orchard will be retained.

The plant will provide a specialized service for the surrounding rural community.

- f) the production process is limited to mixing raw dry material brought to the site with water drawn from the adjoining irrigation channel. The plant will include mixing and storage tanks to be established within the existing storage shed;
- g) the subject site is located within the Rural Zone;
- h) the proposed use is defined as a Special Industry. This is an Impact Assessable Use within the Rural Zone;
- i) the establishment of the proposal also requires approval for an Environmental Authority and associated Environmentally Relevant Activity;
- j) the proposal requires approval for a *Development Permit for Material Change of Use – Impact Assessment for Special Industry (Liquid Fertiliser Plant) and retention of existing Rural Uses and Environmental Authority (EA) for prescribed (Concurrence) Environmentally Relevant Activity (ERA) 7(4a) Chemical Manufacturing (4) Manufacturing in a year, the following quantities of fertilise (a) 200 tonnes to 5,000 tonnes;*
- k) the proposal demonstrates compliance, or is capable of demonstrating compliance with the relevant State Development Assessment Provisions and the Mareeba Shire Council Planning Scheme (2016);
- l) the subject site is a suitable location for the proposal; and
- m) the proposal will have minimal impact on the residential and rural amenity of the surrounding area on the basis of the implementation of suitable mitigation measures and compliance with suitable Conditions of Approval.



## 12.00 RECOMMENDATIONS

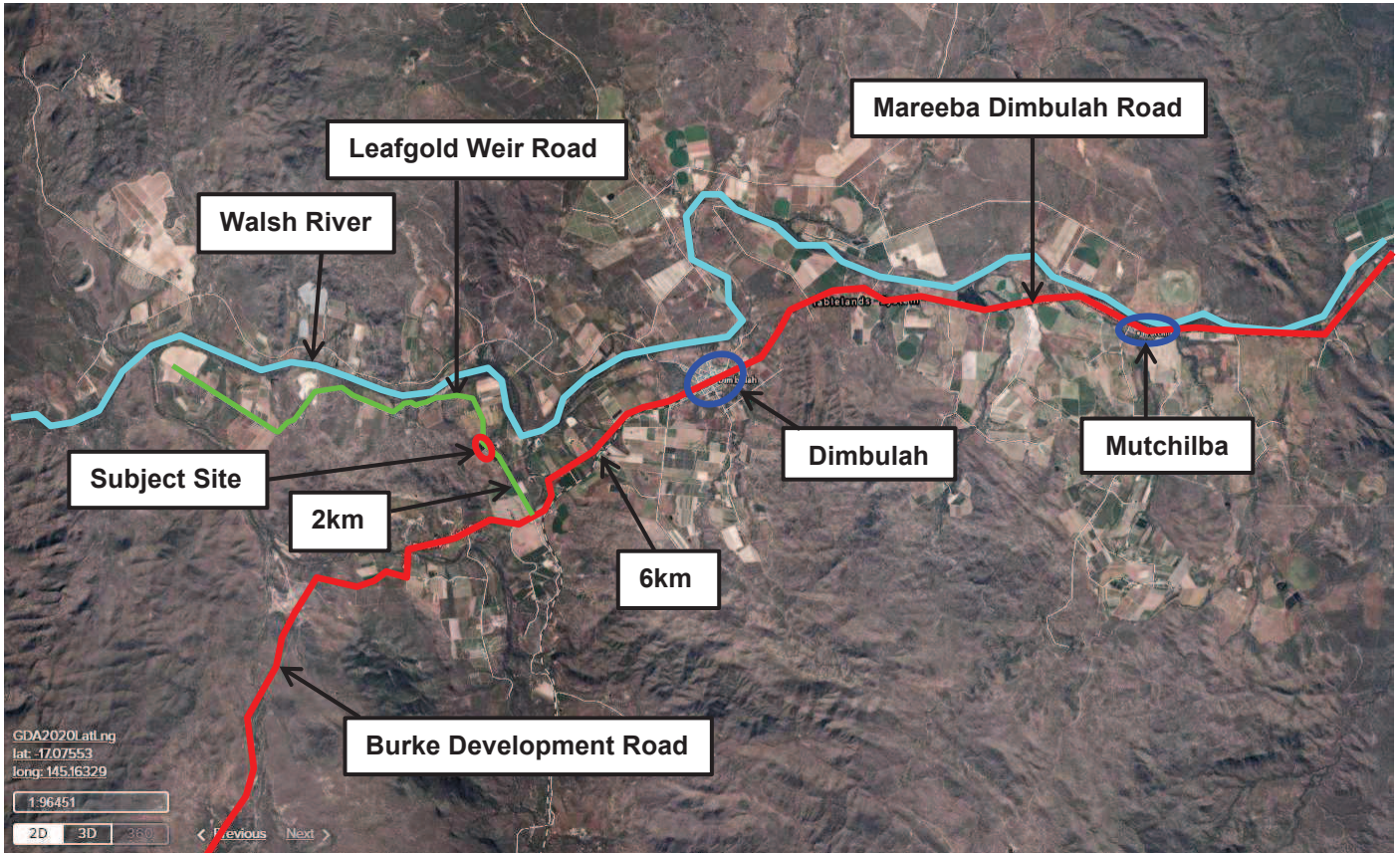
Having regard to the facts, considerations and circumstances addressed in this Report for the subject site described as Lot 1 on SP173508 and located at 203 Leafgold Weir Road, Dimbulah for **Development Permit for Material Change of Use – Impact Assessment for Special Industry (Liquid Fertiliser Plant) and retention of existing Rural Uses and Environmental Authority (EA) for prescribed (Concurrence) Environmentally Relevant Activity (ERA) 7(4a) “Chemical Manufacturing (4) Manufacturing in a year, the following quantities of fertiliser (a) 200 tonnes to 5,000 tonnes** is suitable in Town Planning related terms and is fully supported.

Council's favourable consideration of this Application is accordingly commended.

**Victor G Feros Town Planning Consultants**  
**July 2021**



# FIGURES



**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

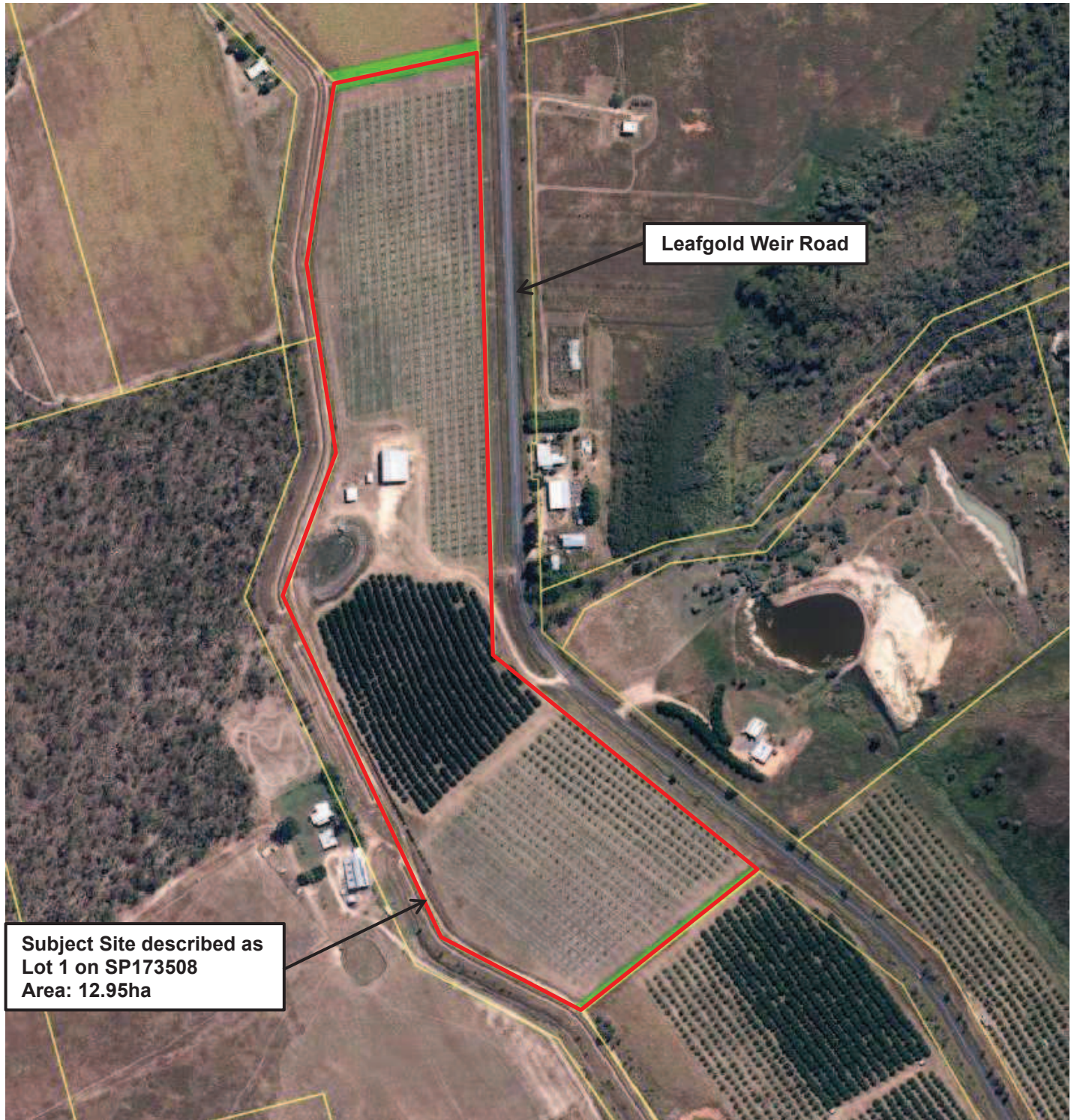
**AGRI TECHNOVATION PTY LTD**

**LOCATION**



**FIGURE 1 JULY 2021** 





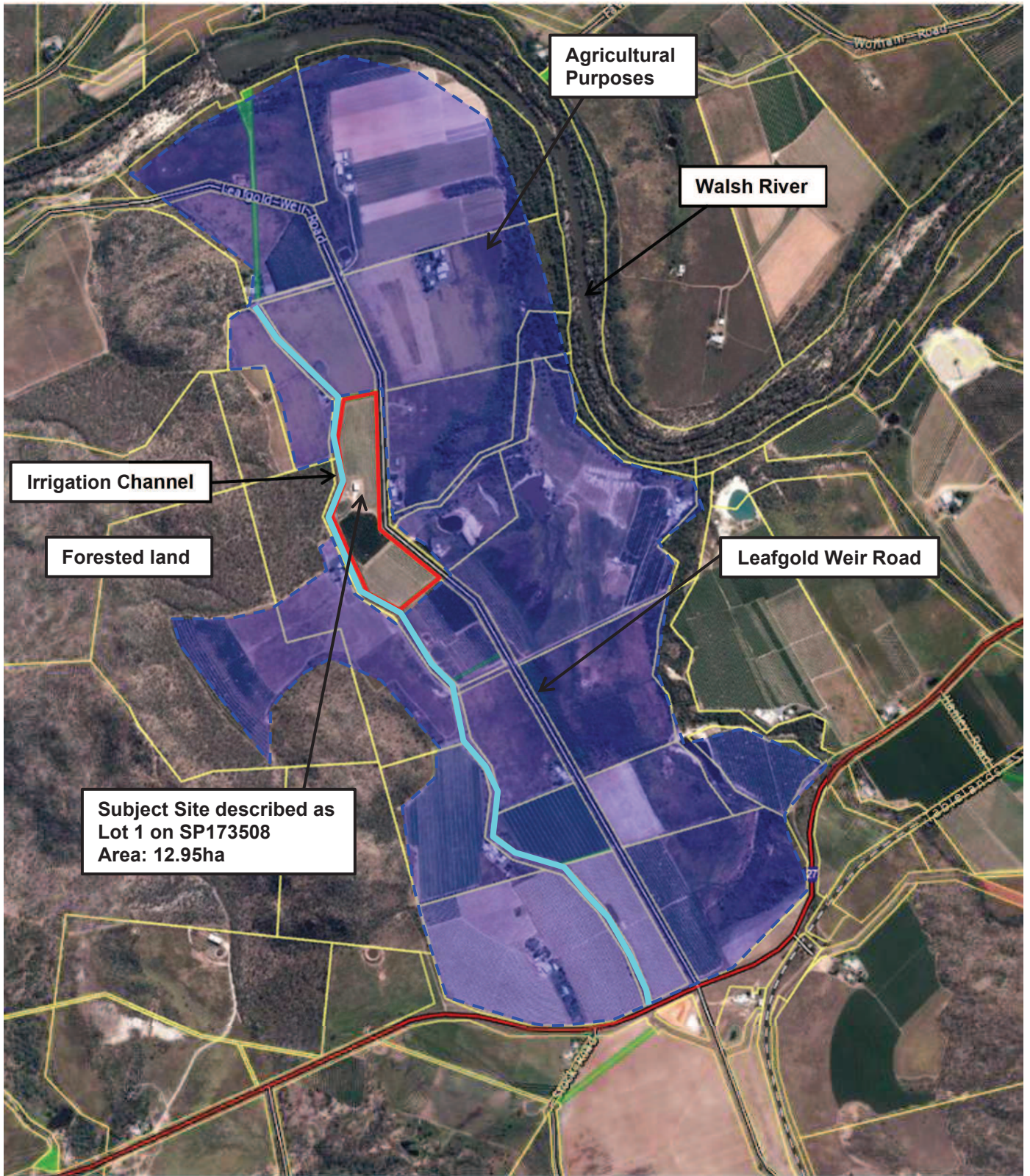
**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**LOCALITY**







**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

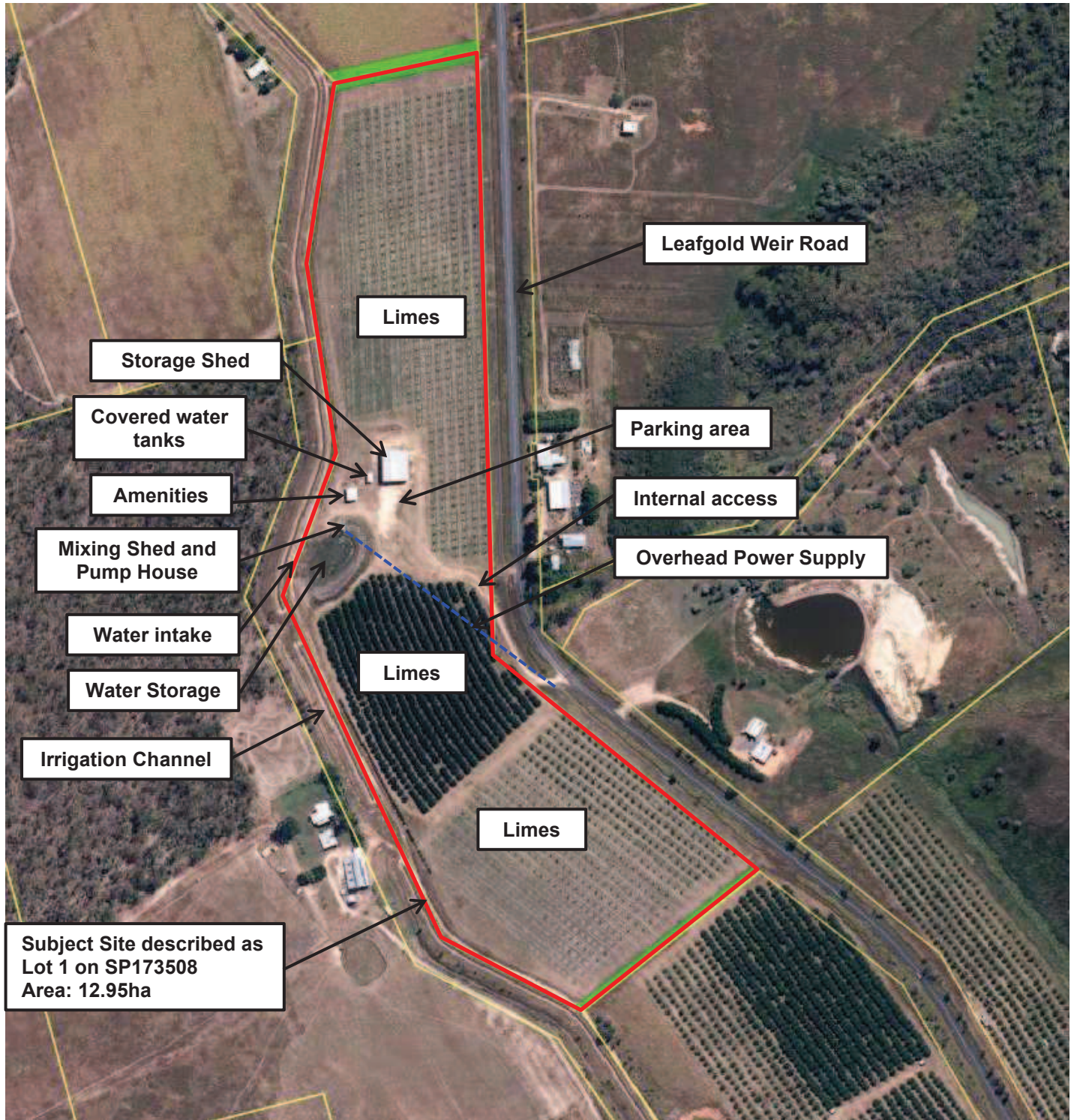
**AGRI TECHNOVATION PTY LTD**

**SURROUNDING LAND USES**



**FIGURE 3 JULY 2021** 





DEVELOPMENT PERMIT FOR  
 MATERIAL CHANGE OF USE FOR  
 SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
 AND ENVIRONMENTALLY RELEVANT ACTIVITY

AGRI TECHNOVATION PTY LTD

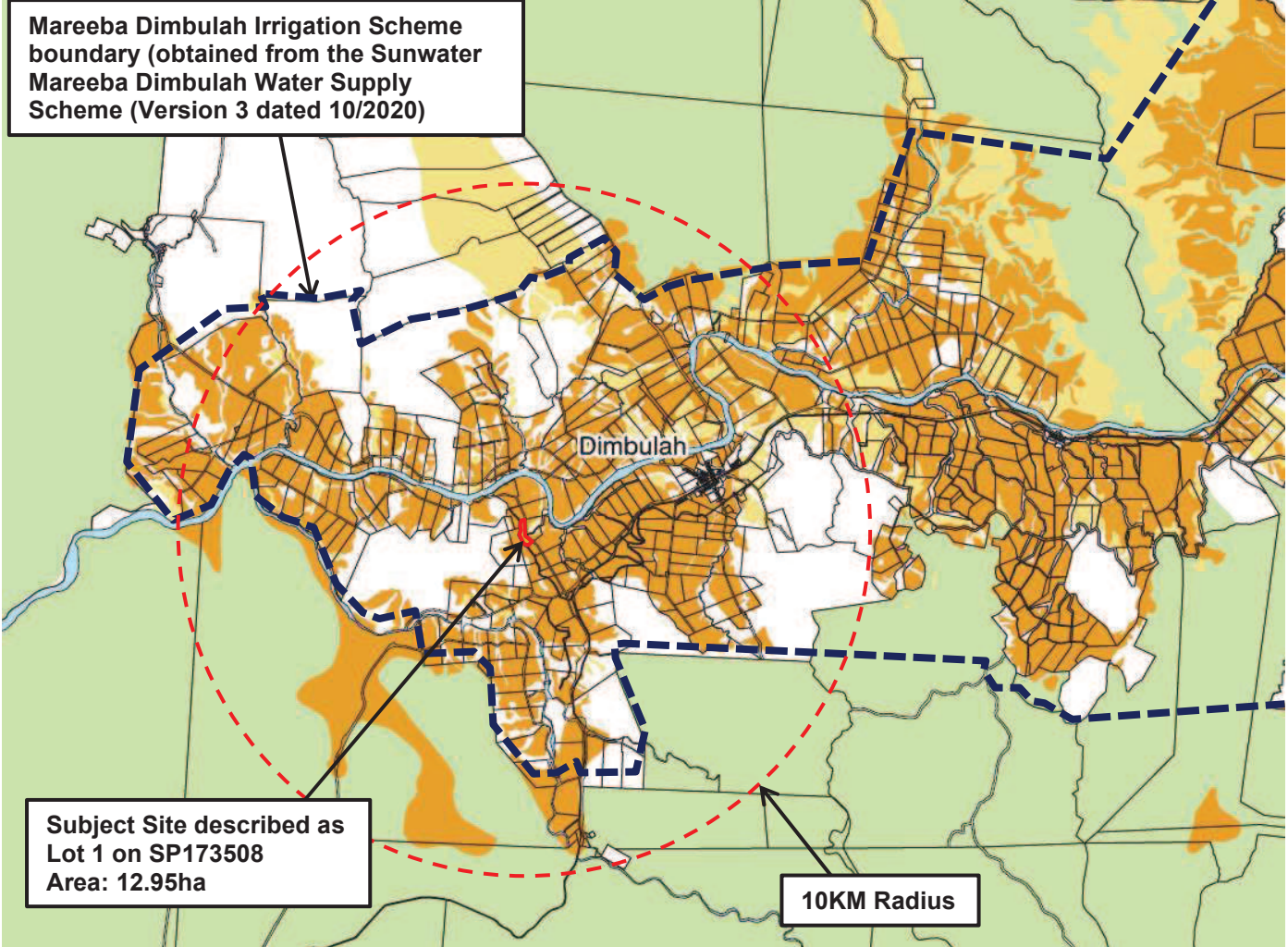
SITE USES



FIGURE 4 JULY 2021







**Agricultural Land Overlay**

**LEGEND**

**Agricultural Land**

- Class A
- Class B
- Broadhectare Rural

**Other Elements**

- Cadastre
- Mareeba Shire Council Boundary
- Watercourse

**DEVELOPMENT PERMIT FOR MATERIAL CHANGE OF USE FOR SPECIAL INDUSTRY (LIQUID FERTILISER PLANT) AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**INDICATIVE SERVICE CATCHMENT**





**LEGEND**

**Land Use Categories**

- Residential Area
- Urban Expansion Area
- Centre Area
- Industry Area
- Major Industry Area
- Investigation Area
- Rural Residential Area
- Conservation Area
- Rural Area
- Rural Agricultural Area
- Rural Other

**Community Identity Elements**

- Energy Generation
- Enterprise and Employment
- Iconic Landscape Feature
- Tourism

**Natural Environment Elements**

- Biodiversity Areas (includes Regulated Vegetation, Species Habitat, State Conservation and Wetlands)
- Ecological Corridor
- Habitat Linkage

**Natural Resource Elements**

- Key Resource Area
- Mining Claim
- Mining Lease
- Mineral Development License

**Infrastructure Elements**

- Major Electrical Infrastructure

**Transport Elements**

- Aviation Facility
- State Controlled Road
- Local Collector Road
- B-double Route
- Future State Controlled Road
- Future Local Connection Road
- Scenic Route
- Principal Cycle Routes
- Railway Network

**Other Elements**

- Major Waterbody
- Major Watercourse
- Mareeba Shire Council Boundary

**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

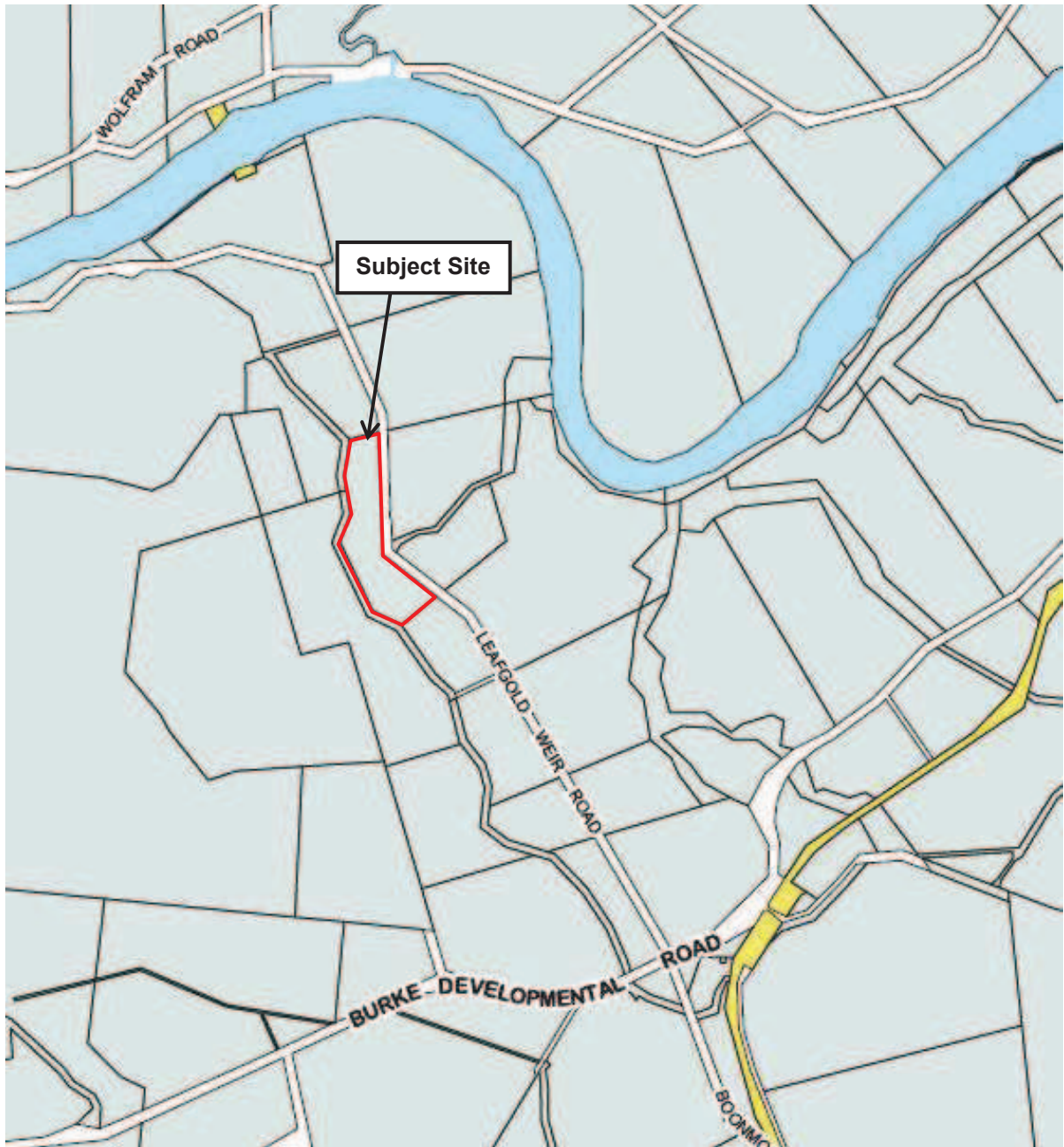
**STRATEGIC FRAMEWORK MAP**



**FIGURE 6 JULY 2021**







**LEGEND**

**Zones**

- Centre
- Community Facilities
- Conservation
- Emerging Community
- Industry
  - A Trades and Services Precinct
  - B General Industry Precinct
  - C Heavy Industry Precinct
- Low Density Residential
- Medium Density Residential
- Recreation and Open Space
- Rural
- Rural Residential
  - A 4,000 Square Metre Precinct
  - B 1 Hectare Precinct
  - C 2 Hectare Precinct

**Other Elements**

- Cadastre
- Local Plan Boundary
- Mareeba Shire Council Boundary
- Watercourse

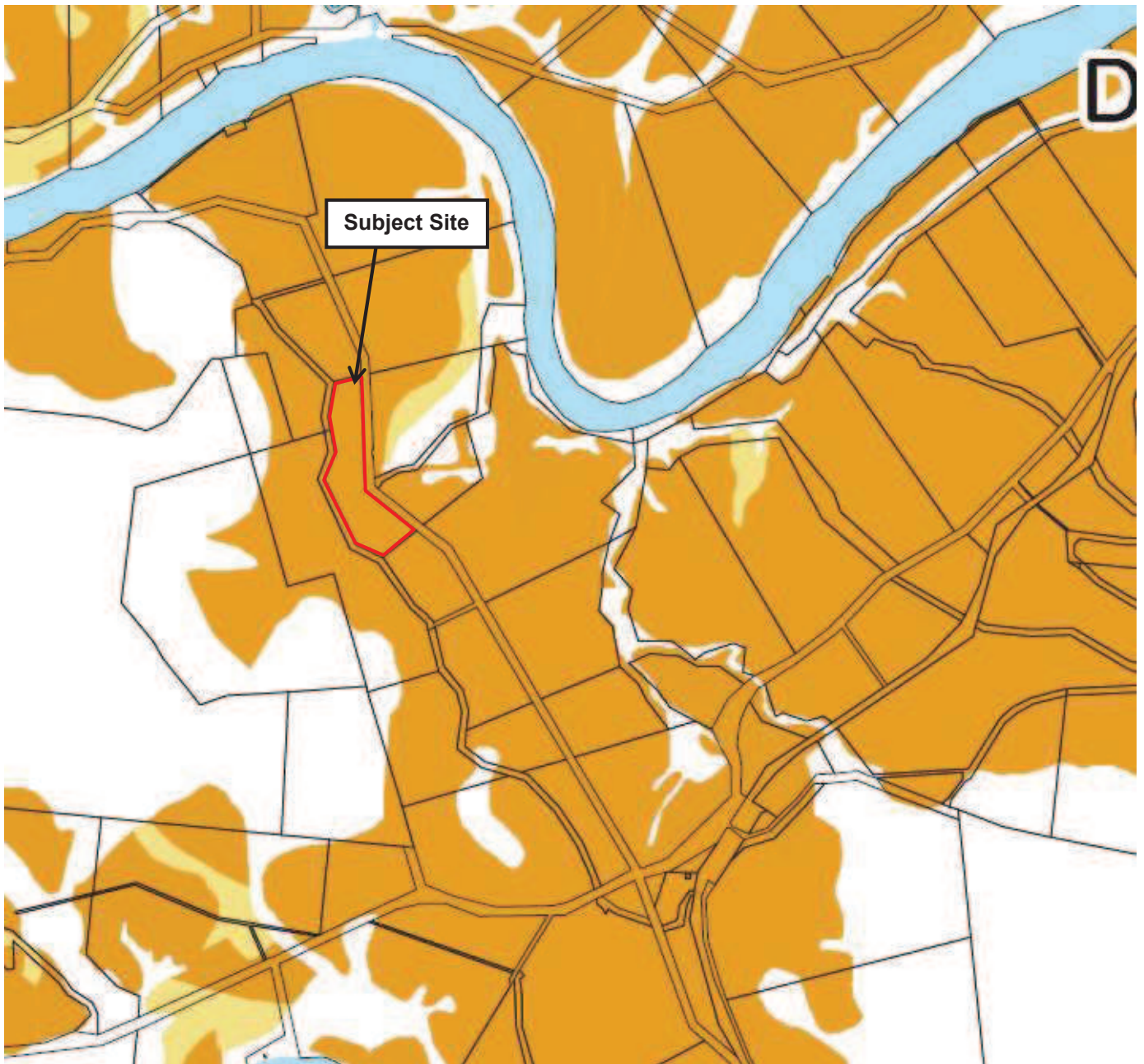
**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**ZONING**







**LEGEND**

**Agricultural Land**

- Class A
- Class B
- Broadhectare Rural

**Other Elements**

- Cadastre
- Mareeba Shire Council Boundary
- Watercourse

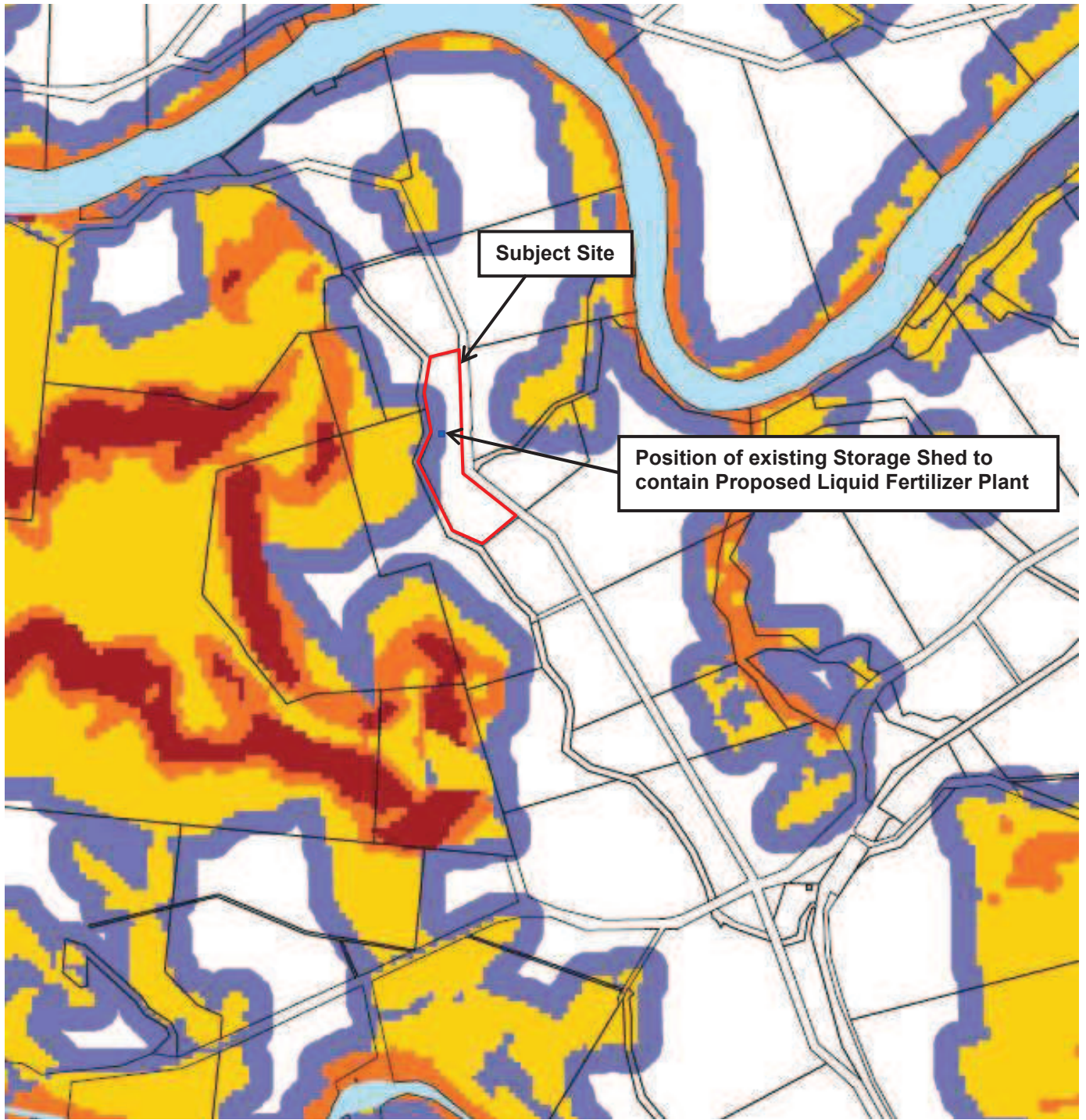
**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT) AND  
ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**AGRICULTURAL LAND OVERLAY**







**LEGEND**

**Bushfire Hazard**

- Very High Potential Bushfire Intensity
- High Potential Bushfire Intensity
- Medium Potential Bushfire Intensity
- Potential Impact Buffer (100 metres)

**Other Elements**

- Cadastrate
- Mareeba Shire Council Boundary
- Watercourse

**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

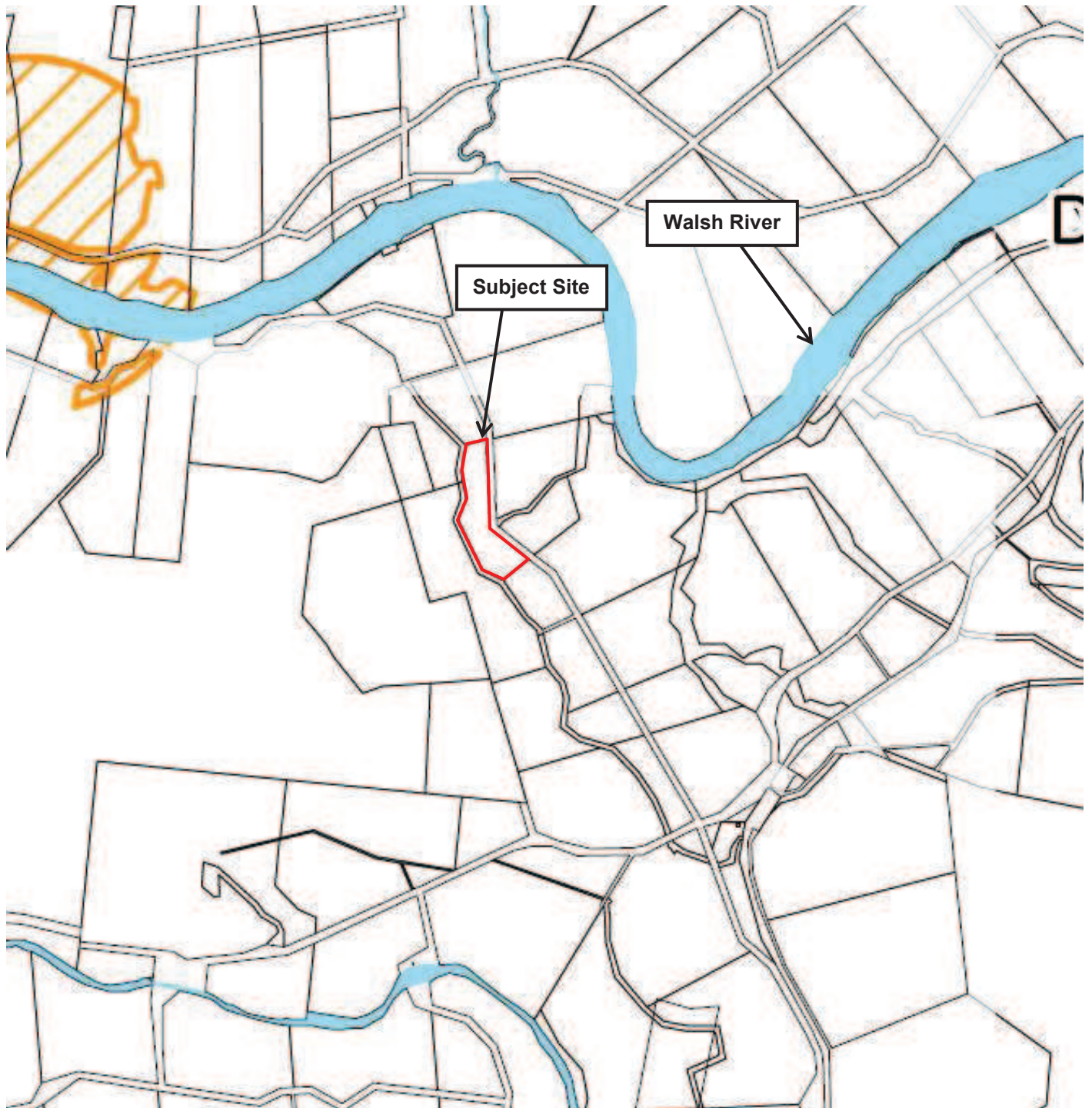
**AGRI TECHNOVATION PTY LTD**

**BUSHFIRE HAZARD OVERLAY**





**FIGURE 9 JULY 2021**








**LEGEND**

-  Ecological Corridor
-  Habitat Linkage

**Matters of State Environmental Significance**

-  Protected Area
-  Wildlife Habitat
-  Regulated Vegetation<sup>(1)</sup>
-  High Ecological Significance Wetlands
-  High Ecological Significance Wetlands 200 metre Buffer
-  Legally Secured Offset Areas

**Other Elements**

-  Cadastre
-  Mareeaba Shire Council Boundary
-  Watercourse<sup>(2)</sup>

**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT) AND  
ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

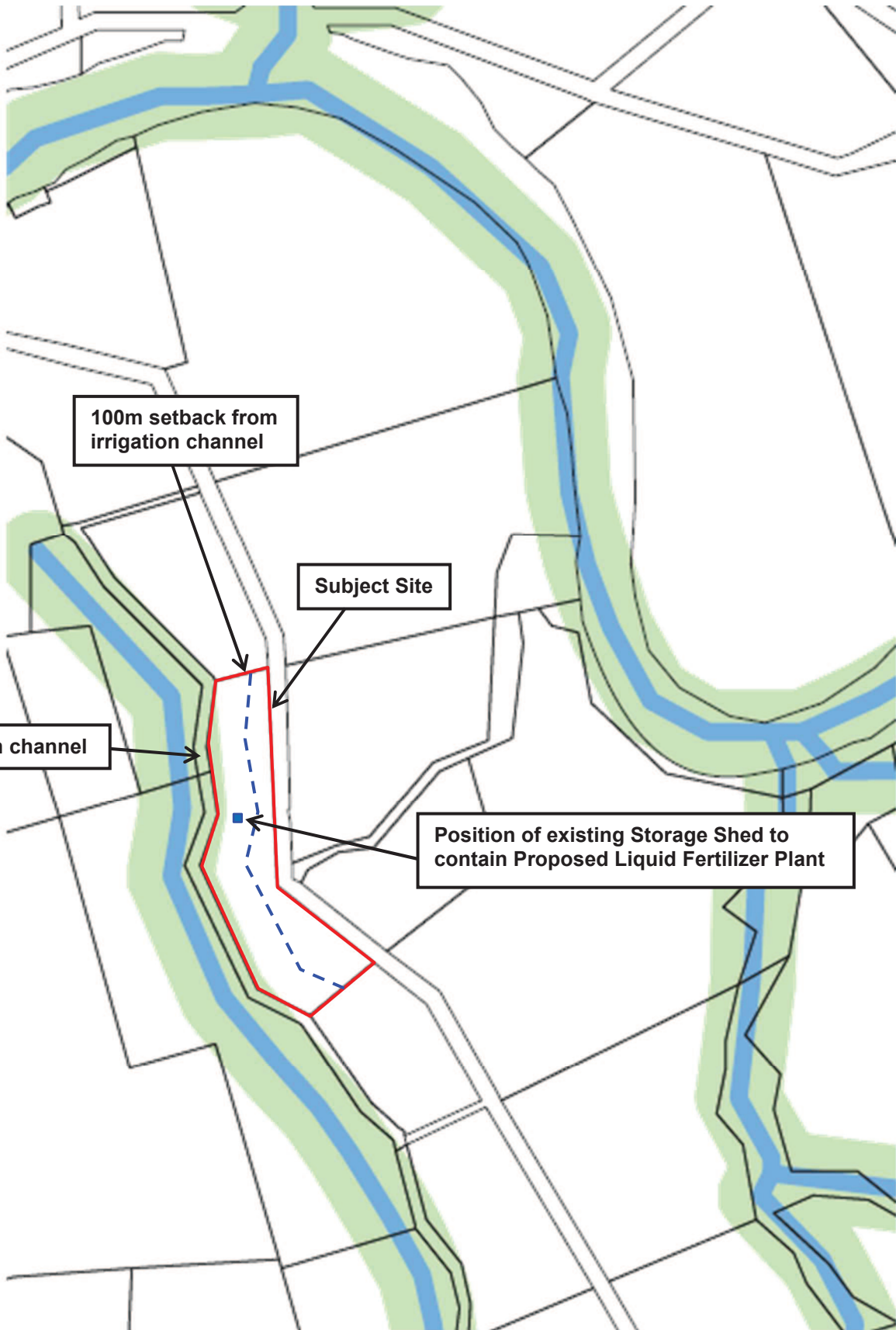
**ENVIRONMENTAL SIGNIFICANCE OVERLAY**



**FIGURE 10**

**JULY 2021**





**LEGEND**

**Matters of State Environmental Significance<sup>(1)</sup>**

- Waterway <sup>(2)</sup>
- Waterway 100 metre Buffer

**Other Elements**

- Cadastre
- Mareeba Shire Council Boundary

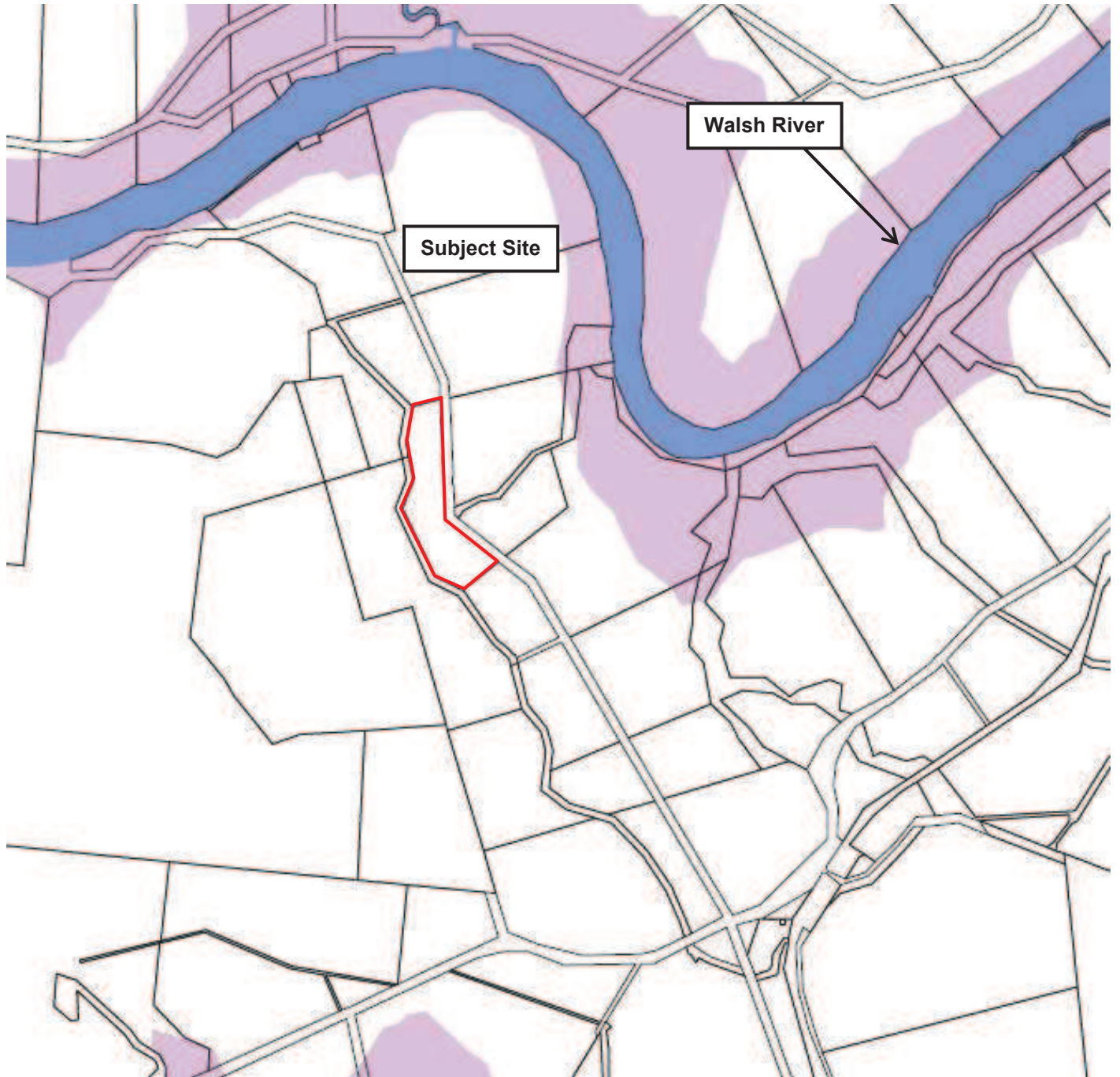


**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT) AND  
ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**ENVIRONMENTAL SIGNIFICANCE WATERWAYS OVERLAY**





**LEGEND**

**Modelled Flood Hazard Levels<sup>(1)</sup>**

1% AEP Defined Flood Event (DFE):

- Extreme Flood Hazard
- High Flood Hazard
- Significant Flood Hazard
- Low Flood Hazard
- General Extent of Modelled Flood Hazard Levels

**Queensland Floodplain Assessment Overlay Mapping<sup>(2)</sup>**

- Potential Flood Hazard Area

**Other**

- Cadastre
- Watercourse

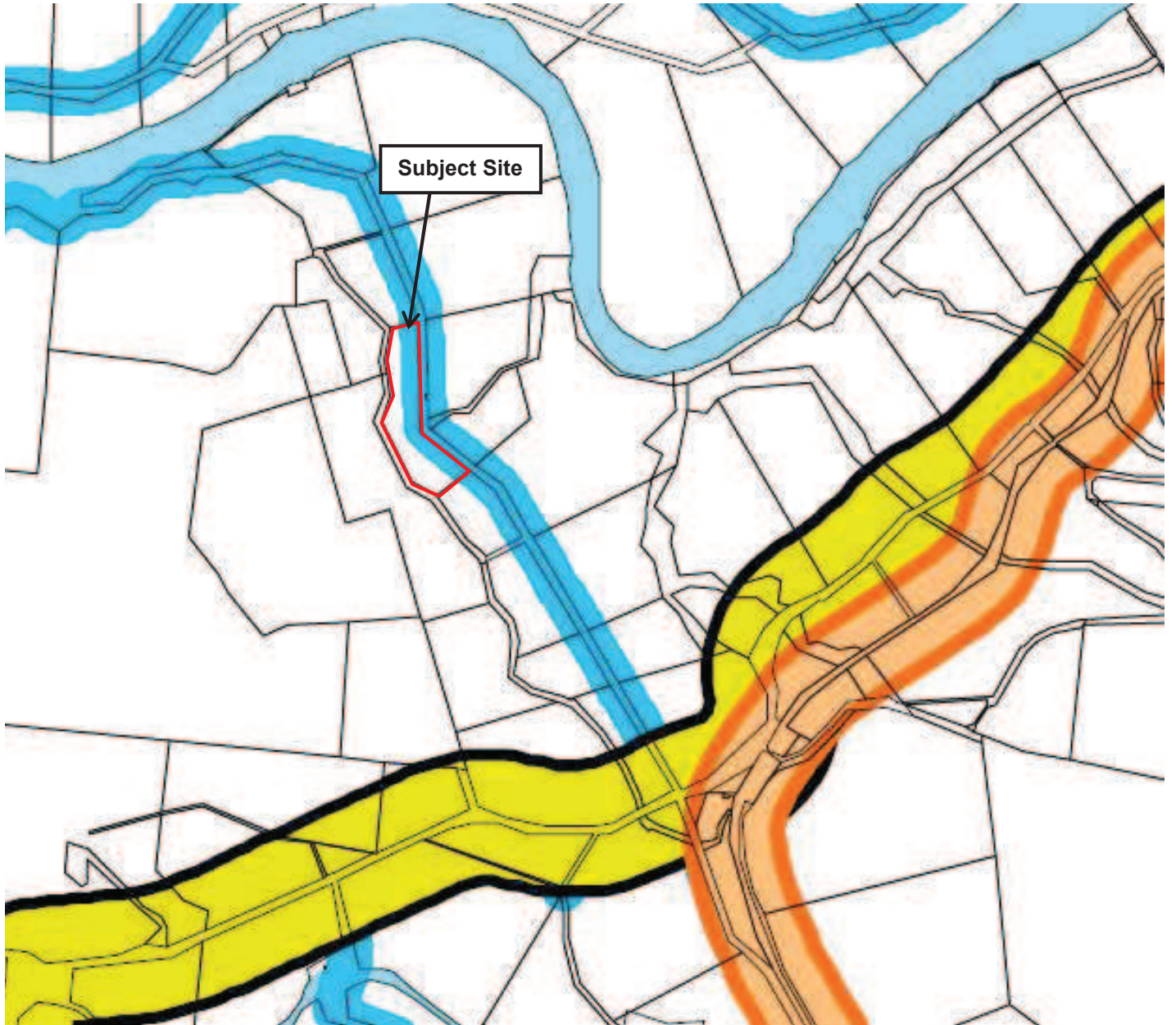
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MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**FLOOD HAZARD OVERLAY**

**FIGURE 12 JULY 2021**





**LEGEND**

**Transport Infrastructure**

— Rail Corridor

**Road Hierarchy**

— State Controlled Road

— Collector Road

— Access Road

— Major Rural Road

→ — Minor Rural Road

**Other Elements**

— Cadastre

— Mareeba Shire Council Boundary

— Watercourse

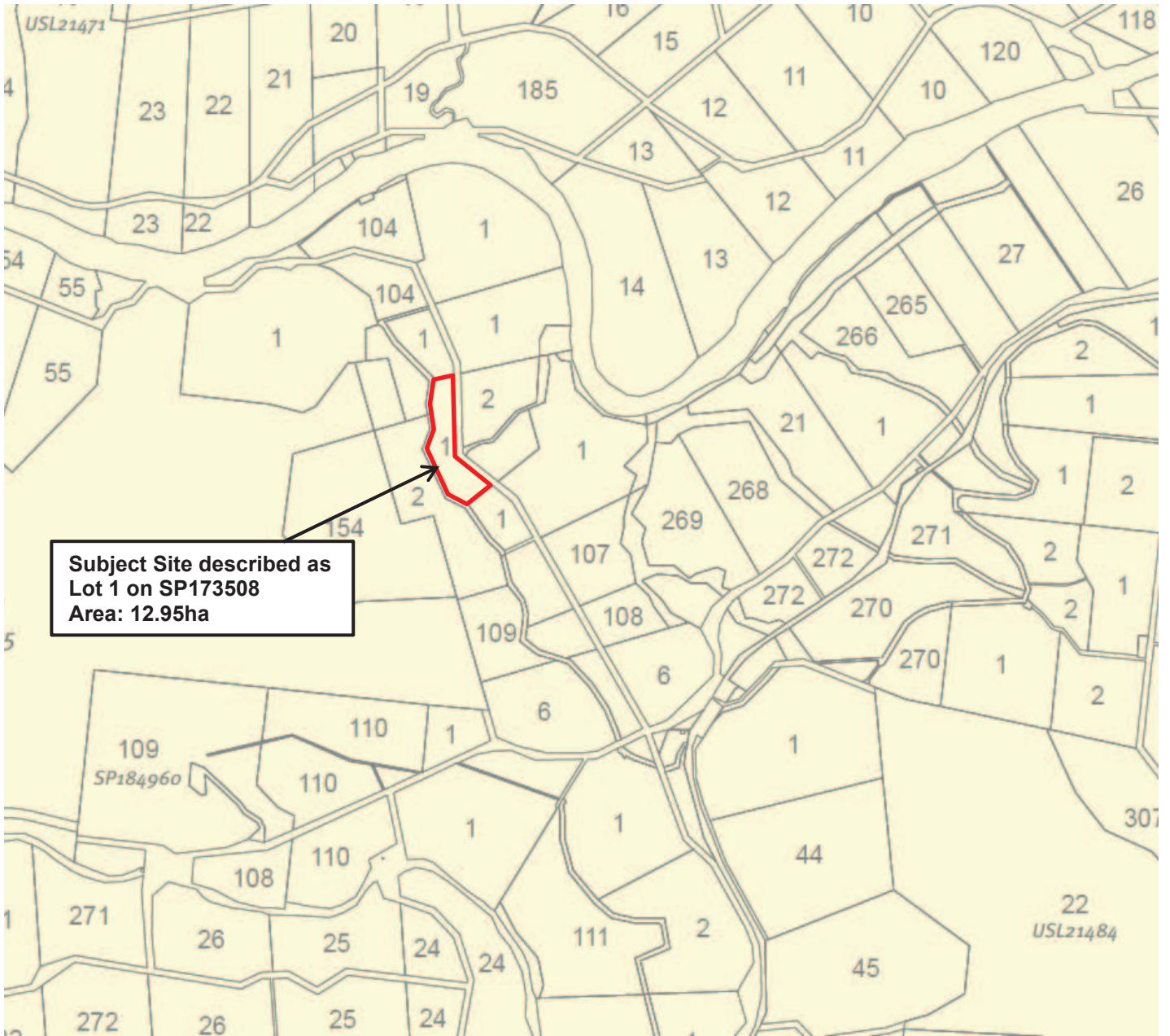
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AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**TRANSPORT INFRASTRUCTURE OVERLAY**







Subject Site described as  
 Lot 1 on SP173508  
 Area: 12.95ha

**Map legend**

- Urban Footprint \*
- Rural Living Area \*
- Regional Landscape and Rural Production Area \*
- Digital Cadastral Database (DCDB) August 2008
- Local Government Areas
- FNQ Regional Plan Boundary

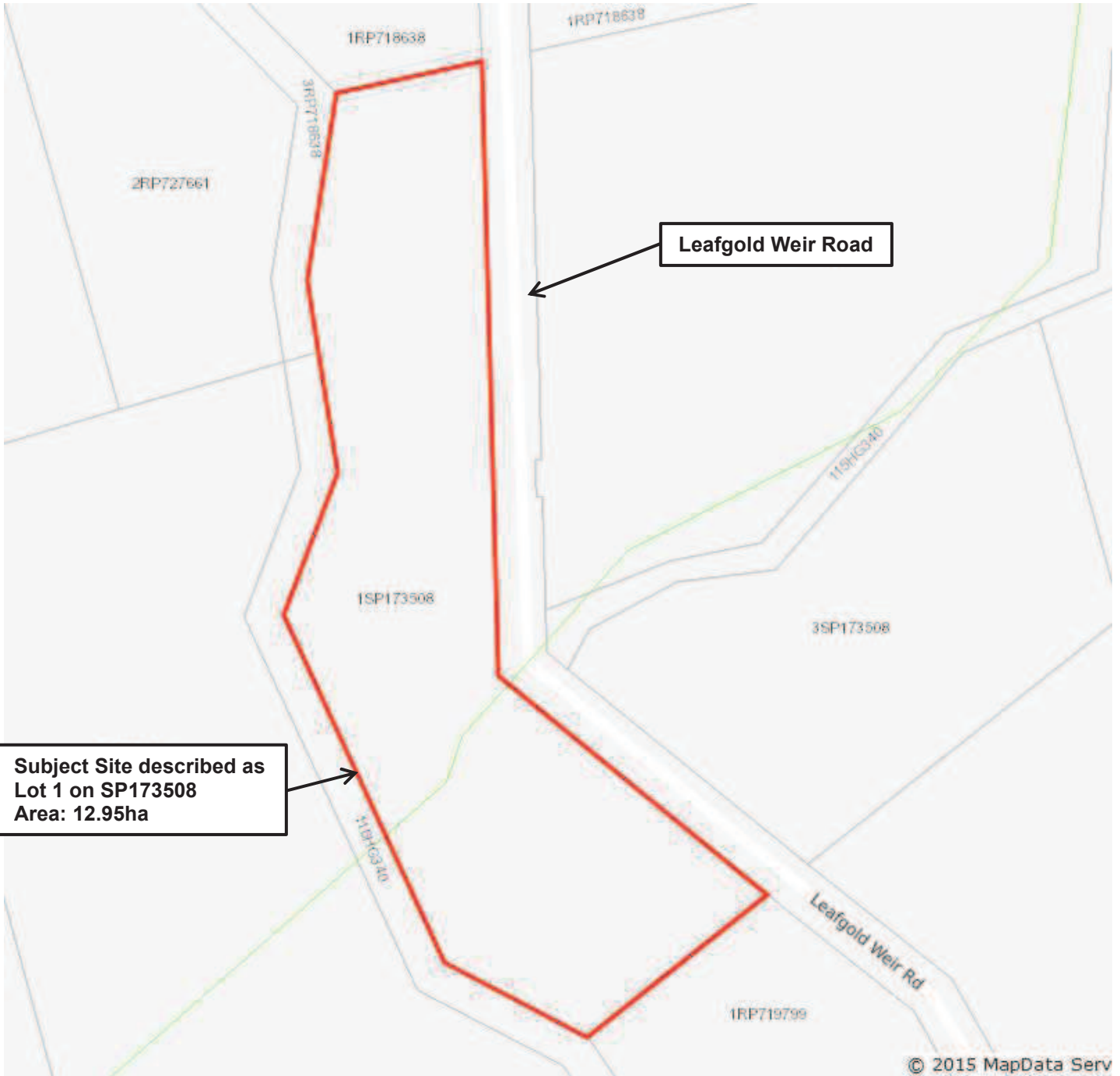
\* For the planning intent of these areas refer to the FNQ Regional Plan 2009-2031

**DEVELOPMENT PERMIT FOR  
 MATERIAL CHANGE OF USE FOR  
 SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
 AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**FNQ REGIONAL PLAN 2009-2031**





Subject Site described as Lot 1 on SP173508  
Area: 12.95ha

Leafgold Weir Road

**DEVELOPMENT PERMIT FOR MATERIAL CHANGE OF USE FOR SPECIAL INDUSTRY (LIQUID FERTILISER PLANT) AND ENVIRONMENTALLY RELEVANT ACTIVITY**

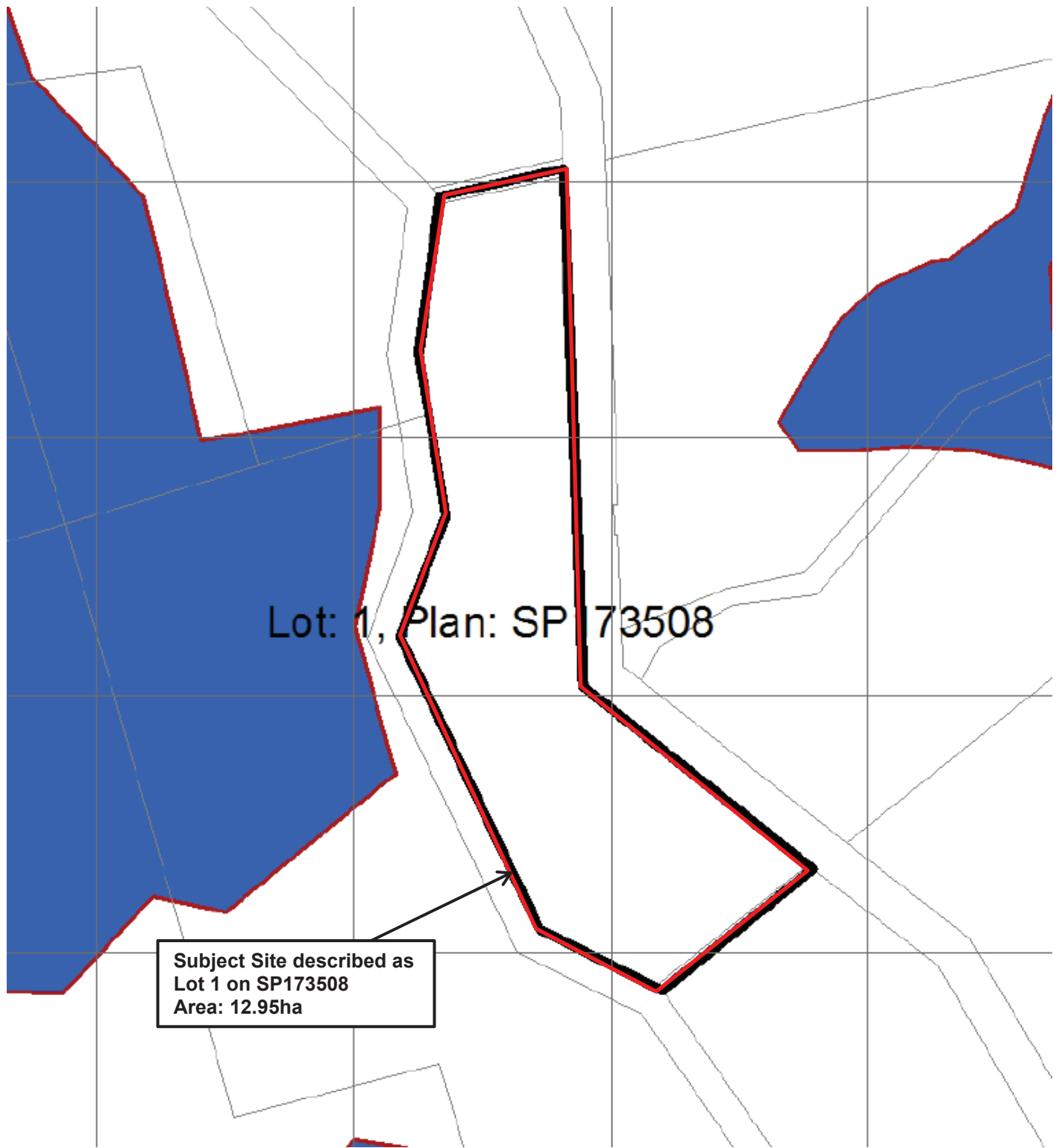
**AGRI TECHNOVATION PTY LTD**

**STATE DEVELOPMENT ASSESSMENT MAPPING**










- ▼ FISH HABITAT AREAS
- All
  - Fish habitat management area A
  - Fish habitat management area B
  - Queensland waterways for waterway barrier works
  - 1 - Low
  - 2 - Moderate
  - 3 - High
  - 4 - Major
  - Tidal waterways







Subject Site described as  
 Lot 1 on SP173508  
 Area: 12.95ha

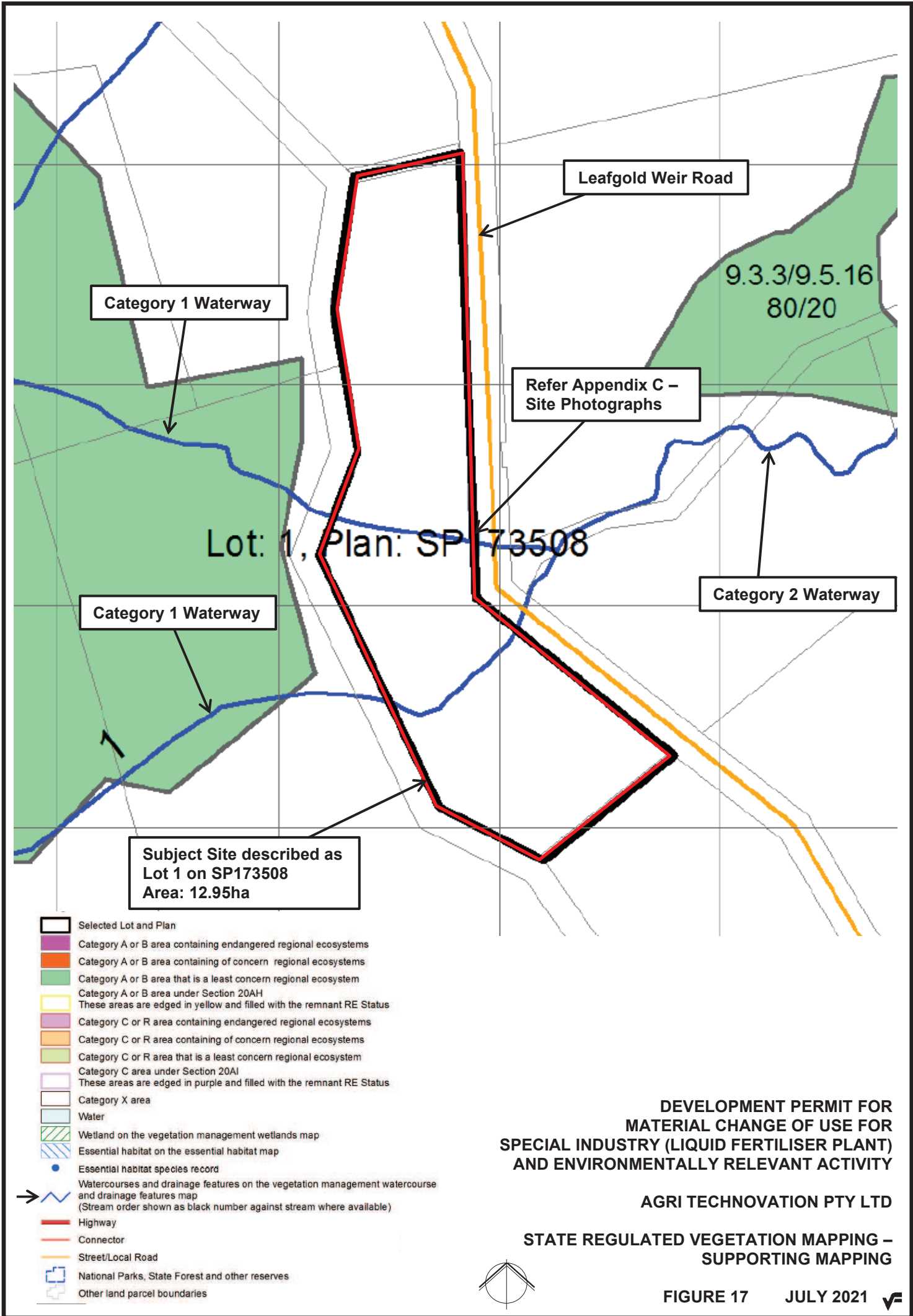
-  Selected Lot and Plan
-  Category A area (Vegetation offsets/compliance notices/VDecs)
-  Category B area (Remnant vegetation)
-  Category C area (High-value regrowth vegetation)
-  Category R area (Reef regrowth watercourse vegetation)
-  Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
-  Water
-  Area not categorised
-  Other land parcel boundaries

**DEVELOPMENT PERMIT FOR  
 MATERIAL CHANGE OF USE FOR  
 SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
 AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**



**STATE REGULATED VEGETATION MAPPING**



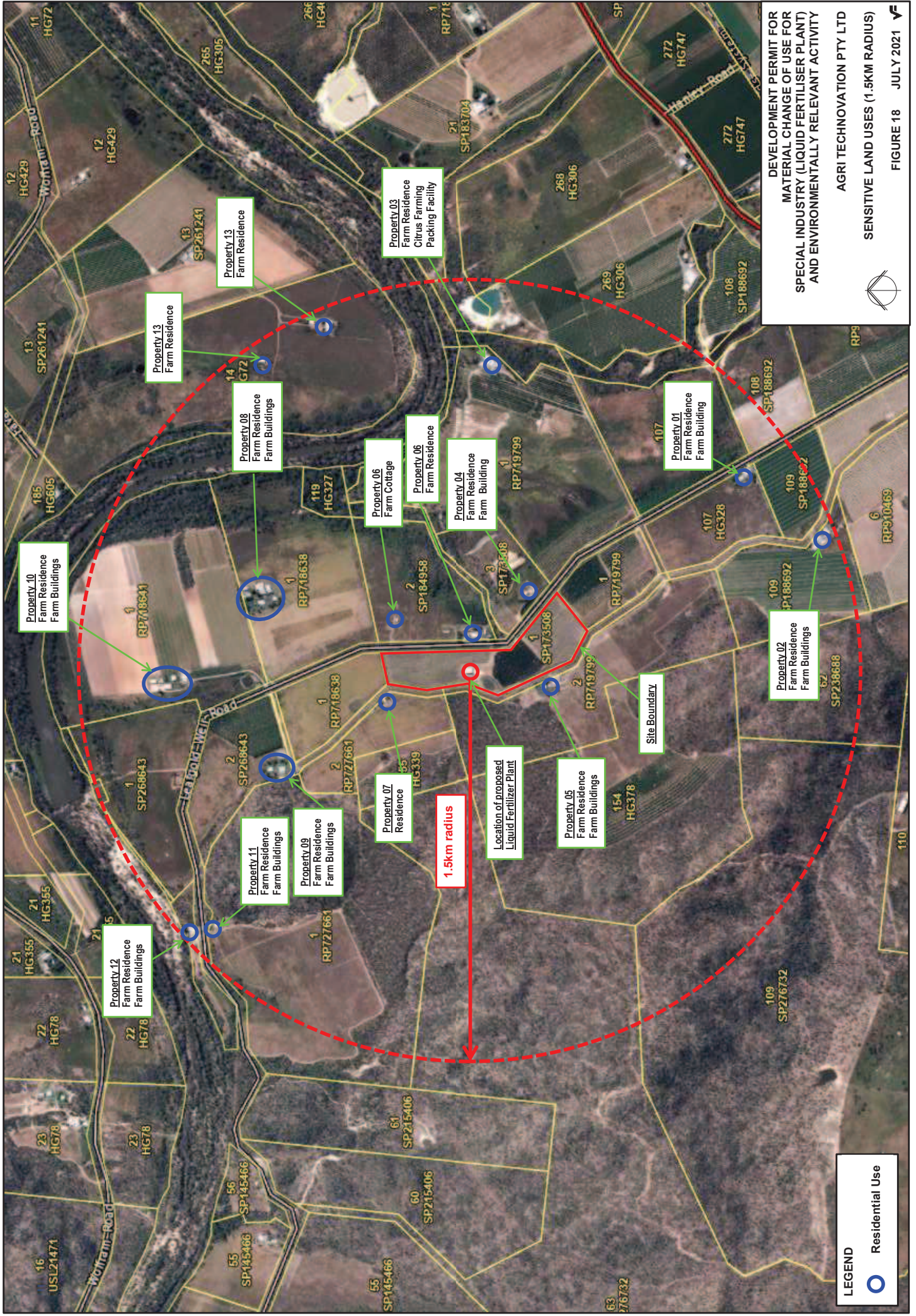
**DEVELOPMENT PERMIT FOR  
MATERIAL CHANGE OF USE FOR  
SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
AND ENVIRONMENTALLY RELEVANT ACTIVITY**

**AGRI TECHNOVATION PTY LTD**

**STATE REGULATED VEGETATION MAPPING –  
SUPPORTING MAPPING**







DEVELOPMENT PERMIT FOR  
 MATERIAL CHANGE OF USE FOR  
 SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
 AND ENVIRONMENTALLY RELEVANT ACTIVITY

AGRI TECHNOVATION PTY LTD

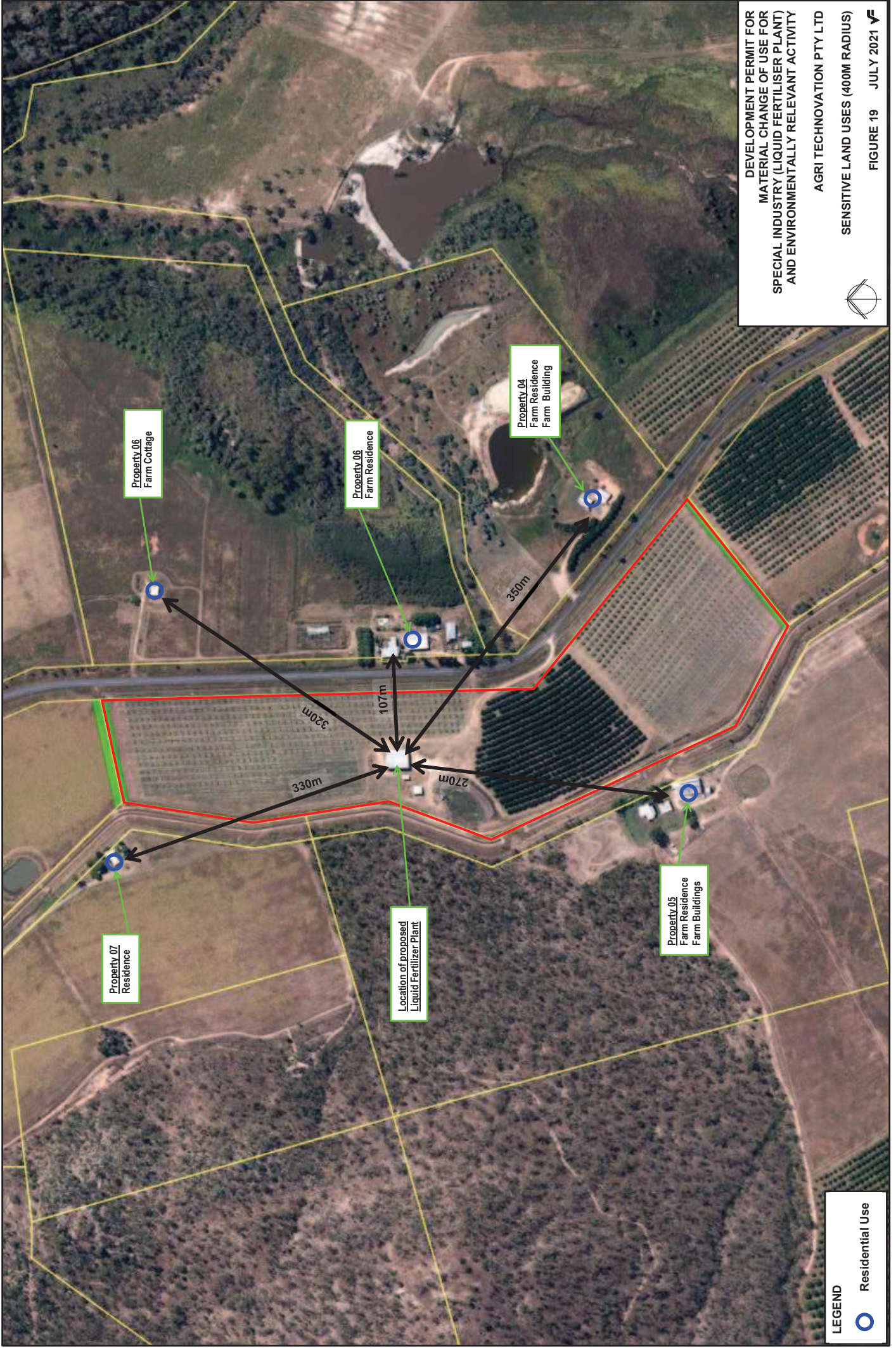
SENSITIVE LAND USES (1.5KM RADIUS)

FIGURE 18 JULY 2021

LEGEND

○ Residential Use





DEVELOPMENT PERMIT FOR  
 MATERIAL CHANGE OF USE FOR  
 SPECIAL INDUSTRY (LIQUID FERTILISER PLANT)  
 AND ENVIRONMENTALLY RELEVANT ACTIVITY

AGRI TECHNOVATION PTY LTD

SENSITIVE LAND USES (400M RADIUS)

FIGURE 19 JULY 2021

LEGEND

○ Residential Use

# **APPENDIX A**



28 April 2021

Council Ref: Preenq/21/0003

Our Ref: BM:CE:nj

Your Ref: VGF - C1211

## PRE-LODGEMENT ADVICE

**TO:** Agri Technovation Pty Ltd  
C/- Victor G Feros Town Planning Consultants & NRA Environmental  
Consultants  
PO Box 1256  
CAIRNS QLD 4870

**EMAIL ADDRESS:** [cairns@ferosplanning.com.au](mailto:cairns@ferosplanning.com.au)

**PROPOSED DEVELOPMENT:** Material Change of Use - Special Industry (Liquid Fertiliser Plant)

**SUBJECT SITE:** Lot 1 on SP173508  
Situated at 203 Leafgold Weir Road, Dimbulah

**MEETING DATE:** 22 April 2021

**MEETING LOCATION:** Teleconference

**PLANNING SCHEME:** Mareeba Shire Council Planning Scheme 2016

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**PROPOSAL:**

Refer to **Attachment 1**.

**TYPE OF APPLICATION REQUIRED:**

Application for a development permit for Material Change of Use - Special Industry (Liquid Fertiliser Plant)

**SUPPORTING INFORMATION PROVIDED BY APPLICANT:**

- **Attachment 1** - Request for Pre-lodgement Advice prepared by Victor G Feros Town Planning Consultants and supporting material prepared by NRA Environmental Consultants.

**RELEVANT SITE HISTORY:**

Nil

**APPLICABLE PLANNING INSTRUMENTS, APPLICATION PROCESS AND FEES:**

FNQ2031 Regional Plan:	Appropriately reflected with the Mareeba Shire Council Planning Scheme 2016
Relevant State Planning Policies:	Appropriately reflected with the Mareeba Shire Council Planning Scheme 2016
Planning Scheme:	Mareeba Shire Council Planning Scheme 2016 <a href="https://msc.qld.gov.au/building-planning/planning/">https://msc.qld.gov.au/building-planning/planning/</a>
Strategic Framework:	<b>Land Use Category</b> - Rural area (Rural agricultural area)
Zone:	Rural zone
Local Plan:	Nil
Applicable Overlays:	Agricultural land overlay Bushfire hazard overlay Environmental significance overlay Transport infrastructure overlay
Other Relevant Mapping:	State Assessment and Referral Agency mapping <a href="https://planning.dsdmip.qld.gov.au/">https://planning.dsdmip.qld.gov.au/</a>
Applicable Planning Scheme Policies:	Policy 4 - FNQROC Regional Development Manual
Planning Scheme Land Use definition:	Special Industry
Level of Assessment:	An aspect of the proposed development will require <b>Impact Assessment</b> .
Applicable Planning Scheme Codes:	Rural zone code Agricultural land overlay code Bushfire hazard overlay code Environmental significance overlay code Transport Infrastructure Overlay Code Industrial activities code Landscaping code Parking and access code Works, services and infrastructure code
Minimum Public Notification Period:	15 business days
Referral Agencies:	The Applicant is responsible for ensuring that the correct referral agencies are identified upon lodgement of the development application.

	<p>A review of the <i>Planning Regulation 2017</i> referral agency triggers has identified the following referral trigger for the development:</p> <ul style="list-style-type: none"> <li>• <i>Schedule 10, Part 5, Division 4, Table 2 - Non-devolved environmentally relevant activities</i> (ERA 7).</li> </ul>
Infrastructure Charges:	<p>Adopted Infrastructure Charges Resolution (No. 1) of 2020 identifies an infrastructure charge rate of \$48.20 per m<sup>2</sup> of gross floor area (GFA) for "Special Industry" uses. This charge rate is derived from the Shires 4 infrastructure networks (water, sewer, parks &amp; roads).</p> <p>In this instance, only 1 of the 4 infrastructure networks would service the development (roads), therefore the applicable infrastructure charge rate (per m<sup>2</sup> of GFA) will be as follows:</p> <p><math>\\$48.20 / 4 = \underline{\\$12.05 \text{ per m}^2}</math></p> <p>The final infrastructure charge will be calculated using this rate and based on the GFA of the development as submitted with the application.</p>
Application Forms	<p>DA Form 1</p> <p>Application forms and general information about the planning application system can be downloaded from the Department of State Development, Manufacturing, Infrastructure and Planning's website:</p> <p><a href="https://planning.dsdmip.qld.gov.au/planning/resources?query=DA%20form">https://planning.dsdmip.qld.gov.au/planning/resources?query=DA%20form</a></p>
Council application fee:	<p>2020/2021 financial year:</p> <p>Special Industry - Price on Application (POA)</p> <p>Fee will be based on High Impact Industry (&gt;500m<sup>2</sup>) = <b>\$6,460.00</b></p>

**ISSUES IDENTIFIED BY THE APPLICANT FOR DISCUSSION:**

The following general and specific responses are sought from Council in relation to the proposed development of the site:

- a) *Confirm the Use Description for the proposal and the level of assessment;*

Advice

Refer to table above.

- b) *Applicable Planning Scheme Codes;*

Advice

Refer to table above.

- c) *The referral agencies and likely referral triggers for the proposal;*

Advice

Refer to table above.



- d) *The supporting investigations required to address PO1 in the Industrial Activities Code in relation to surrounding sensitive land uses;*

Advice

As discussed during the pre-lodgement meeting, the material being prepared by NRA Environmental Consultants to address the States requirements for the ERA 7 referral should be adequate to address the Performance Outcome PO1 of the Industrial Activities Code.

In addition to this, advice should be sought and included on the explosive potential or lack thereof for the proposed development given it involves fertiliser storage in proximity to neighbouring dwellings.

- e) *External road works required for the development;*

Advice

As discussed during the pre-lodgement meeting, given the scale of development proposed, it is unlikely that Council would require any external roadworks along Leafgold Weir Road.

- f) *The standard of vehicle access required within the road reserve and within the site and associated on-site car parking area.*

Advice

It is likely the following requirements will be conditioned as part of any approval:

- The driveway must be upgraded to a reinforced concrete, or asphalt sealed standard (no bitumen) from the edge of Leafgold Weir Road for a distance of at least 45 metres along the driveway (to encompass the first bend in the driveway). The driveway crossover will need to comply with FNQROC Development Manual Standards (for an industrial crossover);
- The remainder of the driveway and internal vehicle manoeuvring areas/car parking areas will need to be surface treated with compacted gravel to achieve an all-weather standard and to minimise dust. The condition will also likely include a clause that will trigger the sealing of these gravel sections of the driveway/vehicle manoeuvring areas if Council receive a substantiated dust complaint.

- g) *Setback requirements and design criteria in relation to watercourses (including the irrigation channel) within or adjoining the site;*

Advice

Council officers have no issues with the proposed location of any buildings on-site as shown on the submitted plans. We do not consider the irrigation channel to be a natural watercourse. As discussed at the pre-lodgement meeting, no other actual watercourses exist on the property.

- h) *Applicable infrastructure charges;*

Advice

Refer to table above.

i) *Council's application fee for the proposal;*

Advice

Refer to table above.

j) *Any other matter Council considers relevant to the assessment of the proposal;*

Advice

Nil.

k) Overall, for Council to advise the level of support-in-principle for the development as proposed.

Advice

Council officers have no real town planning concerns with the proposed development, provided the amenity aspects outline in PO1 of the Industrial Activities Code are addressed. It is likely that the development will be able to comply or be conditioned to comply with the relevant development codes of the Mareeba Shire Council Planning Scheme 2016.

Should you require any further information, please contact Council's Planning Officer, Carl Ewin on the above telephone number.

Yours faithfully



**BRIAN MILLARD**  
**SENIOR PLANNER**

**DISCLAIMER:**

*This advice and information is provided on a 'without prejudice' basis. The pre-lodgement advice provided during and subsequent to pre-lodgement meetings should NOT be taken as a commitment as to whether an application would be approved with conditions or refused by council. The pre-lodgement process cannot override council's duty of care and legislative responsibilities in the assessment of development applications, including the consideration of matters raised by possible submitters and referral agencies during the detailed assessment process.*

*The proponent should seek their own independent professional advice on this pre-lodgement advice.*

**ATTACHMENT 1**

**Victor G Feros Town Planning Consultants**

195 Dornoch Terrace  
corner Gladstone Road  
Highgate Hill Brisbane 4101  
Queensland Australia  
Telephone 07 3844 2882  
Facsimile 07 3846 1840  
brisbaneferosplanning.com.au

Level 1  
127 Abbott Street  
PO Box 1258 Cairns 4870  
Queensland Australia  
Telephone 07 4031 3663  
Facsimile 07 4031 2238  
cairnsferosplanning.com.au

9 April 2021

Our Reference: VGF – C1211

Chief Executive Officer  
Mareeba Shire Council  
PO Box 154  
MAREEBA QLD 4880

Attention: Brian Millard

Dear Sir,

**RE: PRE-LODGE MENT ENQUIRY FOR PROPOSED LIQUID FERTILIZER PLANT LOCATED AT 203 LEAFGOLD WEIR ROAD, DIMBULAH AND DESCRIBED AS LOT 1 ON SP173508**

We act on instructions from Agri Technovation Pty Ltd the proponent in relation to the above described proposal.

Our investigations in relation to this proposal have been undertaken in conjunction with NRA Environmental Consultants.

A joint Pre-lodgement virtual meeting will be arranged to include Council Officers and Officers from the Department of State Development Local Government Infrastructure and Planning and Department of Environment and Science.

The date and time of this meeting is to be confirmed.

As background to the Pre-lodgement Enquiry please find attached the following:-

- a) the Powerpoint presentation to be considered at the joint pre-lodgement meeting;
- b) the Project Report prepared by Agri Technovation Pty Ltd, the Proponent (note this Report includes a plan showing the extent of Stage 1);
- c) the Pre-Lodgement Advice dated 9 April 2021 prepared by NRA Environmental Consultants; and
- d) a summary of the specific responses sought from Council dated 9 April 2021.

For completeness, a summary of the specific responses sought from the Departments is also attached.

The proponent will arrange for the payment of the relevant pre-lodgement fee (\$575.00) once we receive an invoice from Council.

The written responses provided by Council and the Departments will be used to inform the preparation of a Town Planning Application and an Environmental Authority for the proposal.

**IN CONTINUOUS PRACTICE SINCE 1976**

Principal  
**Victor G Feros**  
GCJIBAMUSFPA(CML) LGIP(S) CP1

Adjunct Professor  
School of Geography, Planning  
and Environmental Management  
University of Queensland

US Bicentennial Fellowship Award 1976

Administrative Director  
**Marlon C Feros**  
II (Trans) MBA MBS ASA M'ACP

Associate & Office Manager, Cairns  
**Nick Hardy**  
BRIP (Assoc) MPA LGIP(S)

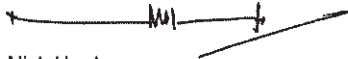
Senior Consultant Planner  
**Ken Todd**  
BRIP (Assoc) Dip. Soc. Pl. (UQ) LGIP(S)

**Victor G Feros**  
Town Planning  
Consultant Pty Ltd  
ABN 51 010 417 302

[www.ferosplanning.com.au](http://www.ferosplanning.com.au)

Should you wish to discuss the content of the attached documents please contact our Cairns Office.

Yours faithfully  
VICTOR G FEROS TOWN PLANNING CONSULTANTS



Nick Hardy  
Associate and Office Manager

- cc: NRA Environmental Consultants  
Attention: Tim Anderson  
Attention: Rhiannon Williams
- cc: Agri Technovation Pty Ltd  
Attention: Rudi Kriese
- cc: State Assessment and Referral Agency



Victor G Feros  
Town Planning Consultants  
PO Box 1256  
CAIRNS Q4870 Telephone 07 4031 3663

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**PROPOSED LIQUID FERTILIZER PLANT**

**203 LEAFGOLD WEIR ROAD, DIMBULAH**

**DESCRIBED AS LOT 1 ON SP173508**

**PRE-LODGE MENT ENQUIRY**

**1. Specific Responses sought from Mareeba Shire Council**

- a) confirm the Use Description for the proposal and the level of assessment;
- b) applicable Planning Scheme Codes;
- c) Referral Agencies for the proposal;
- d) the supporting investigations required to address PO1 in the Industrial Activities Code in relation to surrounding sensitive land uses;
- e) external road works required for the development;
- f) the standard of vehicle access required within the road reserve and within the site and associated on-site car parking area;
- g) setback requirements and design criteria in relation to watercourses (including the irrigation channel) within or adjoining the site;
- h) applicable Infrastructure charges;
- i) Council's application fee for the proposal;
- j) any other matter Council considers relevant to the assessment of the proposal;
- k) overall, for Council to advise the level of support-in-principle for the development as proposed.

**2. Specific Responses Sought from the Department of State Development Infrastructure Local Government and Planning and the Department of Environment and Science**

- a) confirm the ERA(s) relevant to the proposal;
- b) the development referral triggers for the proposal;
- c) the applicable benchmarks and application material;
- d) supporting information required to address matters in relation to surrounding sensitive uses;
- e) setback requirements and design criteria in relation to watercourses within or adjoining the site;
- f) relevant State Development Provisions;
- g) Development Assessment fees and forms;
- h) should the site be used for the purpose as proposed would this result in the subject site being placed on the Contaminated Land Register or the Environmental Management Register;
- i) any other matters the Department considers relevant to the assessment of the proposal;
- j) overall, for the Department to advise the level of support-in-principle for the development as proposed.

**9 April 2021**

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Environmental Approval & Compliance Solutions

**Cairns Office:**  
Level 1, 320 Sheridan Street,  
PO Box 5678 Cairns QLD 4870  
**P: 61 7 4034 5300**

**Townsville Office:**  
Suite 2A, Level 1, 41 Denham Street,  
PO Box 539 Townsville QLD 4810  
**P: 61 7 4796 9444**

[www.natres.com.au](http://www.natres.com.au)

NRA Reference: SupInfo\_Pre-lodge\_L05.docx

9 April 2021

Permit and Licence Management, Department of Environment and Science (DES)  
State Assessment and Referral Agency, Department of State Development, Local Government and  
Planning (DSDLGP)  
Planning Department, Mareeba Shire Council (MSC)

*Attention: DES, DSDLGP & MSC*

Dear Sir/Madam

**RE: Environmental Authority application for Environmentally Relevant Activity 7 (4a)  
Chemical manufacturing – Pre-lodgement meeting request supporting information**

Agri Technovation Pty Ltd (AgriTech) proposes to complete an Environmental Authority (EA) application for Environmentally Relevant Activity (ERA) 7 – *Chemical manufacturing, 4(a) – Manufacturing 200 tonnes to 5,000 tonnes of fertilizer in a year (ERA 7(4a))* to be undertaken at 203 Leafgold Weir Road, Dimbulah. NRA Environmental Consultants (NRA) has been engaged to assist AgriTech. The information provided herein supports the application for pre-lodgement services.

### Background

AgriTech proposes to establish a liquid fertiliser plant in an existing storage shed/warehouse (hereafter 'the site') in Dimbulah on Lot 1 SP173508 (GPS co-ordinates 17°09'45.8''S, 145°03'27.5''E) (Figure 1). The intent is for the product to be distributed locally. It is understood that concurrent assessment of this proposal by the State Government is required for a material change of use and an EA application. In addition, a material change of use application is required by MSC. MSC will be the assessment manager for the application, with referral to the State Government (State Assessment and Referral Agency and DES) for assessment of the EA application.

Preliminary consultation with MSC revealed that a development application for a material change of use, involving an impact assessment under the MSC Planning Scheme (MSC 2016<sup>1</sup>), is required. In addition, MSC had the following considerations/concerns relating to the project<sup>2</sup>.

- The proposed project is within 130 m of a neighbouring residential dwelling.
  - In accordance with MSC (2016), special industry development (*ie* fertiliser manufacture) should be separated from sensitive uses (*ie* a residential dwelling) by 1.5 km to ensure their amenity is maintained, having regard to noise, odour, light and emissions. Development proposed to be located closer requires supporting investigations to demonstrate that the expected impacts from industry use have been adequately mitigated.
- The width of the access road (Leafgold Weir Road) and vehicle movements associated with the proposed project may be an issue; however, this is only of concern if the daily heavy vehicle movements are likely to be considerable.

<sup>1</sup> MSC 2016, *Mareeba Shire Council Planning Scheme*, Mareeba Shire Council, July 2016.

<sup>2</sup> *Pers. comm.* Carl Ewin, Planning Officer, Mareeba Shire Council, email dated 30 November 2020.

Given the town planning considerations of the project approvals, Victor G Feros Town Planning Consultants has been commissioned to undertake the planning aspects of the application.

#### **Environmentally Relevant Activities**

The following ERAs were also considered, though appear to not be required.

- ERA 8 (Chemical storage) is assumed to not be required because:
  - the storage of chemicals is for carrying out chemical manufacturing (see Queensland *Environmental Protection Regulation* 2019, Schedule 2, section 8 (2) (b))
  - the amount of chemicals stored is understood to be below the thresholds for ERA 8.
- ERA 53 (Organic material processing) is assumed to not be required as organic material (defined as animal matter, plant matter or organic waste) will not be used in the production of fertiliser.
- ERAs 55 and 57 (pertaining to the reprocessing, treatment and transport of regulated waste) are assumed to not be required because the regulated waste is generated on-site (*ie* the site does not operate a facility for receiving regulated waste).

Confirmation of the applicable ERAs from the regulators is required.

#### **Description**

AgriTech proposes to produce liquid fertiliser in an existing storage shed in Dimbulah. Further details regarding the proposed activity are provided in AgriTech's project description document, with the following being a summation.

- The plant will have three areas: a liquid production/storage area, a dry bulk storage area, and a loading area. The total floor space occupied by the plant will be 535m<sup>2</sup>. The plant is currently covered by a roof. The entire floor space will be concreted.
- The plant will receive raw materials that are mixed to form a fertiliser product. Raw materials (solid and liquid form) will be stored in designated areas within the site, including in 22,730 L storage tanks, 25 kg bags and 1 t bags.
- The fertiliser will be produced by dissolving non-hazardous raw-materials in water within 13,750 L mixing tanks. The contents will be mixed with an agitator and pump. After all the raw materials have dissolved, the liquid product will be stored in 22,730 L storage tank(s). Liquid storage and mixing tanks will be located in bunded areas.
- The liquid fertiliser produced by AgriTech is not a dangerous good, and it is understood that no dangerous goods will be used in production of the product or stored on-site.
- It is anticipated that 800 t per annum will be produced in the first year of operation. The production season is typically 8 months, with a peak production of 200 t per month. During peak production, product dispatches are anticipated to occur once per day, and deliveries of raw materials are expected to occur twice per month.
- Production will increase each year to approximately 3,000 t in the fifth year of operation (with the potential to increase to 5,000 t, the upper threshold of ERA 7(4a)).
- No by-products will be generated as a result of the fertiliser production process. Waste generated by the activities will be mostly restricted to empty plastic fertiliser container bags and slings.

NRA and Victor G Feros Town Planning Consultants undertook a site visit on 16 February 2021. Photographs taken of the site (including the existing infrastructure) are in Attachment 1.



### Environmental considerations

The following Matter of State Environmental Significance is mapped by the Queensland Government<sup>3</sup>, within Lot 1 SP173508, intersecting the current access track (Figure 1):

- regulated vegetation – defined watercourse (two mapped features).

The following waterway for waterway barrier works is mapped by the Queensland Government<sup>4</sup>, within Lot 1 SP173508, intersecting the current access track (Figure 1):

- low impact (green) waterway (one mapped feature).

No clearing of regulated vegetation is proposed for the activity. A review of the aerial imagery was undertaken followed by an investigation of the mapped features during the site visit on 16 February 2021. No regulated vegetation was present, and no perceptible channels were present for any of aforementioned mapped features within Lot 1 SP173508.

I trust that the information provided satisfies your requirements for a pre-lodgement meeting. If you require any further information, please do not hesitate to contact me on [rhiannon@natres.com.au](mailto:rhiannon@natres.com.au) or 4034 5300.

Yours sincerely

NRA Environmental Consultants



Rhiannon Williams  
Environmental Scientist

Encl: Attachment 1 – Site photographs

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<sup>3</sup> DES 2020, *Matters of state environmental significance - Regulated vegetation - intersecting a watercourse – Queensland*, Queensland Department of Environment and Science, Brisbane, viewed 23 February 2021, <<https://qldglobe.information.qld.gov.au/>>.

<sup>4</sup> DAF 2016, *Queensland waterways for waterway barrier works*, Queensland Department of Agriculture and Fisheries, viewed 23 February 2021, <<https://qldglobe.information.qld.gov.au/>>.





## Attachment 1: Site Photographs



Agri Technovation Pty Ltd

Environmental Authority application for Environmentally Relevant Activity 7 (4a) Chemical manufacturing –  
Pre-lodgement meeting request supporting information



NRA Environmental Consultants  
Document Set ID: 3941350  
Version: 1, Version Date: 12/04/2021

Attachment 1

Agri Technovation Pty Ltd

Environmental Authority application for Environmentally Relevant Activity 7 (4a) Chemical manufacturing –  
Pre-lodgement meeting request supporting information







SARA reference: 2104-21980 SPL  
Applicant reference: VGF-C1211

6 May 2021

Agri Technovation Pty Ltd  
C/- Victor G Feros Town Planning Consultants  
PO Box 1256  
CAIRNS QLD 4870  
cairns@ferosplanning.com.au

Attention: Nick Hardy

Dear Sir/Madam

## **SARA Pre-lodgement advice - 203 Leafgold Weir Road, Dimbulah**

I refer to the pre-lodgement meeting held on 22 April 2021 in which you sought advice from the State Assessment and Referral Agency (SARA) regarding the proposed development at the above address. This notice provides advice on aspects of the proposal that are of relevance to SARA.

### **SARA's understanding of the project**

This pre-lodgement request seeks advice for a proposed material change of use for special industry (liquid fertiliser plant) and an environmentally relevant activity: ERA 7 - chemical manufacturing, over Lot 1 on SP173508.

The development proposal seeks to produce liquid fertiliser by dissolving raw materials with water and nitrogen within mixing tanks.

The dry raw materials will be procured in 1 ton and 25 kg bulk bags and will include ammonium sulphate, boric acid powder, calcium nitrate prills, magnesium nitrate, mono ammonium phosphate (technical grade), potassium carbonate powder, potassium chloride powder, potassium sulphate, urea granules, urea phosphate and zinc sulphate monohydrate.

Dry raw materials will be mixed with 'Easy N', an Australian source of Nitrogen for fertiliser manufacturing.

It is anticipated that 800 tons per year of liquid fertiliser will be produced during the first year. Volumes will increase to approximately 3,000 tons per year in year five of operation.



## Supporting information

The advice in this letter is based on the following documentation that was submitted with the pre-lodgement request or tabled at the pre-lodgement meeting.

Drawing/report title	Prepared by	Date
Environmental Approval – Liquid Fertiliser Plant Dimbulah Australia	Agri Technovation Pty Ltd	April 2021
Pre-lodgement meeting supporting information	Agri Technovation Pty Ltd	April 2021

## Pre-lodgement meeting record

Meeting date	22 April 2021
Meeting location	Online Teams meeting
Meeting chair	Sue Lockwood
Meeting attendees	Refer to <b>Attachment 1</b>

Meeting discussion points	
	<p><b>Overview</b></p> <ul style="list-style-type: none"> <li>• Agri Technovation Pty Ltd is an agricultural company based in South Africa with offices located in California, Western Australia and Queensland.</li> <li>• This project proposal is to provide a liquid fertiliser mixing facility.</li> <li>• The pre-mix products are purchased offsite and are mixed with water (no production of product onsite).</li> <li>• The proposal comprises two mixing tanks to produce the following quantities: <ul style="list-style-type: none"> <li>o 800 tonnes in year one (over six to nine months)</li> <li>o 3,000 tonnes in year three</li> <li>o 5,000 tonnes in year five</li> </ul> </li> <li>• Raw materials will be purchased locally where possible.</li> <li>• Mixing reagents will create some temperature change, however no emissions will be created.</li> <li>• No diesel storage on site. This is to be purchased from the landlord.</li> </ul> <p><b>ERA 7</b></p> <ul style="list-style-type: none"> <li>• Department of Environment and Science (DES) confirmed the proposal will trigger referral for an ERA7, 4(a).</li> <li>• The development application will need to address odour, ventilation, wind direction, noise (number of truck movements), environmental and social impacts.</li> <li>• Mapped watercourses on the site do not trigger for referral as there is no proposed discharge with the proposal.</li> <li>• DES to advise if the proposal will require to be on the contaminated land register.</li> <li>• The development application will need to address how spill(s) will be contained, i.e. within a bunding system. Bund walls have to be a height that will withhold the amount of liquid stored.</li> <li>• Double-skinned tanks would be sufficient.</li> <li>• The development application will need to address the State Development Assessment Provisions, State code 22: Environmentally relevant activities.</li> <li>• The state agencies confirmed in-principle support for the project.</li> </ul>

	<p><b>Mareeba Shire Council advice</b></p> <ul style="list-style-type: none"> <li>• Mareeba Shire Council (the council) to confirm road access and sealing requirements and infrastructure charges in their pre-lodgement advice.</li> <li>• The council confirmed its in-principle support for the project.</li> </ul>
--	---

## Pre-lodgement advice

The following advice outlines the aspects of the proposal that are of relevance to SARA.

<b>Environmentally relevant activity (ERA)</b>	
1.	<p>Based on the supporting information provided by Agri Technovation and the material presented on 22 April 2021, the proposed development application will trigger referral for prescribed (concurrence) ERA 7(4)(a) - Chemical manufacturing (4) manufacturing in a year, the following quantities of fertiliser (a) 200t to 5,000t.</p> <p>DES's <a href="#">Information sheet - Environmentally relevant activities</a> provides information on all ERA thresholds, and whether an ERA is a concurrence ERA.</p> <p>Where an ERA is a concurrence ERA, development approval is required, and the development application is also taken to be an application for an Environmental Authority (EA).</p>
<b>SARA's jurisdiction and fees</b>	
2.	<p>The application will require referral to SARA under the following provisions of the Planning Regulation 2017:</p> <ul style="list-style-type: none"> <li>• Schedule 10, Part 5, Division 4, Table 2, Item 1 – Environmentally relevant activities This will require a fee of \$3,373 to be paid in accordance with Schedule 10, Part 5, Division 4, Table 2, Item 8 (b)(ii), as the ERA has an aggregate environmental score of 33.</li> </ul> <p>SARA would be a referral agency for the proposed application.</p>
<b>Environmentally relevant activities – general information</b>	
3.	<p><b>Registered suitable operator (RSO)</b></p> <p>To undertake an environmentally relevant activity (ERA) in Queensland you must be a registered suitable operator (RSO).</p> <p>If you are not an RSO, you may apply to become one before or at the same time as applying for your environmental authority (EA). There is no fee associated with applying to be an RSO.</p> <p>The Department of Environment and Science (DES) keeps an online <a href="#">register</a> of all suitable operators. For further information including the application form to become an RSO, please see the Queensland Business <a href="#">website</a>.</p> <p><b>Environmental authority (EA)</b></p> <p>Information about applying for an EA can be found at: <a href="#">Applying for an environmental authority</a> (note: run through the indented tabs on the left-hand side of the screen).</p> <p>The first annual fee is payable within 20 business days of the effective date of an EA. Current annual fees for ERAs can be found in the <a href="#">Information sheet, Environmentally relevant activities</a>.</p>

<b>Environmental Authority conditions</b>	
4.	<p>Potential EA holders can have common conditions apply to an EA when a site-specific application is made.</p> <p>The common conditions are separated into the interests of general, air, noise, water, waste and land. If your EA is identified as having a potential impact on an interest, the relevant common conditions may apply.</p> <p>Common conditions do not cover all conditions that may be imposed to regulate your activity. Additional conditions may be applied to your EA to address environmental risks specific to your operation or site.</p> <p>DES's common conditions can be viewed at: <a href="#">Common conditions - prescribed environmentally relevant activities</a>.</p>
<b>Application material</b>	
5.	<p>The development application demonstrate should demonstrate compliance with the relevant provisions of <a href="#">SDAP</a> State code 22: Environmentally relevant activities, Table 22.2.2: Material change of use. In particular, performance outcomes PO1 to PO6.</p> <p>As outlined in section 125 of the <i>Environmental Protection Act 1994</i>, the development application will also need to include:</p> <ul style="list-style-type: none"> <li>• a description of the environmental values (both onsite and offsite) likely to be affected by the proposed activity</li> <li>• details of any emissions or releases likely to be generated by the proposed activity</li> <li>• a description of the risk and likely magnitude of impacts on the environmental values</li> <li>• details of the management practices proposed to be implemented to prevent or minimise adverse impacts</li> <li>• details of how the land the subject of the application will be rehabilitated after the relevant activity</li> <li>• a description of the proposed measures for minimising and managing waste generated by the relevant activity</li> <li>• details of any site management plan (i.e. associated with contaminated land) that relates to the land that is the subject of the application.</li> </ul>
<b>Technical Guidelines</b>	
6.	<p><a href="#">Technical information requirements for an environmental authority application</a> have been developed to outline what information to include in an application where impacts related to air (including dust and noise), land (including bunding and/or interceptor systems, sumps), noise, water or waste (including process for approved disposal) have been identified.</p> <p>As part of the development application, you must assess all risks to the receiving environment and offer mitigating measures to minimise and reduce the impacts to the receiving environment. Your response should include, but not be limited to, the following:</p> <p><u>Air</u></p> <p>Transport corridors into and around the site are currently not sealed. If they are to remain unsealed, please provide mitigation options to ensure there will be no sediment runoff from site and dust from caused by wind and truck movements will not be an issue for neighbouring properties. Outline estimated noise impacts, hours of operation and maximum proposed truck movements, ensuring proposed activities will not be a nuisance.</p>

	<p><u>Land</u></p> <p>Risks and impacts to land in the event of a spill need to be outlined. Mitigation measures such as bunding and/or interceptor systems and spill kits need to be considered.</p> <p>It is also suggested that a map showing the extent of operation be supplied for inclusion on the Environmental Authority (EA).</p>
<b>Notifiable Activity</b>	
	<p>Land may be listed on the Environmental Management Register (EMR) and the Contaminated Land Register (CLR), public registers which contain information about contaminated land in Queensland.</p> <p>Land is listed if certain activities, known as notifiable activities, have been or are being carried out on the land. Notifiable activities are outlined under schedule 3 of the <i>Environmental Protection Act 1994</i> (EP Act).</p> <p>Fertiliser manufacture is listed as notifiable activity 16 under the EP Act and is defined as –</p> <ul style="list-style-type: none"> <li>• manufacturing agriculture fertiliser (other than the blending, formulation or mixing of fertiliser).</li> </ul> <p>More information about the land registers can be found here <a href="http://www.qld.gov.au">About the land registers   Environment, land and water   Queensland Government (www.qld.gov.au)</a></p>
<b>Lodgement material</b>	
	<p>It is recommended that the following information is submitted when referring the application to SARA:</p> <ul style="list-style-type: none"> <li>• DA form 1 and Application form for an <a href="#">Environmental Authority</a>.</li> <li>• Development application supporting information and any technical reports.</li> <li>• A full response to the relevant sections of SDAP Code 22: Environmentally relevant activities and information discussed in section 125 of the <i>Environmental Protection Act 1994</i>.</li> <li>• Landowner's consent (if required).</li> <li>• Relevant plans as per the <a href="#">DA Forms guide</a>.</li> </ul>

This advice outlines aspects of the proposed development that are relevant to SARA's jurisdiction. This advice is provided in good faith and is:

- based on the material and information provided to SARA
- current at the time of issue
- not applicable if the proposal is changed from that which formed the basis of this advice.

The advice in this letter does not constitute an approval or an endorsement that SARA supports the development proposal. Additional information may be required to allow SARA to properly assess the development proposal after a formal application has been lodged.

For further information please contact Sue Lockwood, Senior Planning Officer, on 40373222 or via email CairnsSARA@dsgmp.qld.gov.au who will be pleased to assist.

Yours sincerely



Joanne Manson  
A/Manager (Planning)

enc Attachment 1 – Pre-lodgement meeting attendance record

Development details	
Proposal:	Material change of use for special industry (liquid fertiliser plant)
Street address:	203 Leafgold Weir Road, Dimbulah
Real property description:	Lot 1 on SP173508
SARA role:	Referral agency
Assessment Manager:	Mareeba Shire Council
Assessment criteria:	State Development Assessment Provisions (SDAP): State code 22: Environmentally relevant activities
Existing use:	Agriculture (Orchard, limes)
Relevant site history:	n/a



## Attachment 1 — Pre-lodgement meeting attendance record

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Meeting attendees:

<b>Name</b>	<b>Position</b>	<b>Organisation</b>
Rudi Kriese	Director, Procurement and Bulk Liquids	Agri Technovation Pty Ltd
Nick Hardy	Associate and Office Manager	Victor Feros Town Planning Consultants
Tim Anderson	Consultant	NRA Environmental Consultants
Brain Millard	Senior Planner	Mareeba Shire Council
Carl		Mareeba Shire Council
Stacey McLennon	Principal Environmental Officer	Department of Environment and Science
Sue Lockwood	Senior Planning Officer	Department of State Development, Infrastructure, Local Government and Planning

# **APPENDIX B**

Traverses etc

Line	Bearing	Dist
2-3	71°28'	40.923
8-13	57°15'	44.304

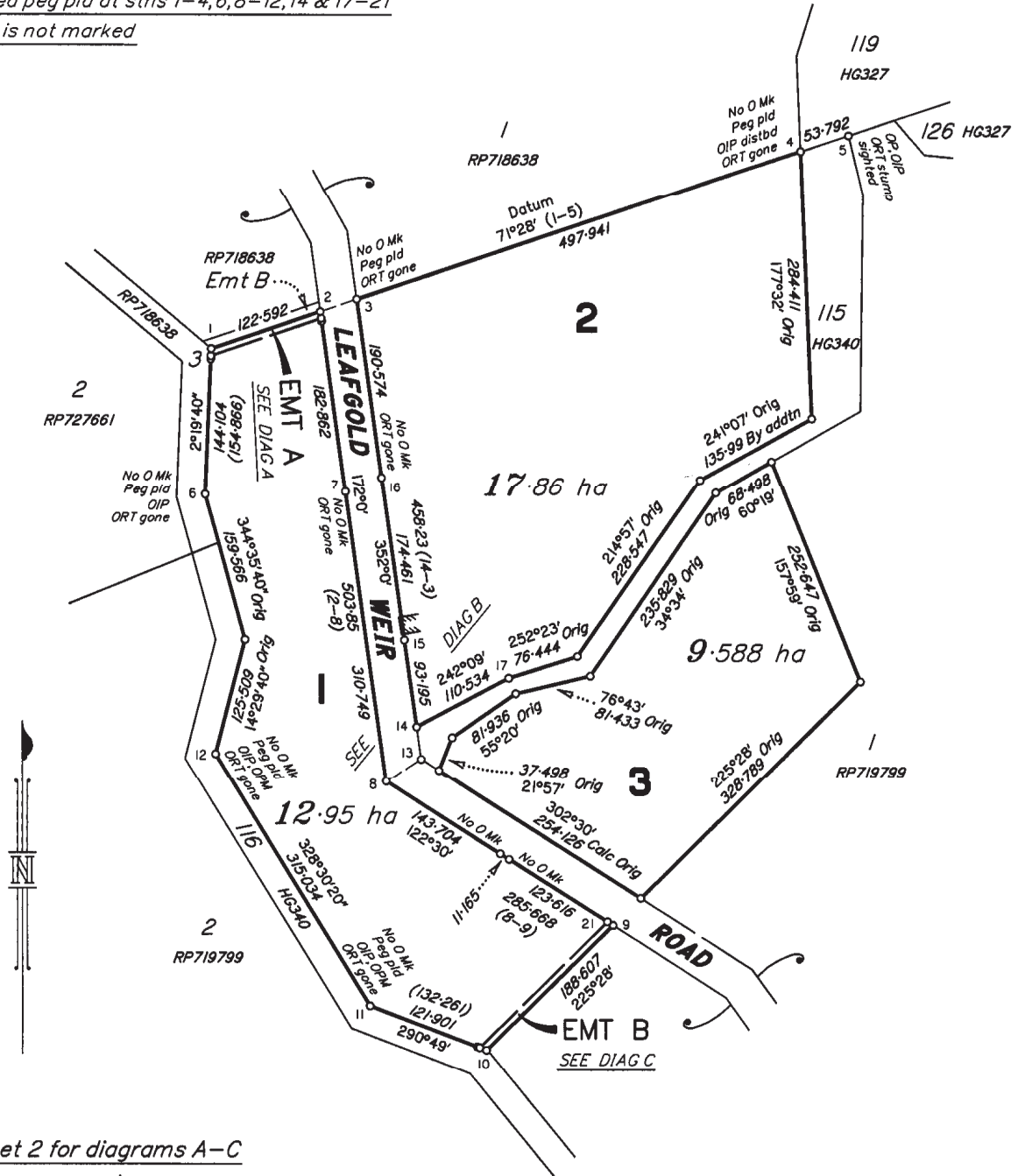
Permanent Marks

PM	Origin	Bearing	Dist	Nº
11-OPM	HG327	320°52'	68.834	4656
12-OPM	HG327	160°19'20"	44.901	4655

Ntd & chckd

Original information compiled from  
HG327 & HG340 in the Department  
of Natural Resources and Mines

Branded peg pld at stns 1-4, 6, 8-12, 14 & 17-21  
Stn 15 is not marked



See sheet 2 for diagrams A-C  
and reference marks

I, Robin Douglas Trotter hereby certify that I have surveyed the land comprised in this plan and that the plan is accurate, that the said survey was performed in accordance with the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003 and associated Regulations and Standards and that the said survey was completed on 11/11/2004

Robin Trotter  
Cadastral Surveyor

21.12.2004  
Date

0 250m 500m 750m State copyright reserved.

Plan of Lots 1-3 & Easements A & B  
in Lot 1  
Cancelling Lot 105 on HG340

PARISH: BORNEO COUNTY: Hodgkinson

Meridian: Of HG327 F/N's: No

Scale: 1:5000  
Format: STANDARD

SP173508

Plan Status:

**WARNING : Folded or Mutilated Plans will not be accepted.  
Plans may be rolled.  
Information may not be placed in the outer margins.**

**708479785**

**TE 400 NT**

**\$441.65**  
03/03/2005 16:10

Registered

5. Lodged by

**RAINE & HORNE HERMIT PARK (746)  
BOX 281 TOWNSVILLE 4810**

(Include address, phone number, reference, and Lodger Code)

**1. Certificate of Registered Owners or Lessees.**

+/We David John Pollock & Roberta Pollock

(Names in full)

\* as Registered Owners of this land agree to this plan and dedicate the Public Use Land as shown hereon in accordance with Section 50 of the Land Title Act 1994.

\* as Lessees of this land agree to this plan.

Pollock      R. Pollock  
Signature of \*Registered Owners \*Lessees

\* Rule out whichever is inapplicable

**2. Local Government Approval.**

\* Mareeba Shire Council

hereby approves this plan in accordance with the :  
% Integrated Planning Act 1997

Dated this Twelfth day of January, 2005

Michael Borzi - Mayor  
Elizabeth Charles Rojahn  
A/C Chief Executive Officer



\* Insert the name of the Local Government      \* Insert Integrated Planning Act 1997 or  
# Insert designation of signatory or delegation      Local Government (Planning & Environment) Act 1990

**3. Plans with Community Management Statement :**

CMS Number :  
Name :

**4. References :**

Dept File :  
Local Govt :  
Surveyor : 172 FB 35

**6. Existing**

Title Reference	Lot	Plan
50533089	105	HG340

**Created**

Lots	Emts	Road
1-3	A & B	-

**Mortgage Allocations**

Mortgage	Lots fully encumbered
702683924	1-3
704486090	1-3

Lot 105 on HG340      1-3

Orig      Lots

**7. Portion Allocation :**

**8. Map Reference :**  
7963-43421

**9. Locality :**  
Dimbulah

**10. Local Government :**  
Mareeba Shire Council

**11. Passed & Endorsed :**  
By : R D Trotter  
Date : 21.12.2004  
Signed : Robyn Trotter  
Designation : Cadastral Surveyor

**12. Building Format Plans only.**

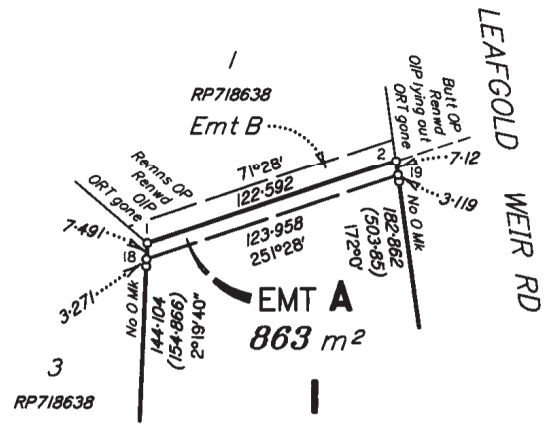
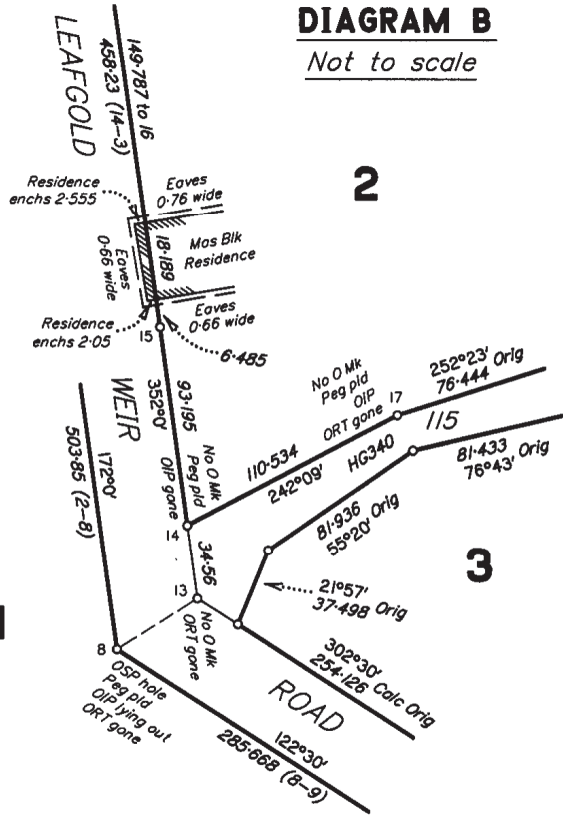
I certify that :  
\* As far as it is practical to determine, no part of the building shown on this plan encroaches onto adjoining lots or road.  
\* Part of the building shown on this plan encroaches onto adjoining \* lots and road

Cadastral Surveyor/Director \* Date  
\* Delete words not required

**13. Lodgement Fees :**

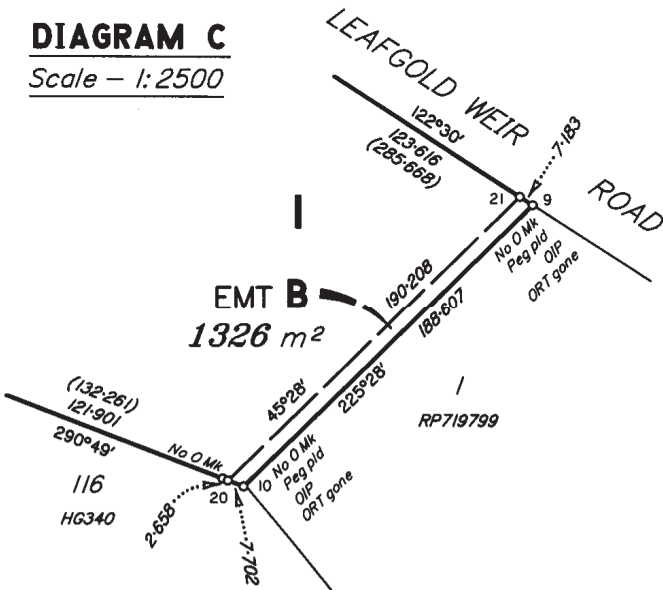
Survey Deposit \$ .....  
Lodgement \$ .....  
..... New Titles \$ .....  
Photocopy \$ .....  
Postage \$ .....  
TOTAL \$ .....

**14. Insert Plan Number**  
**SPI73508**



**DIAGRAM A**  
*Scale - 1:2500*

**DIAGRAM C**  
*Scale - 1:2500*



*Scale - 1:2500*

**Reference Marks**

Stn	To	Origin	Bearing	Dist
1	OIP	HG327	246°06'	1-127
1	ORT gone	HG327	55°42'	6-457
2	OIP lying out	HG327	71°28'	1-026
2	Pin		343°45'	1-392
2	ORT gone	HG327	272°02'	10-3
3	Pin		245°58'	1-291
3	ORT gone	HG327	14°43'	4-848
4	OIP distbd deep	HG327	249°39'	1-115
4	ORT gone	HG327	259°05'	7-302
5	OIP	HG327	71°28'	1-006
5	ORT stmp sgthd	HG327	94°36'	3-52
6	OIP	HG327	263°27'40"	1-026
6	ORT gone	HG327	36°16'40"	14-685
7	ORT gone	HG49	82°21'	2-334
8	OIP lying out	HG327	57°15'	1-106
8	Pin		74°05'	1-591
8	ORT gone	HG49	350°03'	5-009
9	OIP	HG327	45°28'	1-026
9	ORT gone	HG327	119°29'	16-737
10	OIP	HG327	215°44'	1-046
10	ORT gone	HG327	89°57'	8-55
11	OIP	HG327	219°39'40"	1-066
11	ORT gone	HG327	5°46'	9-314
12	OIP	HG327	261°29'20"	1-086
12	ORT gone	HG327	103°44'20"	16-335
13	ORT gone	HG49	4°30'	11-306
14	OIP gone	HG327	242°09'	1-066
14	Pin		321°09'30"	1-365
15	Pin		262°0'	4-091
15	Cor mas blk wall		334°27'	6-802
16	ORT gone	HG49	233°40'	7-021
17	OIP	HG327	242°09'	1-066
17	ORT gone	HG327	83°50'	7-463

Under water

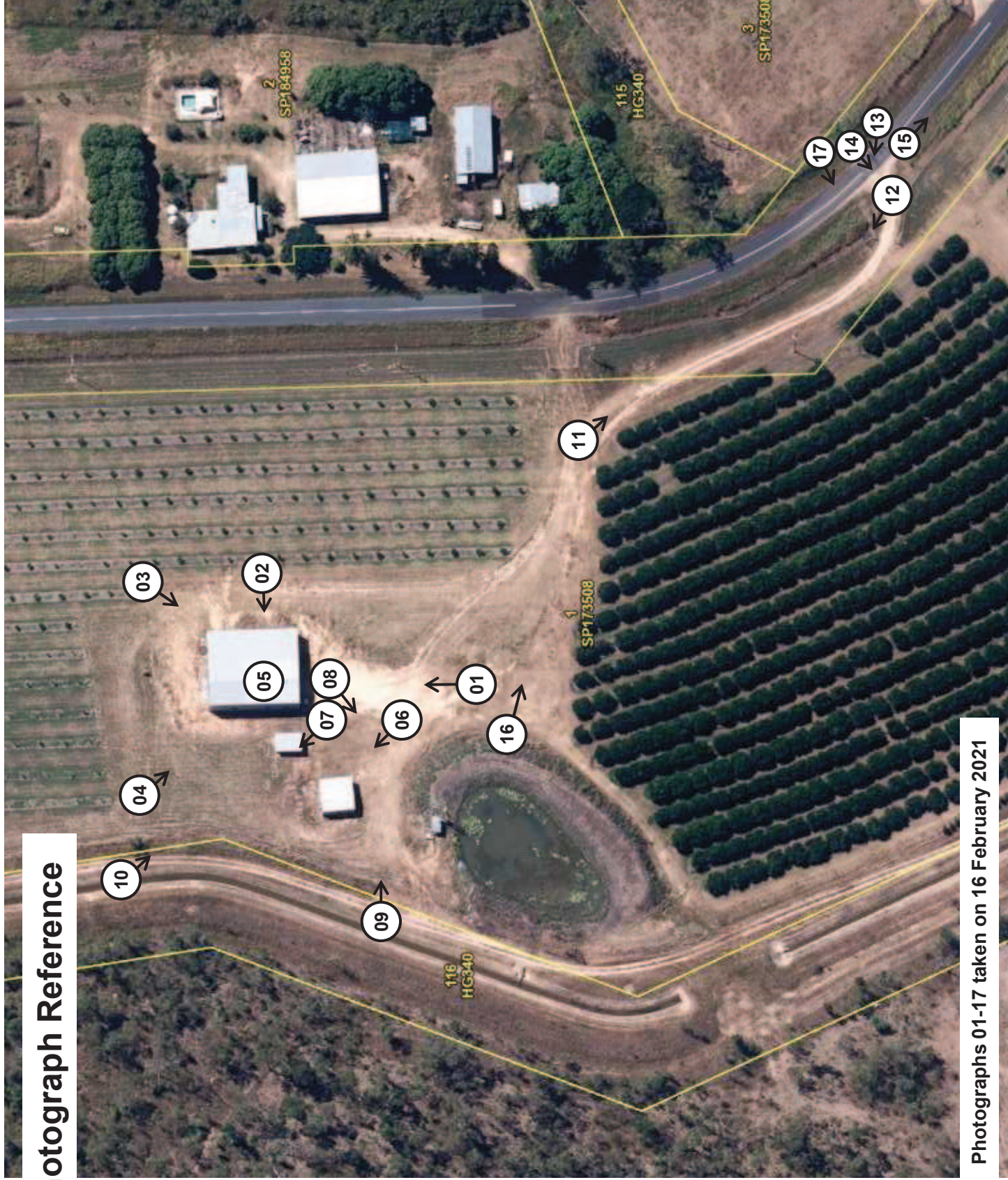
Orig





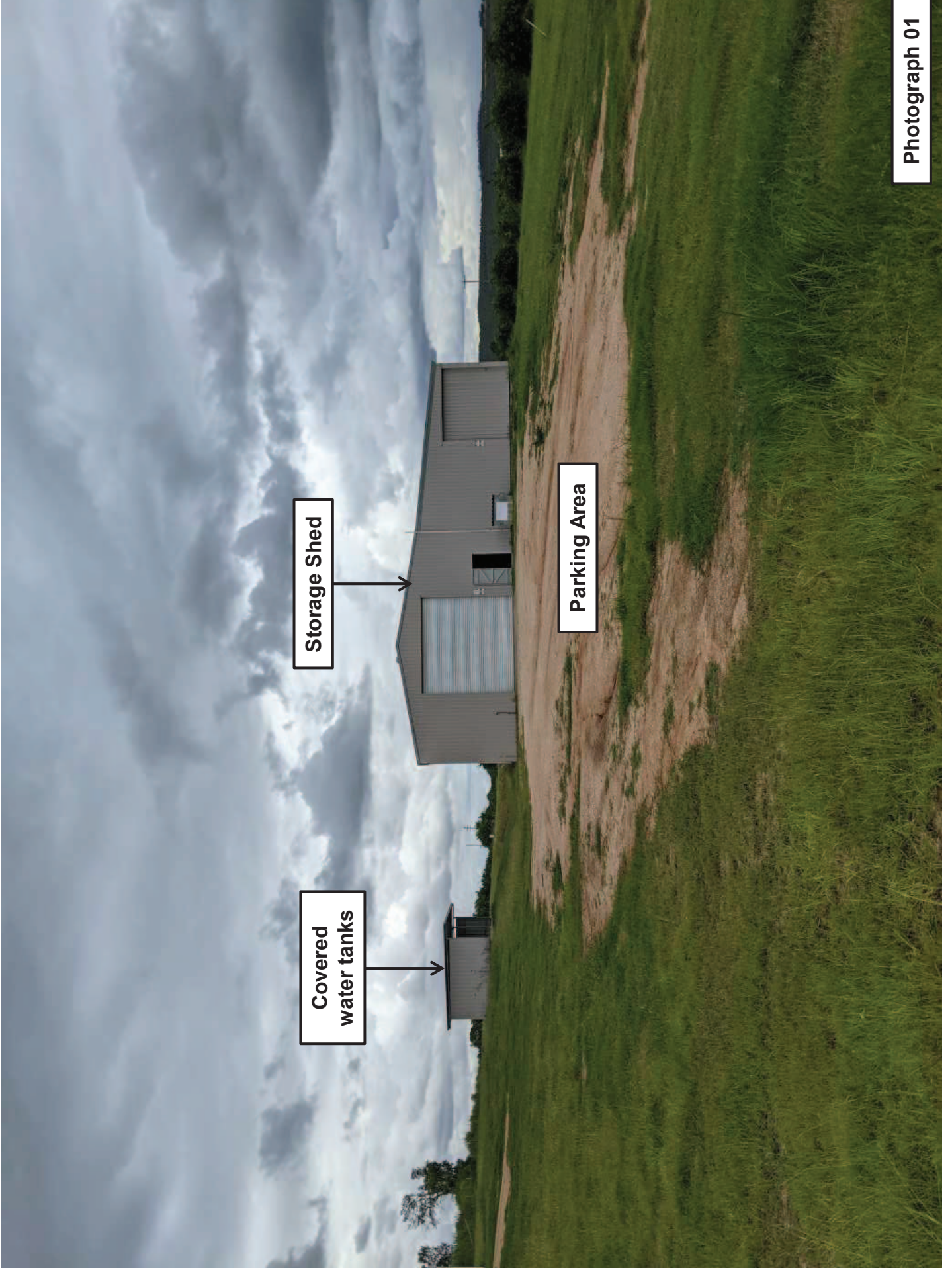
# **APPENDIX C**

# Photograph Reference



Photographs 01-17 taken on 16 February 2021





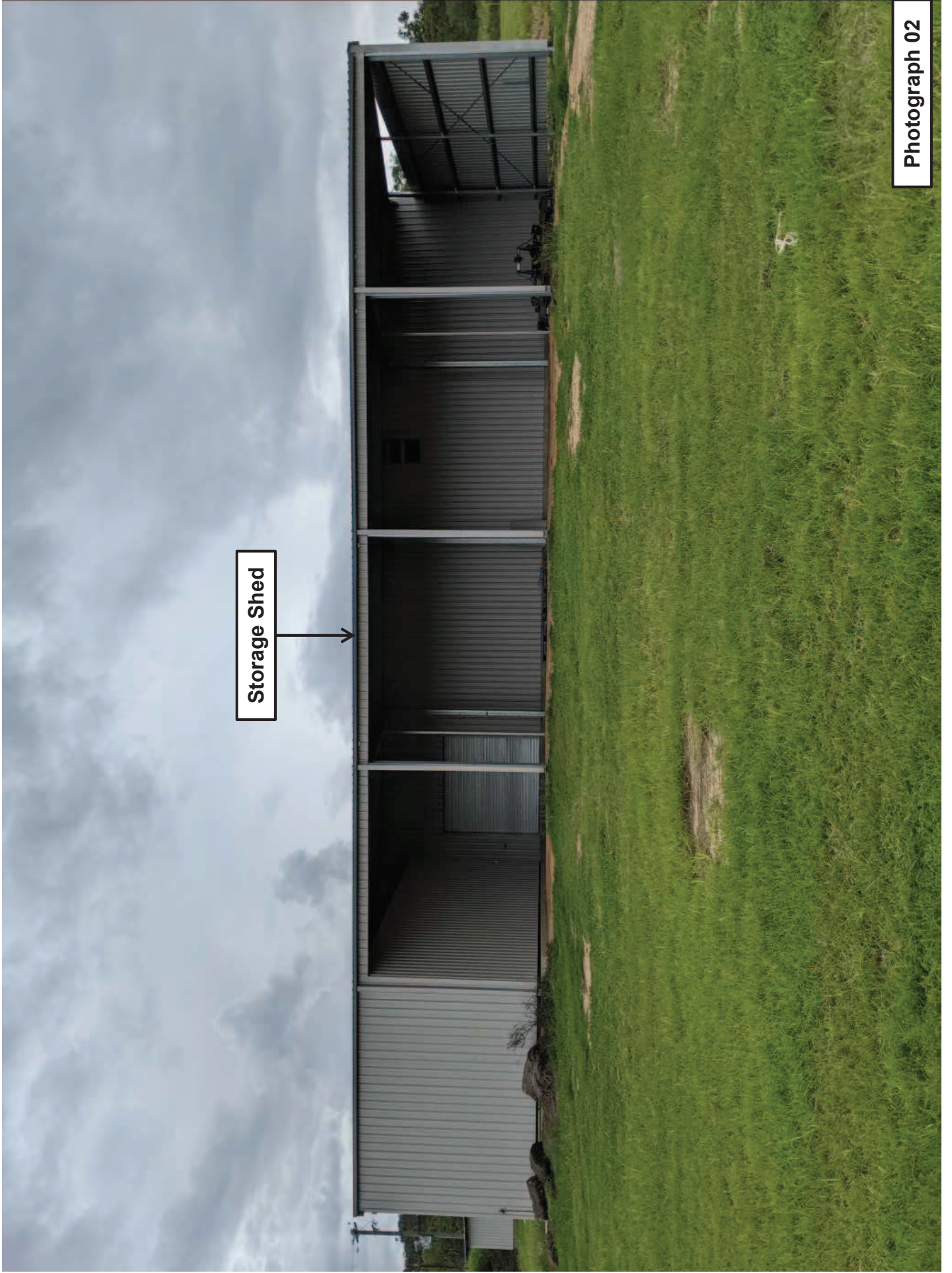
Storage Shed

Covered  
water tanks

Parking Area

Photograph 01

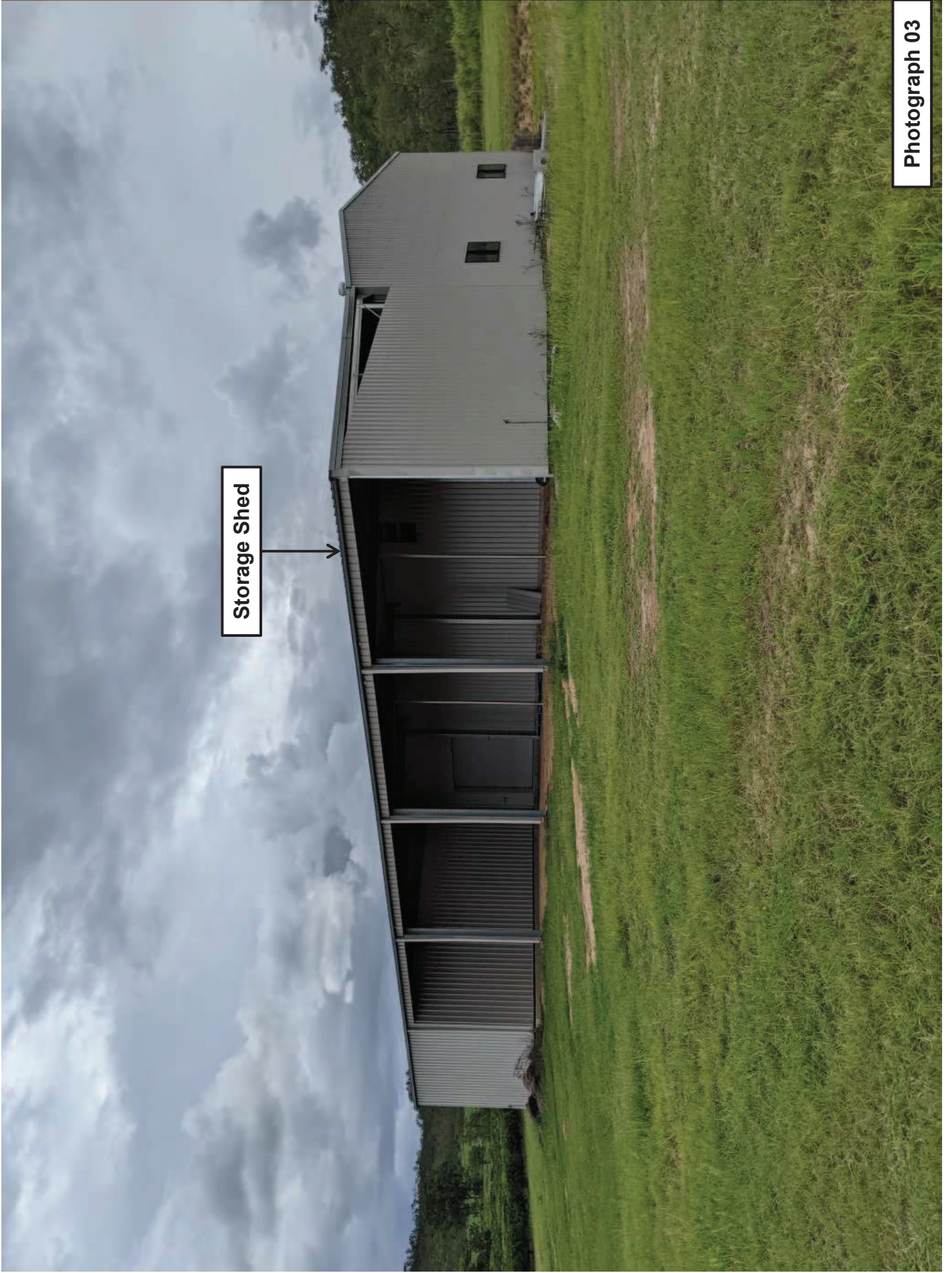




Storage Shed

Photograph 02





Storage Shed

Photograph 03





Storage Shed

Covered water tanks

Photograph 04

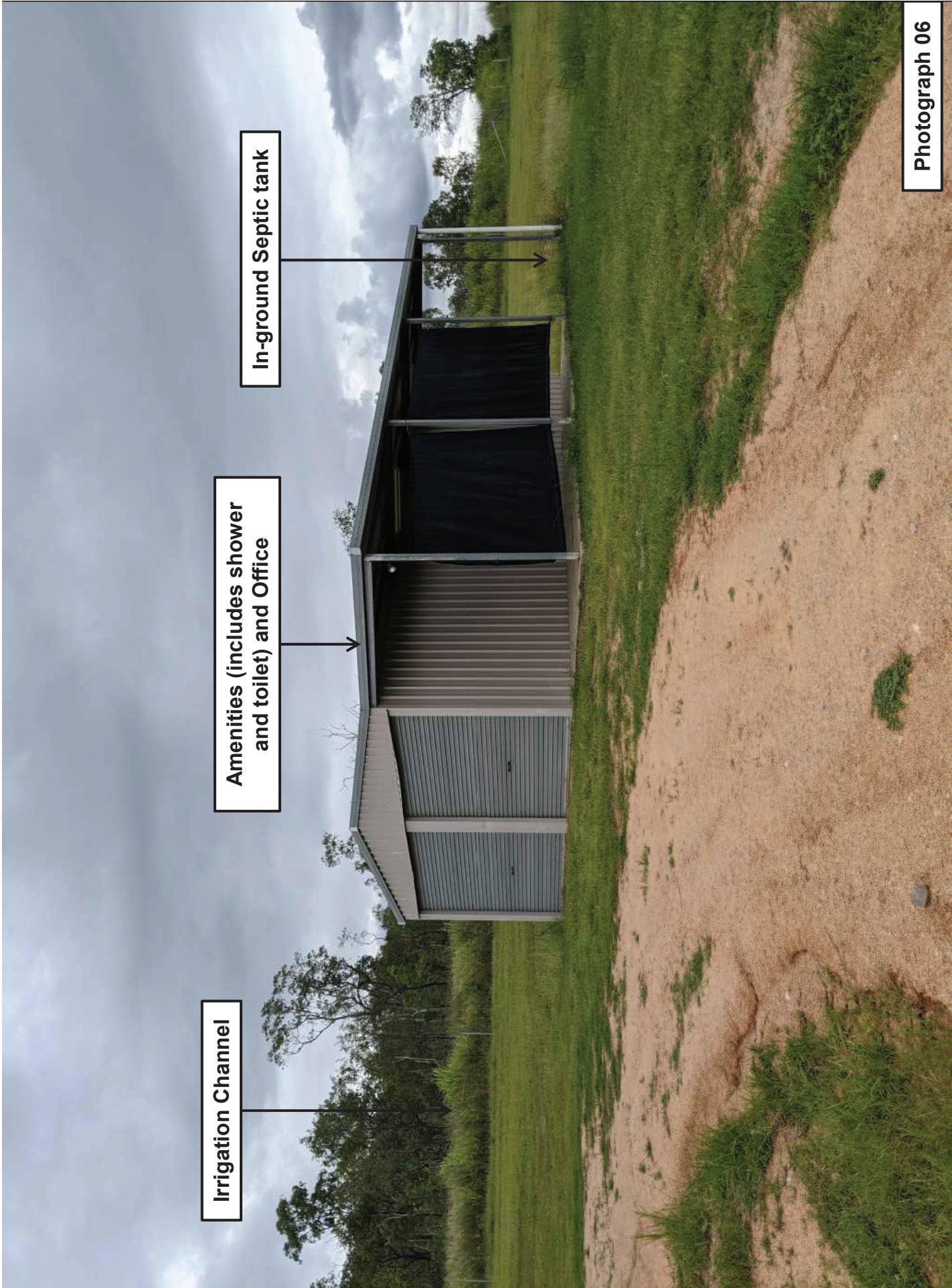


Internal of  
Storage Shed



Photograph 05





**Irrigation Channel**

**Amenities (includes shower and toilet) and Office**

**In-ground Septic tank**

**Photograph 06**

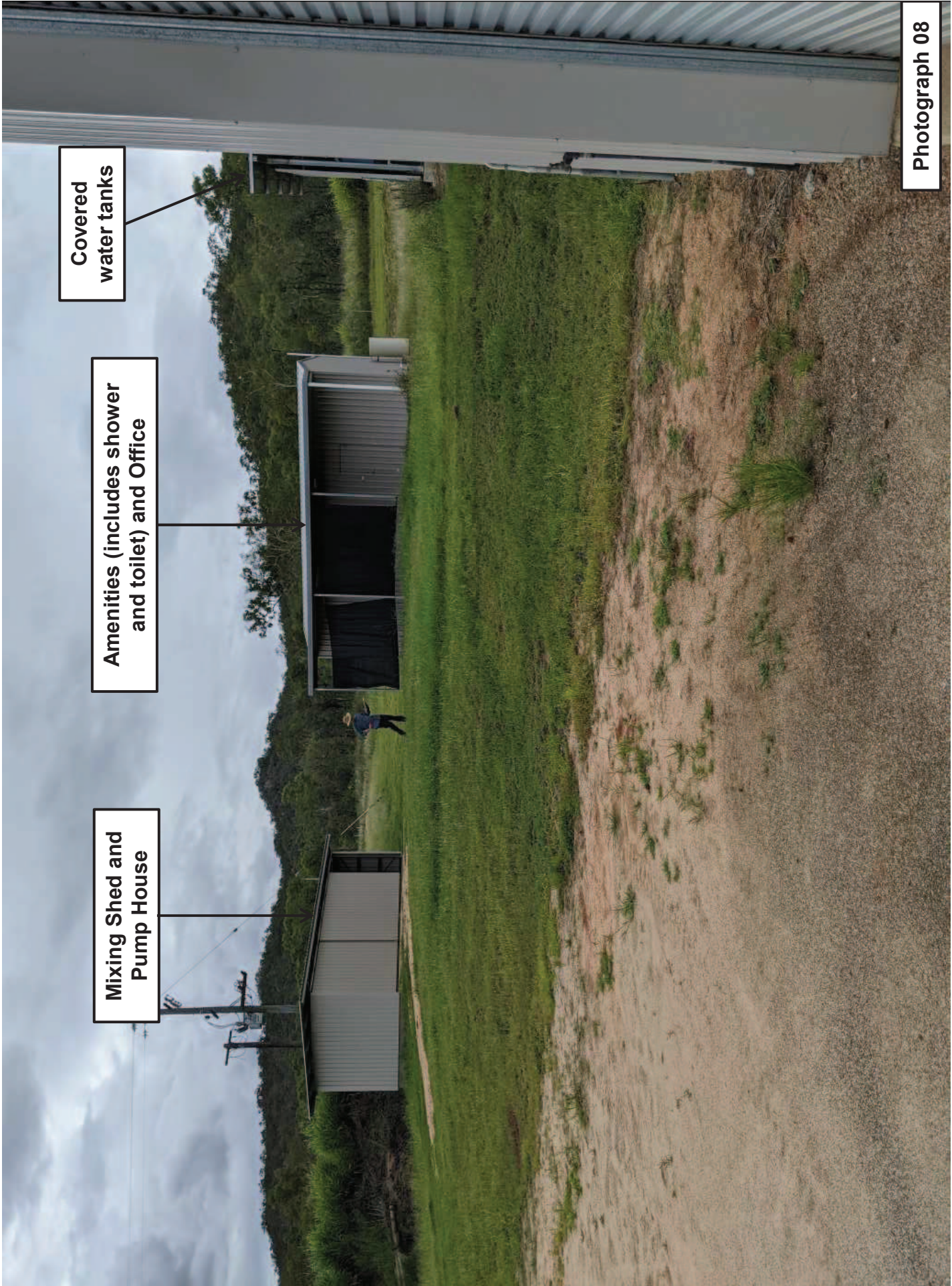




Covered  
water tanks

Photograph 07





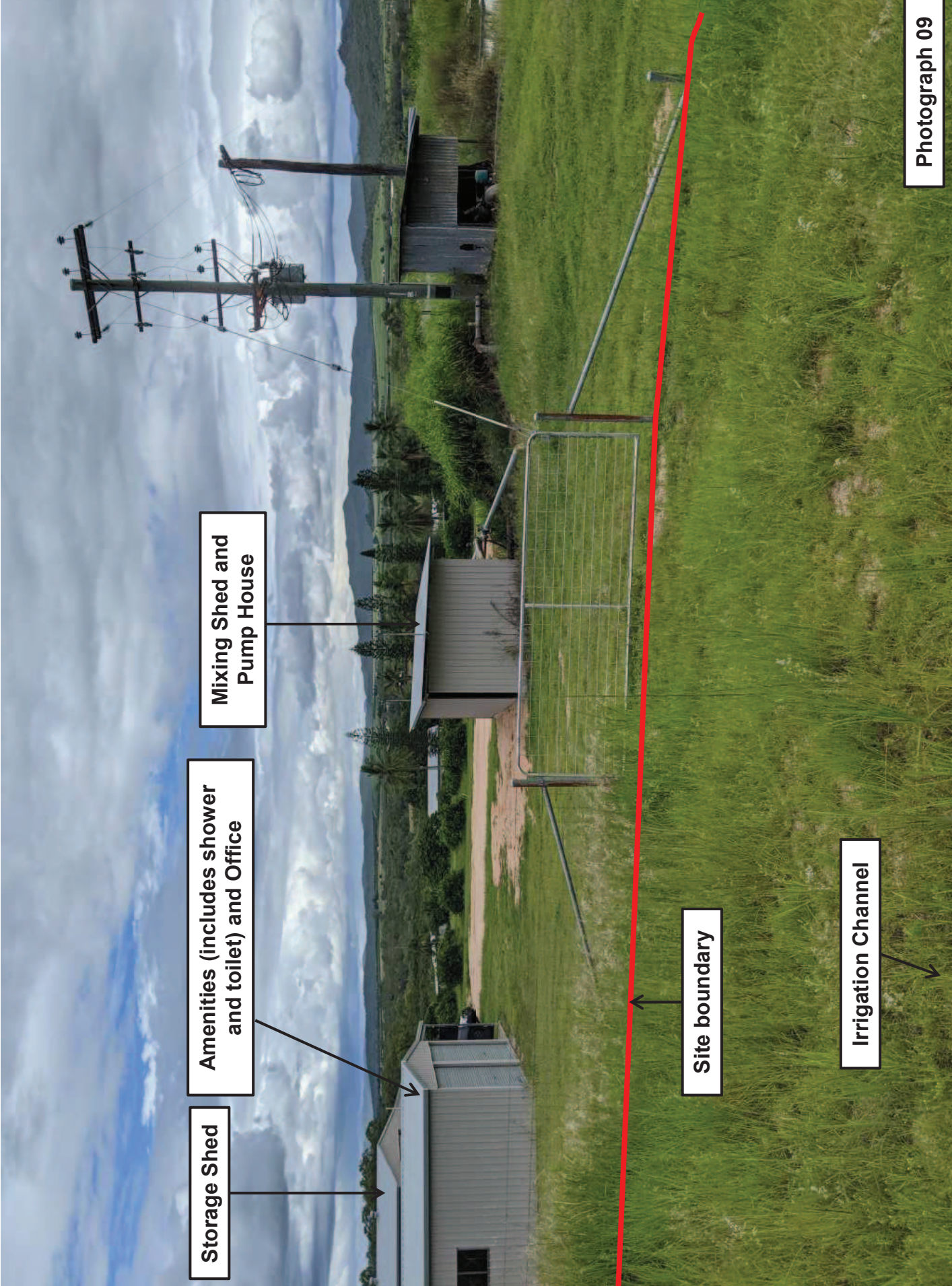
**Covered  
water tanks**

**Amenities (includes shower  
and toilet) and Office**

**Mixing Shed and  
Pump House**

**Photograph 08**





**Storage Shed**

**Amenities (includes shower and toilet) and Office**

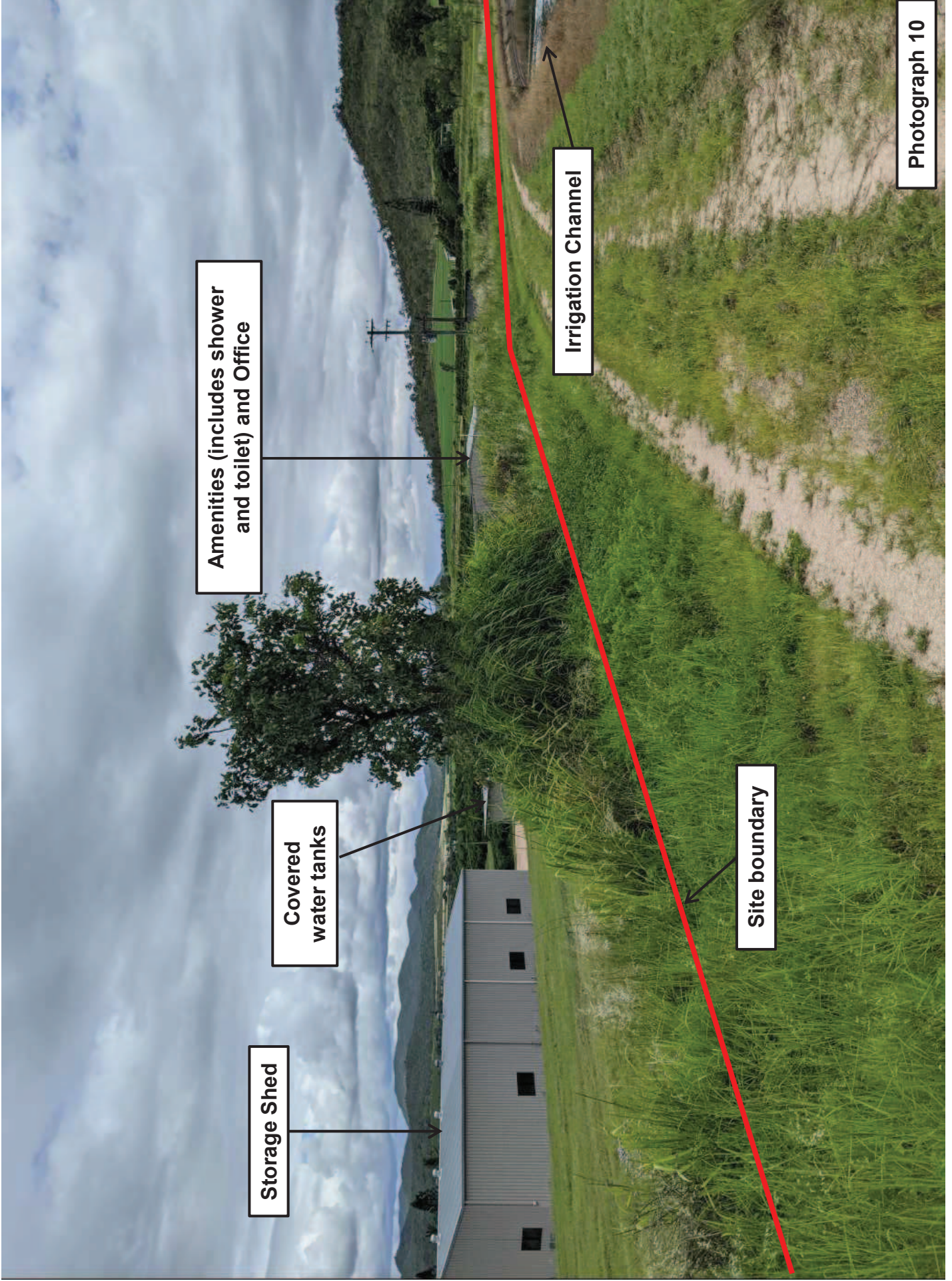
**Mixing Shed and Pump House**

**Site boundary**

**Irrigation Channel**

**Photograph 09**





Storage Shed

Covered water tanks

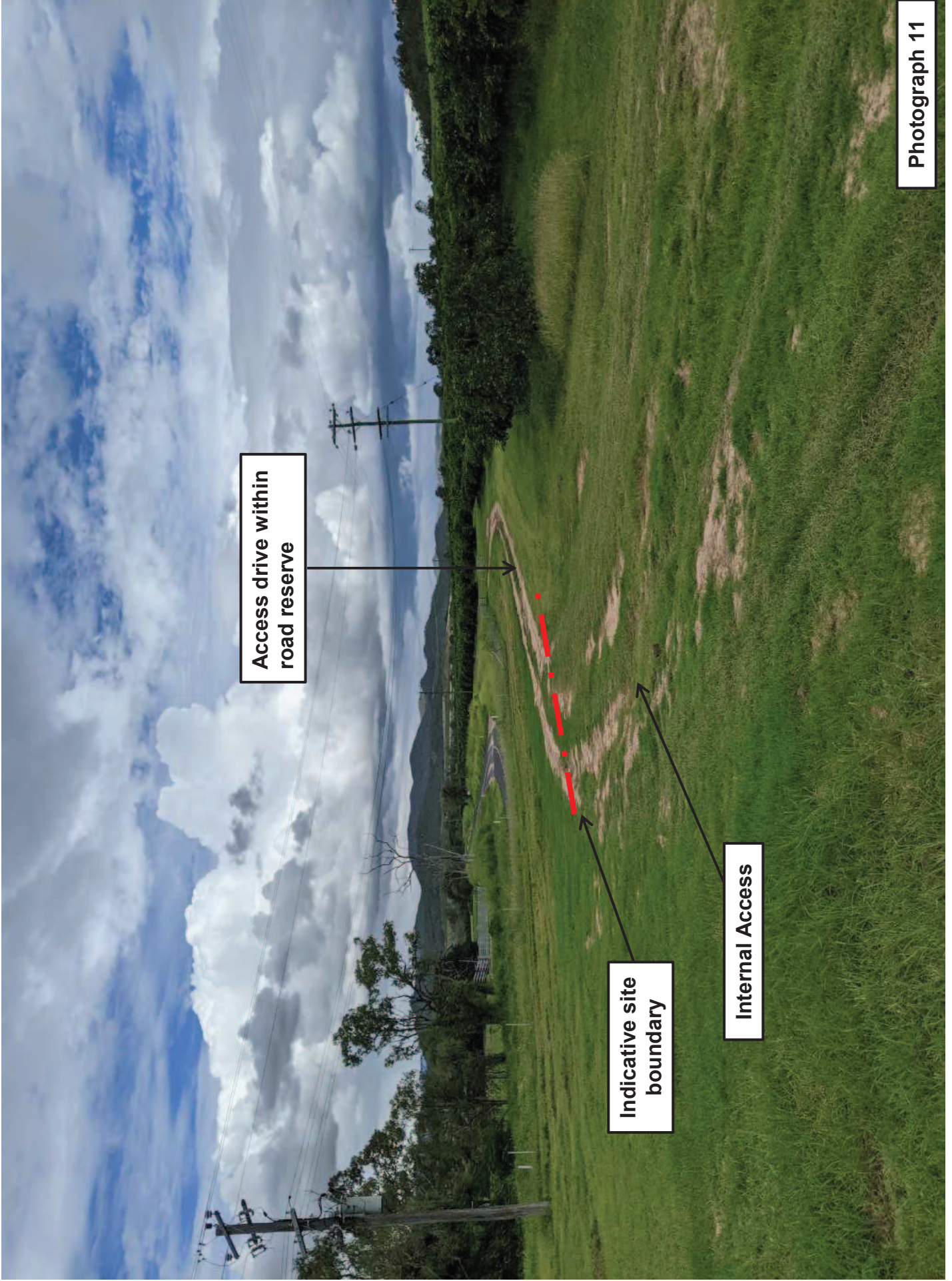
Amenities (includes shower and toilet) and Office

Irrigation Channel

Site boundary

Photograph 10





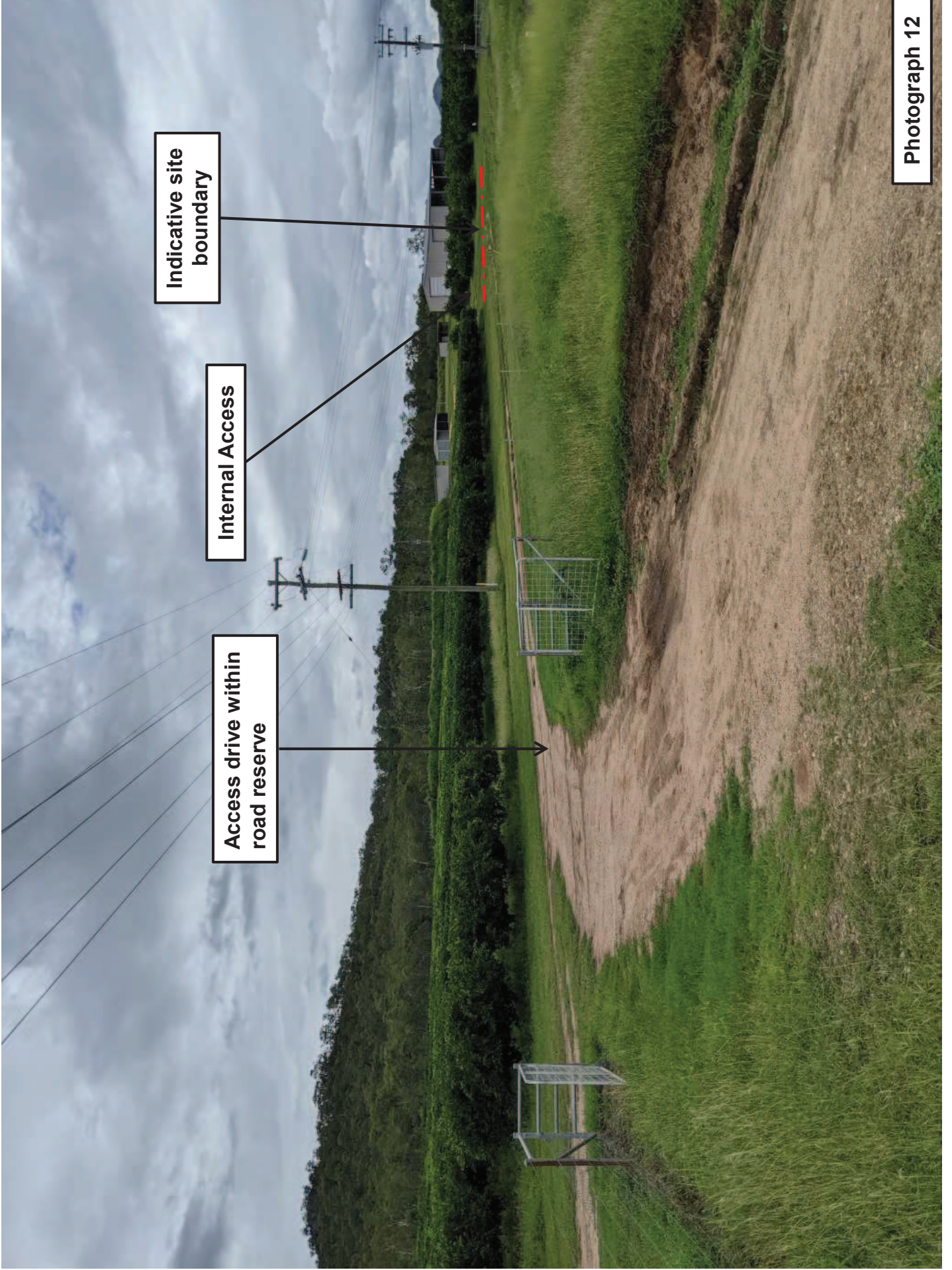
Access drive within road reserve

Indicative site boundary

Internal Access

Photograph 11





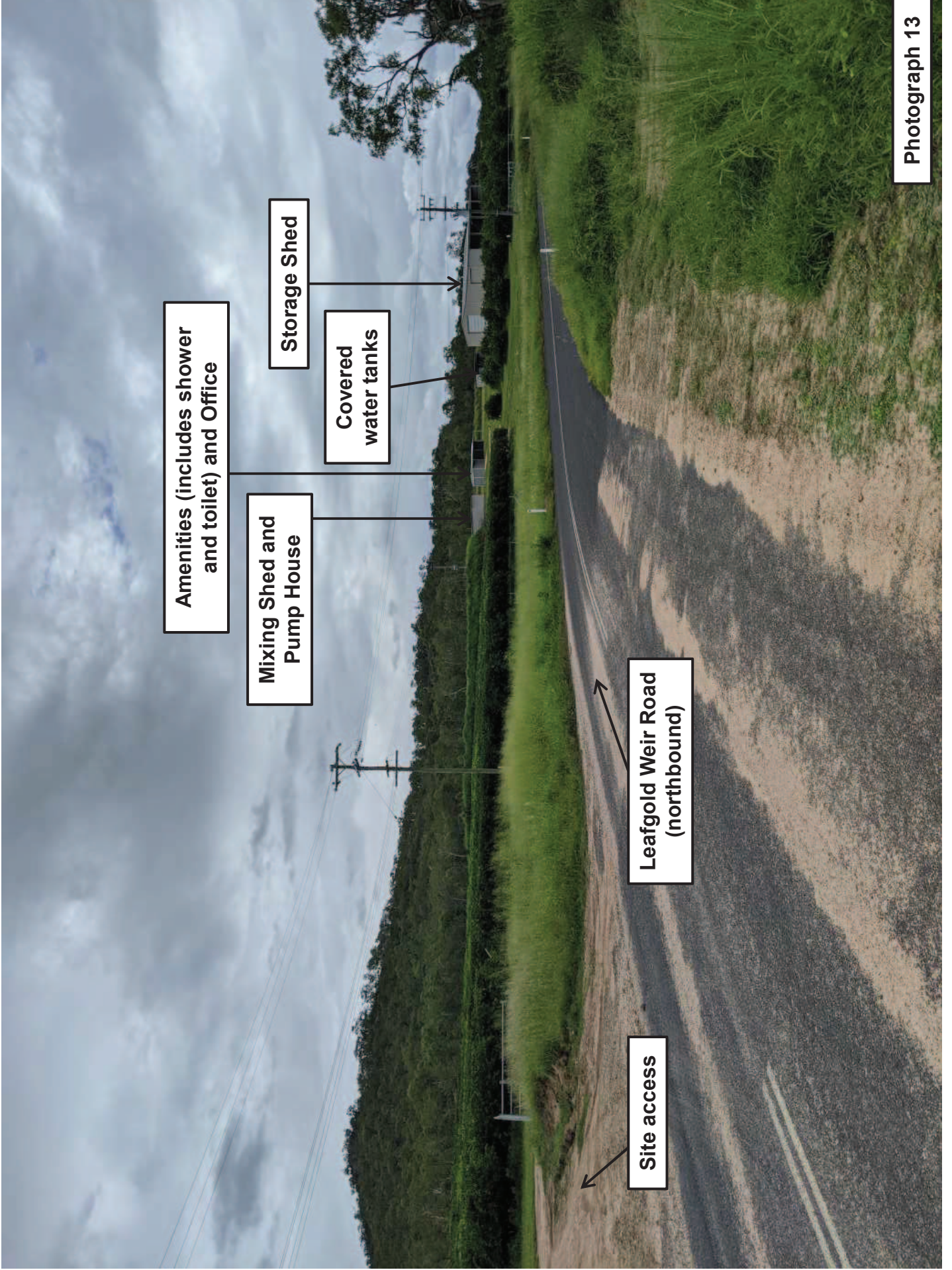
Indicative site boundary

Internal Access

Access drive within road reserve

Photograph 12





Amenities (includes shower and toilet) and Office

Mixing Shed and Pump House

Storage Shed

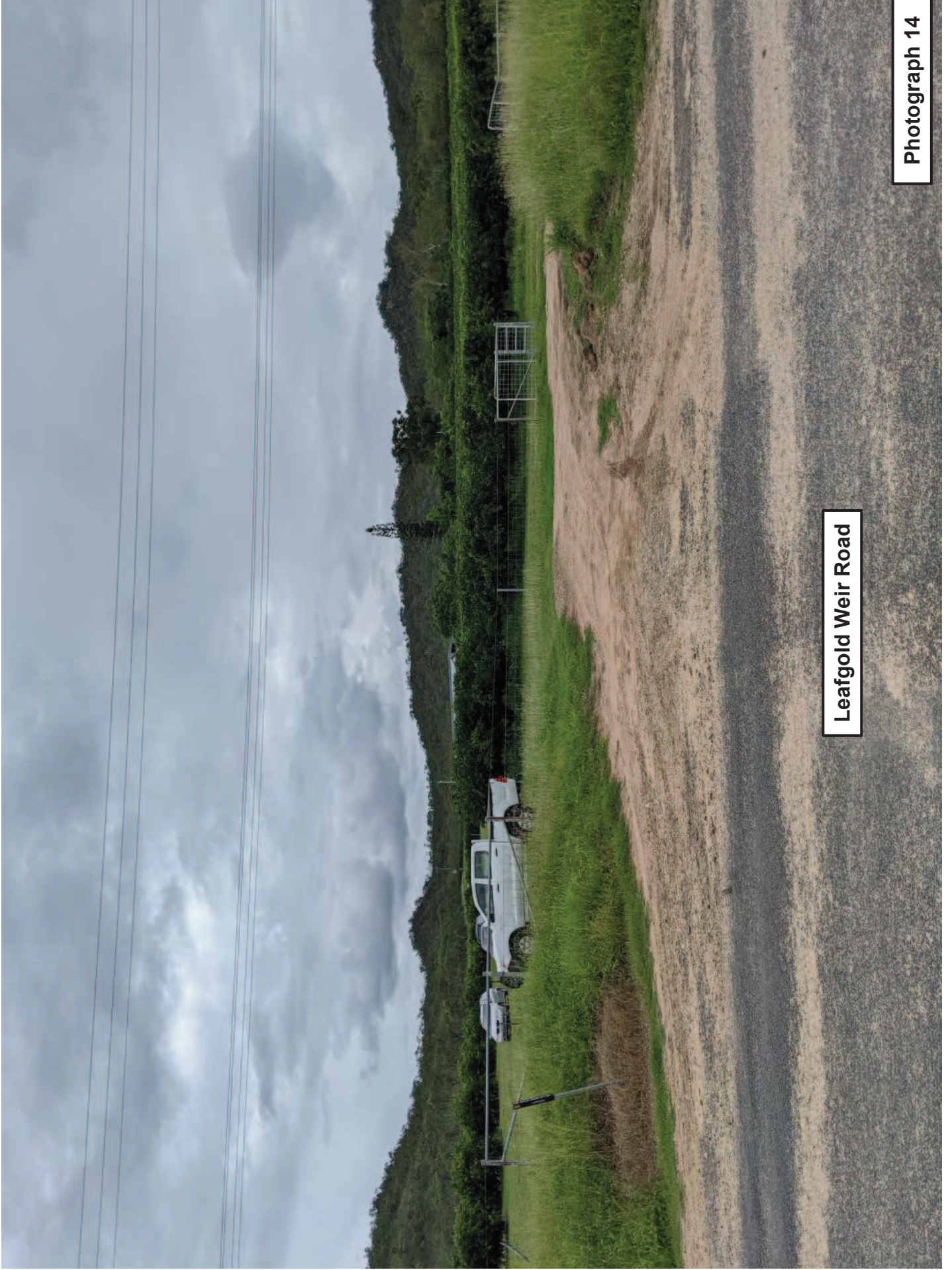
Covered water tanks

Leafgold Weir Road (northbound)

Site access

Photograph 13





Leafgold Weir Road

Photograph 14



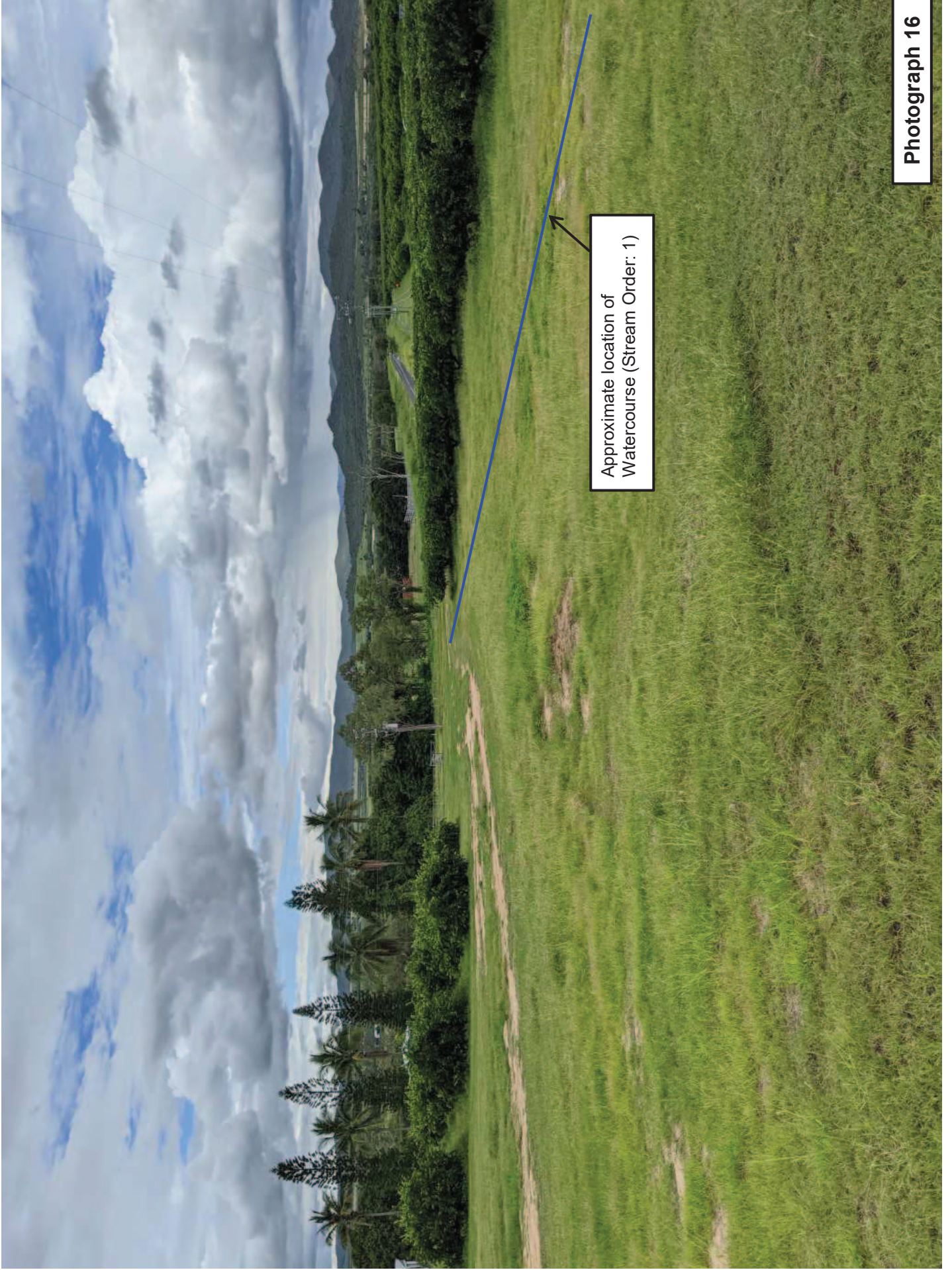


Leafgold Weir Road  
(southbound)

Site access

Photograph 15

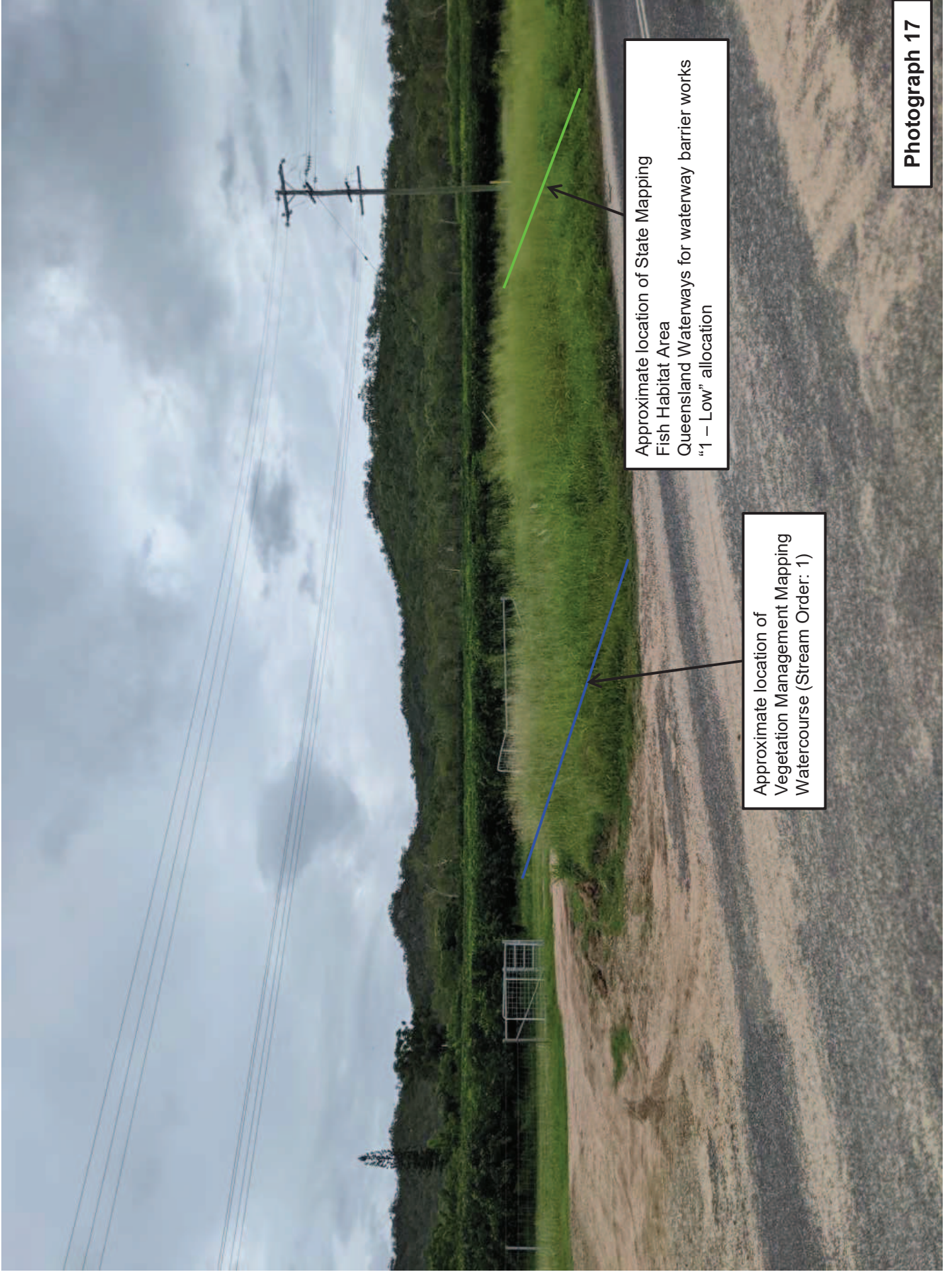




Approximate location of  
Watercourse (Stream Order: 1)

Photograph 16





Approximate location of State Mapping  
Fish Habitat Area  
Queensland Waterways for waterway barrier works  
"1 - Low" allocation

Approximate location of  
Vegetation Management Mapping  
Watercourse (Stream Order: 1)

Photograph 17

# **APPENDIX D**



# Environmental Approval

## Liquid Fertilizer Plant Dimbulah – Australia



**AgriTechnovation Pty Ltd**

June 2021

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## **1. Introduction**

Agri Technovation is a company that specializes in the fields of agronomy, horticulture, soil science, microbiology, geographic information systems, chemistry and process and production engineering.

An opportunity has been identified to establish a liquid fertilizer plant in Dimbulah, Queensland. The GPS Coordinates of the proposed site location are 17°09'45.8"S 145°03'27.5"E.

The plant will be located in a warehouse on Farm of Mr. Theuns Oosthuizen which Agri Technovation will lease on a long-term basis.

## **2. Process**

Liquid fertiliser is produced by dissolving non-hazardous raw materials in water in certain ratios within a mixing tank. The raw materials are powdered / granular fertiliser and liquid Easy N (Nitrogen source from Incitec Pivot). The dry raw materials are procured in 1-ton bulk bags as well as 25kg bags. The bottom discharge 1-ton bulk bags are lifted approximately 3m high with a forklift and discharged into a tank prefilled with water.

The contents of the mixing tank are mixed with the use of an agitator and pump to circulate the contents. After all raw material has dissolved, liquid product is then stored in a storage tank after production.

## **3. Plant Areas**

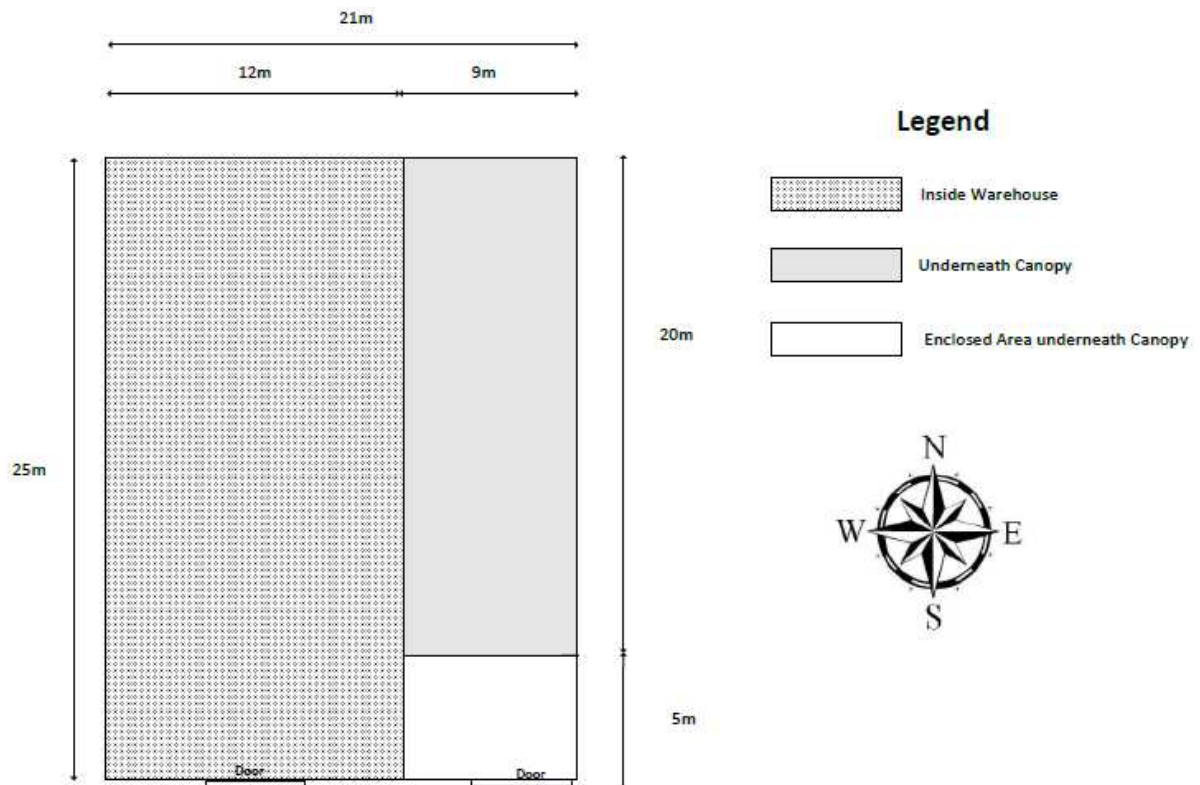
The plant has three areas. A liquid production / storage area, a dry bulk storage area and a loading area. The total floor space of the plant will occupy 535m<sup>2</sup>.

The entire floor space will be covered in a concrete floor. The entire plant is covered by a roof. Figure 1 indicates a satellite image of the proposed plant location.





*Figure 1: Satellite Image of Warehouse*

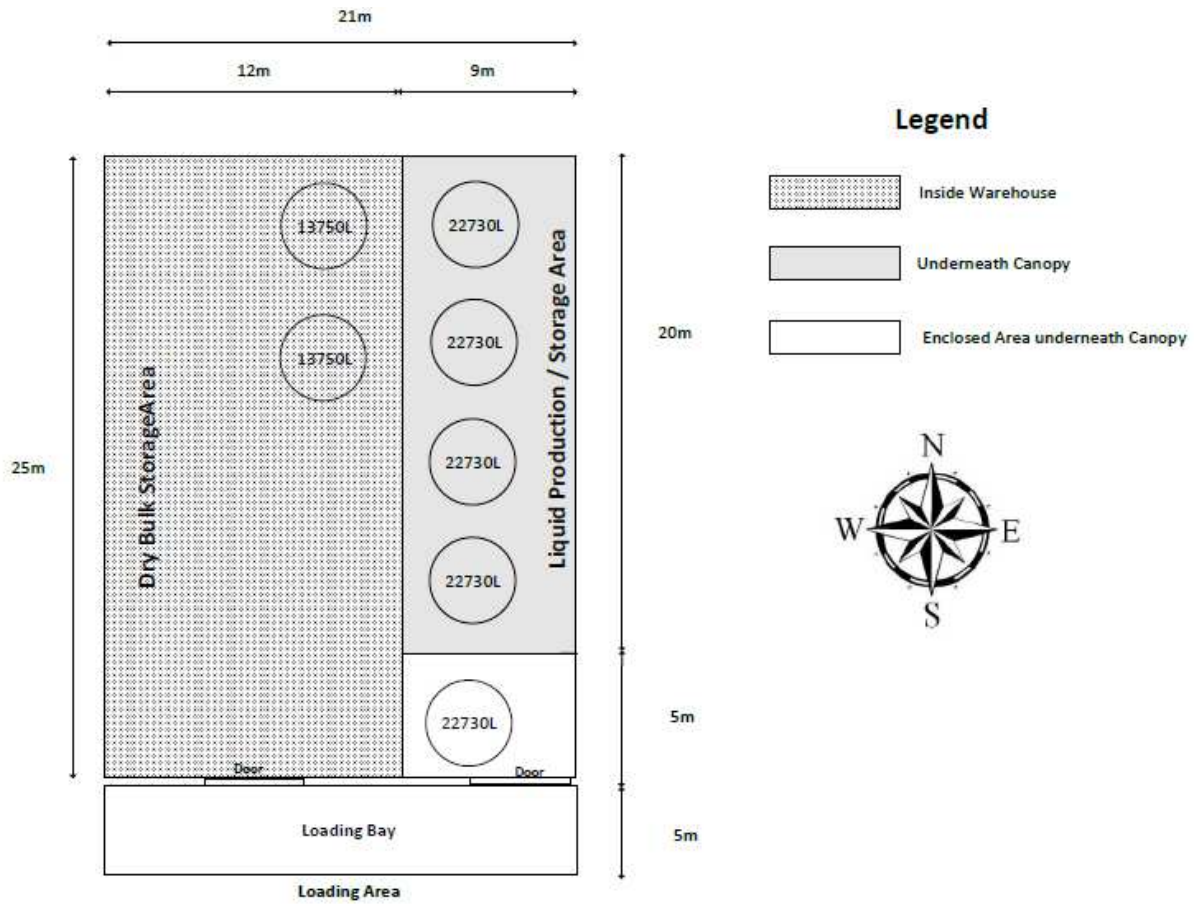


**Figure 2: Warehouse Dimensions**

The liquid production area / storage area for Stage 1 will consist of two 13 750L mixing tanks and five 22 730L storage tanks. The tanks will occupy an area of approximately 280m<sup>2</sup>. The tanks will be in a bunded area to contain any spillages. One of the 22 730L tanks will be dedicated for water storage and one 22 730L tanks will be dedicated for Urea Ammonium Nitrate Solution Storage.

The dry bulk storage area occupies an area of approximately 220m<sup>2</sup>. In this area the dry bulk raw materials and equipment will be stored.

The loading area will occupy 105m<sup>2</sup> and will be used for the loading and off-loading of raw materials and product.



**Figure 3: Plant Layout**

## 4. Access Road to Shed

The access road to the shed from Leafgold Weir Road is indicated in Figure 4 below.



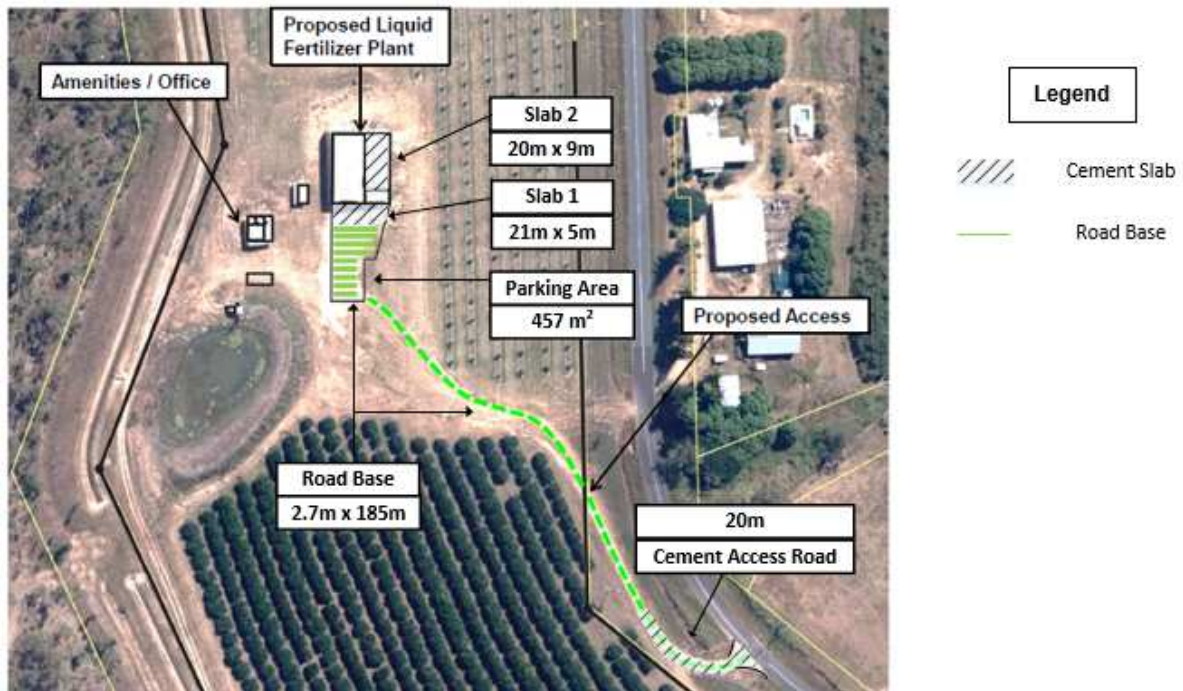


Figure 4: Access Road to Shed

The first 20m of the access road from Leafgold Weir Road will be converted to a concrete road as per Australian Standards.

The remaining access road and will be converted to a hardstanding area.

## 5. Raw Material and Product Volumes

It is anticipated that 800 ton per year of liquid fertiliser will be produced during the first year. A production season is typically 8 months long, with the peak production anticipated at 200 ton per month.

Typically, deliveries for dry bulk material for Stage 1 will occur once a week during peak production months, with deliveries occurring bi-weekly during off-peak production. Dry bulk raw materials are received in one-ton bulk bags or 25kg packaging.

Typically, deliveries of liquid bulk raw material for Stage 1 will occur once a week during peak production months, with deliveries only occurring bi-weekly during off-peak production.

The maximum combined quantity of dry bulk raw material in the warehouse will be approximately 68 metric ton.

The maximum possible volume of liquid fertiliser for Stage 1 contained at a time is 118 420L. The specific gravity of the products varies between 1 and 1.3.

Typically, product despatches are expected to occur two to three times per week, with the frequency reducing to once a week during off-peak production. Load sizes will vary between 5 000 and 22 000 litres.

#### **4.1. Bund Wall Capacity**

The tanks will be enclosed in a bunded area able to contain 100% of the combined volume of the tanks as per Australian Standards. The maximum volume of liquid inside the bund wall for Stage 1 is 141 150L including the water storage tank.

### **6. Dry Bulk Raw Materials**

A list of dry bulk raw materials that may be used for in the production process are given below:

- Ammonium Sulphate
- Boric Acid Powder
- Calcium Nitrate Prills
- Magnesium Nitrate
- Mono Ammonium Phosphate Technical Grade
- Potassium Carbonate Powder
- Potassium Chloride Powder
- Potassium Sulphate
- Urea Granules
- Urea Phosphate
- Zinc Sulphate Monohydrate

The stock on hand of each raw material will vary greatly during the year depending on the quantity required for production of specific products. The total combined stock on hand will be a maximum of approximately 68 metric ton. No hazardous chemicals are used.

## **7. Liquid Bulk Raw Materials**

A list of dry bulk raw materials that may be used for in the production process are given below:

- Easy N (Australian source of Nitrogen for mixtures)

The stock on hand of UAN will be approximately 22 730L or 29 metric tons.

The Material Safety Data Sheets (MSDS) of the different raw materials from Australian and South African suppliers is attached hereto in separate documents.

## **8. Emissions**

Zero emissions are generated through the process of liquid fertiliser production followed by Agri Technovation.

Raw materials are dissolved in water with no process forming any kind of emissions.

## **9. Waste**

The manufacturing process used by Agri Technovation produces zero product related waste. The liquid fertiliser manufactured is a valuable agricultural commodity with no by-product formation.

The only waste generated by the manufacturing process is the empty plastic fertiliser container bags and slings.

The production process will produce between 1 000 and 4 000 empty 25kg container bags and between 10 and 200 empty one-ton bulk bags. The empty plastic bags will be disposed of using appropriate guidelines.

## **10. Effluent**

Zero effluent is generated by the production process.





Inhalation	:	If inhaled, move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	:	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Get medical attention if symptoms appear.

## 5. FIRE AND EXPLOSION DATA

Flammability	:	Non-flammable. May be combustible at high temperatures.
Auto-ignition temperature	:	Not applicable.
Flash points	:	Not applicable.
Flammable limits	:	Not applicable.

### *Products of combustion:*

Material will not burn. Thermal decomposition at higher temperatures to release toxic and combustible gases: ammonia, sulphur oxides (SO<sub>2</sub>, SO<sub>3</sub>, ...), nitrogen oxides (NO<sub>2</sub>, NO<sub>3</sub>, ...).

### *Fire hazards in presence of various substances:*

Flammable in presence of oxidizing materials.

### *Explosion hazards in presence of various substances:*

This product is non-explosive. Explosive in presence of oxidizing materials.

### *Fire fighting media and instructions:*

Material will not burn. Decomposes at temperatures above 280°C. Extinguish the surrounding fire. Cool containers with flooding quantities of water. Move containers from fire area if without risk.

## 6. ACCIDENTAL RELEASE MEASURES

### *Small spill:*

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

### *Large spill:*

Use a shovel to put the material into a convenient waste disposal container. Use water spray to reduce dust. Do not let water get inside the container. Do not touch the spilled material and eliminate all ignition sources. Call for assistance on disposal.

## 7. HANDLING AND STORAGE

### *Handling:*

Avoid breathing dust. Do not ingest. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Keep away from oxidising agents.

### *Storage:*

Keep container tightly closed. Keep container in a cool, dry, well ventilated area.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### *Engineering controls:*

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### *Personal protection:*

Eyes	:	Splash goggles
Body	:	Overalls
Respiratory	:	Dust respirator. Be sure to use approved or certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	:	Gloves (impervious)

Feet : Boots

*Personal protection in case of large spills:*

Splash goggles, overalls, dust respirator, boots and gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient. Consult a specialist before handling this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Solid
Colour	:	White / off-white / beige / Blue-ish
Odour	:	Odourless
Molecular weight	:	132.14 g/mole
pH (1% soln water)	:	Not available
Boiling point	:	Not available
Melting point	:	280°C
Solubility	:	Soluble in water Insoluble in acetone, methanol, n-octanol

## 10. STABILITY AND REACTIVITY DATA

Stability	:	The product is stable
Instability temperature	:	Not available
Conditions of instability	:	Excess heat, incompatible materials
Incompatibility	:	Highly reactive with oxidising agents. Reactive with alkalis
Corrosivity	:	Non-corrosive in presence of glass

*Special remarks on reactivity:*

Incompatible with the following: Potassium + ammonium nitrate, potassium chlorate, potassium nitrate, potassium nitrite, sodium hypochlorite, sodium/potassium alloy + ammonium nitrate. Substance should not contact either zinc or copper bearing materials. Reacts with alkali to release ammonia.

## 11. TOXICOLOGICAL INFORMATION

Toxicity to animals	:	Acute oral toxicity (LD50): 2840 mg/kg
Chronic effects on humans	:	Not available
Other toxic effects on human	:	Hazardous in case of skin contact (irritant), of ingestion, of inhalation

*Special remarks on toxicity to animals:*

Will release ammonium ions. Ammonia is a toxic hazard to fish. May be harmful to livestock and wildlife if swallowed.

*Special remarks on chronic effects on humans:*

Individuals with a pre-existing disease or history of illness involving the skin, eyes, lungs or liver may be at greater than normal risk of developing adverse health effects when exposed to this material.

*Special remarks on other toxic effects on humans:*

No additional remark.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity	:	Non persistent. Non-cumulative when applied using normal agricultural practices. Product will promote algae growth and may degrade water quality and taste.
BOD5 and COD	:	Not available.
Biodegradable/OECD	:	Not available.
Mobility	:	Not available
Products of degradation	:	Possibly long/short term degradation products to be expected.

*Special remarks on the products of degradation:*

No additional remarks



### 13. DISPOSAL CONSIDERATIONS

Waste information : Waste must be disposed of in accordance with federal, state, and local environmental control regulations.

Waste stream : No data available.

**Consult local or regional authorities.**

### 14. TRANSPORT INFORMATION

Not hazardous.

### 15. OTHER REGULATORY INFORMATION

EC Classification : No information found

National Legislation : National Road Traffic Act, 1996 (Act 93 of 1996)  
Fire Brigade Service Act, 1987 (Act 99 of 1987)  
Occupational Health & Safety Act, 1993 (Act 85 of 1993)  
Fertilizers, farm feeds, agricultural remedies and stock remedies Act, 1947 (Act 36 of 1947)

### 16. OTHER INFORMATION / DISCLAIMER

This safety data sheet provides health and safety information. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

The product information in this sheet is, to the best of this company's knowledge, correct as at the date of publication. The user must be satisfied that the product is entirely suitable for the purpose for which it is being used. It is the user's obligation to determine and to ensure the conditions for the safe use of the material.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions of the consequences thereof.

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Substance
Trade name	: Calanit 15
EC no	: 239-289-5
CAS No	: 15245-12-2
REACH registration No	: 01-2119493947-16
Type of product	: Fertilizer
Formula	: Ca.xH3N.xHNO3
Synonyms	: calcium ammonium nitrate / Nitrates, inorganic, n.o.s. / nitric acid, ammonium calcium salt
Product group	: Raw material
BIG no	: 37687

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: Fertilizer
Use of the substance/mixture	: Agriculture, forestry, fishery

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Anorel NV  
 Lintsesteenweg 632  
 2540 Hove  
 T +3234880233  
[anorel@anorel.net](mailto:anorel@anorel.net) - [www.anorel.net](http://www.anorel.net)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4           H302  
 Serious eye damage/eye irritation,  
 Category 1                                       H318

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Harmful if swallowed.

# Calanit 15

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H302 - Harmful if swallowed  
H318 - Causes serious eye damage

Precautionary statements (CLP) :

P264 - Wash hands, forearms and face thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Substance type : Mono-constituent

Name	Product identifier	%
ammonium calcium nitrate	(CAS No) 15245-12-2 (EC no) 239-289-5 (REACH-no) 01-2119493947-16	100

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If you feel unwell, seek medical advice (show the label where possible). Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Respiratory problems: consult a doctor/medical service.
- First-aid measures after skin contact : Rinse with water. Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Consult an ophthalmologist if irritation persists. Do not apply (chemical) neutralizing agents. Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Rinse mouth out with water. Give water to drink if victim completely conscious/alert. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
- Symptoms/injuries after skin contact : No data available.
- Symptoms/injuries after eye contact : May cause slight irritation.
- Symptoms/injuries after ingestion : None known.
- Chronic symptoms : None known.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
- Unsuitable extinguishing media : None known.



# Calanit 15

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not combustible.
- Explosion hazard : No reliable data available.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

- Precautionary measures fire : Keep upwind. Evacuate area.
- Firefighting instructions : Dilute toxic gases with water spray. Fight fire with normal precautions from a reasonable distance. Prevent fire fighting water from entering the environment. Contain the extinguishing fluids by bunding.
- Protection during firefighting : Compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Safety glasses. Protective clothing.
- Emergency procedures : Ventilate spillage area. Mark the danger area. No open flames, no sparks, and no smoking. Wash contaminated clothes.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Prevent liquid from entering sewers, watercourses, underground or low areas.

### 6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Mechanically recover the product. Large spills: scoop solid spill into closing containers. Minimize generation of dust. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Comply with applicable regulations. Remove/Take off immediately all contaminated clothing. Contaminated work clothing should not be allowed out of the workplace.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.
- Storage temperature : 15 - 20 °C
- Heat and ignition sources : Keep away from ignition sources. Heat sources.
- Information on mixed storage : Keep away from : combustible materials. Reducing agents. Organic materials.
- Storage area : Store in a dry area. Store in a well-ventilated place. Store at ambient temperature. Meet the legal requirements.
- Special rules on packaging : Clean. Store in a closed container. Keep only in original container. watertight. correctly labelled.
- Packaging materials : Polyethylene.

### 7.3. Specific end use(s)

Fertilizer.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Calanit 15 (15245-12-2)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	13,9 mg/kg bodyweight/day

# Calanit 15

## Safety Data Sheet

according to Regulation (EU) 2015/830

Calanit 15 (15245-12-2)	
Long-term - systemic effects, inhalation	98 mg/m <sup>3</sup>
PNEC (STP)	
PNEC sewage treatment plant	18 mg/l

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Materials for protective clothing:

No reliable data available

#### Hand protection:

Gloves

#### Eye protection:

In case of dust production: protective goggles. Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Dust production: dust mask with filter type P2

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: white.
Odour	: odourless.
Odour threshold	: No data available
pH	: 5 - 7
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 94 °C
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Density	: 1100 kg/m <sup>3</sup>
Solubility	: Soluble in water. Water: 144 g/100ml
Log Pow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: May intensify fire; oxidiser.
Explosive limits	: Not applicable

### 9.2. Other information

VOC content : 0 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with combustible materials: risk of spontaneous ignition. On heating/burning: release of toxic and corrosive gases/vapours nitrous vapours.



# Calanit 15

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### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

<b>ammonium calcium nitrate (15245-12-2)</b>	
LD50 oral rat	2000 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg

Skin corrosion/irritation : Not classified  
pH: 5 - 7

Serious eye damage/irritation : Causes serious eye damage.  
pH: 5 - 7

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Ecology - air : Not dangerous for the ozone layer.

Ecology - water : May cause eutrophication at very low concentration. water pollutant (surface water). No data available on ecotoxicity.

<b>ammonium calcium nitrate (15245-12-2)</b>	
LC50 fish 1	447 mg/l
EC50 Daphnia 1	> 100 mg/l

### 12.2. Persistence and degradability

<b>ammonium calcium nitrate (15245-12-2)</b>	
Persistence and degradability	Biodegradability in water: no data available.

### 12.3. Bioaccumulative potential

<b>ammonium calcium nitrate (15245-12-2)</b>	
Bioaccumulative potential	No bioaccumulation data available.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available



# Calanit 15

## Safety Data Sheet

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not discharge into surface water.
Additional information	: LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.
European List of Waste (LoW) code	: 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR) : Not applicable

##### IMDG

Transport hazard class(es) (IMDG) : Not applicable

##### IATA

Transport hazard class(es) (IATA) : Not applicable

##### ADN

Transport hazard class(es) (ADN) : Not applicable

##### RID

Transport hazard class(es) (RID) : Not applicable

#### 14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

#### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

#### 14.6. Special precautions for user

- Overland transport

No data available

- Transport by sea

No data available

# Calanit 15

## Safety Data Sheet

according to Regulation (EU) 2015/830

- Air transport  
No data available

- Inland waterway transport  
No data available

- Rail transport  
No data available

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

### SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Calanit 15 is not on the REACH Candidate List

Calanit 15 is not on the REACH Annex XIV List

VOC content : 0 %

15.1.2. National regulations

#### Germany

VwVwS Annex reference : Water hazard class (WGK) 2, hazard to waters

WGK remark : Internal classification water polluting based on standard worst-case evaluation points due to insufficient data

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

Waterbezwaarlijkheid : 5 - Very toxic to aquatic organisms

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

#### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
	Transport document description (IMDG)		
	Transport document description (IMDG)		
2.1		Modified	GHS02 removed GHS07 added
14.2	Transport document description (ADR)		

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H302	Harmful if swallowed

# Calanit 15

## Safety Data Sheet

according to Regulation (EU) 2015/830

H318	Causes serious eye damage
------	---------------------------

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*



# ETİBORİK ASİT SAFETY DATA SHEET

Date of Initial Issue : March 2007  
Revision No : 08.1  
Date of Revision : January 2018

**ETİ MADEN İŞLETMELERİ GENEL MÜDÜRLÜĞÜ**  
Ayvalı Mah. Halil Sezai Erkut Cad. Afra Sok. No: 1/A 06010 Keçiören/Ankara TÜRKİYE

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier****Substance name** : Boric Acid**Trade name** : ETİBORİK ASİT (Boric acid)**Chemical name/synonyms**: Orthoboric acid, boracic acid**Index N°** : 005-007-00-2**CAS N°** : 10043-35-3**EC N°** : 233-139-2**REACH Registration number** : 01-2119486683-25-0006**1.2. Relevant identified uses of the substance and uses advised against****Relevant identified uses**

The product is used in industrial manufacturing, among others in:

- Ceramics
- Cosmetics
- Detergent
- Borosilicate glass
- Textile fibreglass
- Fertilizers

For area-specific use, see the exposure scenarios in the annex of this extended Safety Data Sheet (eSDS).

**Uses advised against**

Not applicable, there are no uses of Etiborik Asit advised against.

**1.3. Details of the supplier of the safety data sheet****Importer****Name** : AB ETIPRODUCTS OY**Address** : Piispanportti 5, 02240 Espoo/FINLAND**Phone No** : + 358 9 819 444 40**Fax No** : + 358 9 819 444 44**e-mail** : sales@etiproducts.com**Manufacturer****Name** : ETİ MADEN İŞLETMELERİ GENEL MÜDÜRLÜĞÜ**Address:** Ayvalı Mah. Halil Sezai Erkut Cad. Afra Sok. No: 1/A 06010 Keçiören/Ankara TÜRKİYE**Phone No** : +90 312 294 20 00**Fax No** : +90 312 232 71 84**1.4. Emergency phone number** : +49 (0)6132-84463 (24-Hour-Number) GBK GmbH

## SECTION 2: Hazard Identification

### 2.1. Classification of the substance

#### 2.1.1. Classification according to Regulation EC N°1272/2008 (CLP)

Harmonised classification provided in the 1<sup>st</sup> ATP to CLP (Regulation EC N°790/2009)

Repr. Cat. 1B; H360FD

Specific concentrations limits : Repr. 1B; H360FD: C ≥5.5%

Precautionary Statement Prevention : P201; P202; P280

Precautionary Statement Response : P308+P313

Precautionary Statement Storage : P405

Precautionary Statement Disposal : P501

#### 2.1.2. Additional information

For the full text of Hazard Class/Statements and Precautionary Statements see SECTION 16.3.

### 2.2. Label elements

#### 2.2.1. Label according to Regulation (EC) N°1272/2008 (CLP)

Hazard pictograms



Signal word : Danger

Hazard Statements : H360FD: May damage fertility or the unborn child.

#### Precautionary Statements:

P201 : Obtain special instruction before use

P202 : Do not handle until all safety precautions have been read and understood

P280 : Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 : If exposed or concerned: Get medical advice/attention

P405 : Store locked up.

#### 2.2.2. According to REACH, Annex XVII

Restricted to professional users

### 2.3. Other hazards

#### Emergency overview

Etiborik Asit is a white odourless, powder/granular substance that is not flammable, combustible, or explosive, and has low acute oral and dermal toxicity.

#### Potential health effects

Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because Etiborik Asit is poorly absorbed through intact skin.

#### Inhalation

Occasional mild irritation effects to nose and throat may occur from inhalation of Etiborik Asit dusts at levels higher than 10 mg/m<sup>3</sup>.

#### Eye contact

Etiborik Asit is non-irritating to eyes in normal industrial use.

#### Skin contact

Etiborik Asit does not cause irritation to intact skin.



### Ingestion

Products containing Etiborik Asit are not intended for ingestion. Etiborik Asit has a low acute toxicity. Small amounts (e.g., a teaspoon) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

### Reproductive/developmental

Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects [1]. A human study of occupational exposure to borate dust showed no adverse effect on reproduction. An epidemiological study and a peer reviewing report of the past epidemiological studies conducted in China didn't show any negative effect of boron on human fertility [2]. A study conducted in Turkey with boron exposed mine workers showed that mean blood concentrations of the high exposure group is ~6 times and ~9 times lower than those of the highest no effect level of boron in blood with regard to developmental and reprotoxic effects (respectively) in rats. With those findings, no unfavourable effects of boron exposure on reproductive indicators are observed in humans [3, 4].

### Potential ecological effects

Large amounts of Etiborik Asit can be harmful to plants and other species. Therefore, releases to the environment should be minimized.

### Signs and symptoms of exposure

Symptoms of accidental over-exposure to Etiborik Asit have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting and diarrhoea, with delayed effects of skin redness and peeling.

Refer to SECTION 11 for details on Toxicological data.

## SECTION 3: Composition / Information on ingredients

### 3.1. Substances

The product contains greater than 99.9 percent (%) Etiborik Asit ( $H_3BO_3$ ).

Identification Name	EC N°	CAS N°	REACH Registration Number	Wt. %
Boric Acid (Orthoboric acid, boracic acid)	233-139-2	10043-35-3	01-2119486683-25-0006	> 99.9

For other "Chemical inventory listing", please refer to SECTION 15.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Skin contact

No treatment necessary because Etiborik Asit does not cause irritation to intact skin.

#### Eye contact

No treatment necessary because non-irritant.

#### Inhalation

If symptoms such as nose or throat irritation are observed, remove to fresh air. Etiborik Asit has low inhalation toxicity.

#### Ingestion

If large amounts are swallowed (i.e. more than one teaspoon), contact a doctor or toxicity centre immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

N.A.

#### **4.3. Indication of any immediate medical attention and special treatment needed.**

Observation only is required for adult ingestion of less than 6 grams of Etiborik Asit. For ingestion in excess of 6 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Haemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment [5] (see SECTION 11).

### **SECTION 5: Fire-fighting measures**

#### **5.1. Extinguishing media**

Any appropriate fire extinguishing media may be used on nearby fires.

#### **5.2. Special hazards arising from the substance**

Etiborik Asit is not flammable, combustible or explosive. The product is itself a flame retardant.

#### **5.3. Advice for firefighters**

N.A.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures.**

Avoid dust formation. In case of exposure to prolonged or high level of airborne dust, wear a personal respirator in compliance with national legislation.

#### **6.2. Environmental precautions**

Etiborik Asit is a water-soluble white product that may, at high concentrations cause damage to trees or vegetation by root absorption (see SECTION 12).

#### **6.3. Methods and material for containment and cleaning up**

##### **Land spill**

Vacuum, shovel or sweep up Etiborik Asit and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. No personal protective equipment is needed to clean up land spills.

##### **Spillage into water**

Where possible, remove any intact containers from the water. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level (see SECTIONS 12, 13 and 15).

#### **6.4. Reference to other sections**

See SECTIONS 8 and 13 for further information.

### **SECTION 7: Handling and Storage**

#### **7.1. Precautions for safe handling**

To maintain package integrity and to minimise caking of the product, bags should be handled on a first-in first-out basis. Good housekeeping and dust prevention procedures should be followed to minimise dust generation and accumulation. Your supplier can advise you on safe handling, please contact the supplier.

## 7.2. Conditions for safe storage, including any incompatibilities

Dry, indoor storage is recommended since the product is highly hygroscopic. The product should be kept away from strong reducing agents.

## 7.3. Specific end use(s)

See exposure scenario in Annex to the SDS.

# SECTION 8: Exposure controls / Personal protection

## 8.1. Control parameters

### Occupational Exposure Limit Values

Substance:	Boric Acid			
CAS N°	10043-35-3			
	Limit value-Eight hours		Limit value – Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Belgium		2		6
Germany (AGS)		0.5 (1)		1 (1)(2)
Germany (DFG)		10 inhalable aerosol (1)		10 inhalable aerosol (1)(2)
Latvia		10		
Spain		2		6
Switzerland		10 inhalable aerosol		10 inhalable aerosol

Source: IFA Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung

### Remarks

Germany (AGS) (1) Inhalable fraction

(2) 15 minutes average value

Germany (DFG) (1) calculated as boron: 1.8 mg/m<sup>3</sup>

(2) 15 minutes average value in the case of simultaneous appearance of boric acid and tetraborates counts 0.75 mg/m<sup>3</sup> calculated as boron.

Occupational exposure limits for dust (total and respirable) are treated by OSHA, Cal OSHA and ACGIH as "Particulate Not Otherwise Classified" or "Nuisance Dust"

ACGIH/TLV : 10 mg/m<sup>3</sup>

Cal OSHA/PEL : 10 mg/m<sup>3</sup>

OSHA/PEL (total dust) : 15 mg/m<sup>3</sup>

OSHA/PEL (respirable dust) : 5 mg/m<sup>3</sup>

### DNEL values

Exposure pattern	Type/site of effect	Exposure route	DNEL value
<b>DNELs for workers</b>			
Long-term	Systemic	Inhalation	8.3 mg /m <sup>3</sup>
Long-term	Systemic	Dermal	392 mg / kg bw / day
<b>DNELs for the general public</b>			
Acute	Systemic	Oral	0.98 mg /kg bw/day
Long-term	Systemic	Dermal	196 mg /kg bw/day
Long-term	Systemic	Inhalation	4.15 mg /m <sup>3</sup>
Long-term	Systemic	Oral	0.98 mg /kg bw/day

Source: Chemical Safety Report of Boric Acid



### PNEC values

**PNEC** add, freshwater, marine water= 1.35 mg B/L

**PNEC** add aqua intermittent= 9.1 mg B/L

**PNEC** add freshwater sediment, marine water sediment= 1.8 mg B/kg sediment dry weight

**PNEC** add, STP= 1.75 mg B/L

Source: Chemical Safety Report of Boric Acid

## **8.2. Exposure controls**

### **8.2.1. Appropriate engineering controls**

Maintain air concentrations below occupational exposure standards.

Use local exhaust ventilation to keep airborne concentrations of Etiborik Asit dust below permissible exposure levels. Wash hands before breaks and at the end of the workday. Remove and wash soiled clothing.

### **8.2.2. Individual protection measures, such as personal protective equipment**

Individual protection measures should be preferred taking into account the Council Directive 89/966/EEC and the appropriate CEN standard.

#### **Respiratory protection**

In case of prolonged exposure to dust wear a personal respirator in compliance with national/international legislation (CEN standard).

#### **Eyes and hands protection**

Goggles and gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

### **8.2.3. Environmental exposure controls**

No special requirement.

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

Appearance	: White solid, granular/powder
Odour	: Odourless
Odour threshold	: N.A.
pH @ 20°C	: 5.1 (1.0 % solution)
Melting point	: 450°C
Initial boiling point and boiling range	: 1860°C
Flash point	: Non flammable
Evaporation rate	: N.A.
Flammability (solid, gas)	: N.A.
Upper/lower flammability or explosive limits	: Non explosive
Vapour pressure	: Negligible @ 20°C
Vapour density	: N.A.
Relative density	: N.A.
Solubility in water	: 4.7% @ 20°C; 27.5% @ 100°C
Partition coefficient: n-octanol/water	: N.A.
Auto-ignition temperature	: N.A.
Decomposition temperature	: 169±1 to HBO <sub>2</sub> & -1 ½ H <sub>2</sub> O at 300°C
Viscosity	: N.A.
Explosive properties	: Non explosive
Oxidising properties	: N.A.

### **9.2. Other information**

Molecular weight	: 61.83
Specific gravity	: 1.51 @ 20°C

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Etiborik Asit is a stable product.

### 10.2. Chemical stability

Etiborik Asit is a stable product, but when heated it loses water, first forming metaboric acid ( $\text{HBO}_2$ ), and on further heating it is converted into boron oxide ( $\text{B}_2\text{O}_3$ ).

### 10.3. Possibility of hazardous reactions

Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard.

### 10.4. Conditions to avoid

Avoid contact with strong reducing agents.

### 10.5. Incompatible materials

Avoid contact with strong reducing agents such as metal hydrides or alkali metals.

### 10.6. Hazardous decomposition products

N.A.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effect

#### 11.1.1. Substances

##### Acute toxicity

Low acute oral toxicity; LD<sub>50</sub> in rats > 2,600 mg/kg of body weight (Test material: Boron Oxide) [6].

##### Skin corrosion/irritation

Low acute dermal toxicity; LD<sub>50</sub> in rabbits is greater than 2,000 mg/kg of body weight [7]. Boric acid is poorly absorbed through intact skin. Non-irritant.

##### Serious eye damage/irritation

Boric acid has no eye damage/irritation.

##### Respiratory or skin sensitization

Boric acid has no respiratory or skin sensitization.

##### Germcell mutagenicity

Boric acid is not mutagenic.

##### Carcinogenicity

Boric acid is not carcinogenic.

##### Reproductive toxicity

Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes [1]. Studies with the chemically related boric acid in rat, mouse and rabbit, at high doses, demonstrate developmental effects on the foetus including foetal weight loss and minor skeletal variations. The doses administered were many times in excess of those which humans would normally be exposed to [8, 9]. While boron has been shown to adversely affect male reproduction in laboratory animals, there is no clear evidence of male reproductive effects attributable to boron in studies of highly exposed workers. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to borate dusts. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility. A study conducted in Turkey with boron exposed mine workers showed that mean blood concentrations of the high exposure group is ~6 times and ~9 times lower than those of the highest no effect level of boron in blood with

regard to developmental and reprotoxic effects (respectively) in rats. With those findings, no unfavorable effects of boron exposure on reproductive indicators are observed in humans [3, 4].

**STOT-single exposure**

N.A.

**STOT-repeated exposure**

N.A.

**Aspiration hazard**

Boric acid has no aspiration hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Boron occurs naturally in sea water at an average concentration of 5 mg B/L and fresh water at 1 mg B/L or less. In dilute aqueous solutions the predominant boron species present is undissociated boric acid. To convert boric acid into equivalent boron (B) content, multiply by 0.1748.

**Phytotoxicity**

Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimise the amount of borate product released to the environment.

**Algal toxicity**

Green algae, *Pseudokirchneriella subcapitata*

72-hr EC<sub>50</sub> –biomass = 40 mg B/L or 229 mg boric acid/L [10]

**Invertebrate toxicity** <sup>(7)</sup>

Daphnia, Daphnids, *Daphnia magna*

48-hr LC<sub>50</sub> = 133 mg B/L or 760 mg boric acid/L [11]

**Fish toxicity**

Fish, Fatheted minnow, *Pimephales promelas*

96-hr LC<sub>50</sub> = 79.7 mg B/L or 456 mg boric acid/L [12]

### 12.2. Persistence and degradability

Boron is naturally occurring and ubiquitous in the environment. Boric acid decomposes in the environment to natural borate.

### 12.3. Bioaccumulative potential

Not bioacumulative.

### 12.4. Mobility in soil

The product is soluble in water and is leachable through normal soil.

### 12.5. Results of PBT and vPvB assessment

N.A.

### 12.6. Other adverse effects

No data available.



## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Small quantities of Etiborik Asit can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product are not recommended to be sent to landfills. Such product should, if possible, be used for an appropriate application.

## SECTION 14: Transport information

Boric acid has no UN Number, and is not regulated under international rail, road or air transport regulations yet, it is classified as Group B under IMO resolution MSC.393 (95) for bulk product shipments.

- 14.1. UN number** : N.A.  
**14.2. UN proper shipping name** : N.A.  
**14.3. Transport hazard class(es)** : N.A.  
**14.4. Packing group** : N.A.  
**14.5. Environmental hazards** : N.A.  
**14.6. Special precautions for user** : N.A.  
**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** : N.A.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance

It should be noted that borates are safe under conditions of normal handling and use, besides, they are essential nutrients to plants, and research shows that they play a beneficial role in human health. CLP classification has been solely based on animal tests where animals were exposed to high doses of boric acid over long periods of time. These doses were many times higher than humans are exposed to under conditions of normal handling and use. Consequently, a precautionary decision was taken by the European Commission. Although we will comply with the body of legislation triggered by that decision, we are in process of all possible legal actions.

#### Clean Air Act (Montreal Protocol)

Boric acid was not manufactured with and does not contain any Class I or Class II ozone depleting substances.

#### Cosmetics

The EC Directive 76/768/EEC sets an upper limit of 5% Boric acid in talcs, 0.5% in oral hygiene products and 3% in other products. In addition, the talcs should not be used on children under 3 years of age.

#### Chemical inventory listing

- U.S. EPA TSCA : 10043-35-3
- Canadian DSL : 10043-35-3
- EINECS : 233-139-2
- South Korea : KE-03499
- South Korea PECs : 370
- Japan ENCS : MITI 1-63
- China IESCS : 10043-35-3
- China HazChem : 10043-35-3
- New Zealand NZIoC : 10043-35-3
- Philippines PICCS : 10043-35-3
- Australia AICS : 10043-35-3

Ensure all national/local regulations are observed.

### EU Reach Regulation

Boric Acid is listed in the Candidate List of Substances of Very High Concern “SVHC” for eventual inclusion in Annex XIV to REACH Regulation 1907/2006 (“Authorisation List”). (18.06.2010-ED/30/2010).

Boric acid is listed in the Annex XVII of REACH Regulation 1907/2006 (EU No.109/2012) and its use in consumer products above specific concentration limits is restricted. Note that this restriction is only specific to consumer products and do not cover its industrial and/or professional applications. Boric acid can be used in consumer products below specific concentration limits (which is  $C \geq 5.5\%$  for boric acid).

### 15.2. Chemical safety assessment

Chemical Safety Assessment of Boric Acid has been carried out under REACH Regulation of the EU.

## SECTION 16: Other information

### 16.1. Mainly changes made to the previous version of this Safety Data Sheet (SDS)

This SDS complies with ISO 11014; the requirements of REACH Title IV and was updated to be in compliance with Annex II of REACH duly amended by **Commission Regulation (EU) No 2015/830 of 28 May 2015**.

Revision No	Revision date	Revision content
07	February 2016	<ul style="list-style-type: none"> <li>This SDS was updated in accordance with the ECHA Guidance on the Compilation of Safety data Sheets, Ver. 3.1 dated November 2015.</li> </ul>
08	February 2017	<ul style="list-style-type: none"> <li>This SDS was updated in accordance with the IMO resolution MSC.393(95).</li> </ul>
08.1	January 2018	<ul style="list-style-type: none"> <li>This SDS was updated in line with “Standardization and Simplification of Bag Printings”</li> </ul>

### 16.2. List of abbreviation and acronyms used in this SDS

<b>1<sup>st</sup> ATP</b>	: 1st Adaptation to Technical and scientific Progress
<b>ACGIH</b>	: American Conference of Governmental Industrial Hygienists
<b>AICS</b>	: Australian Inventory of Chemical Substances
<b>Cal OSHA</b>	: The State of California Division of Occupational Safety and Health (DOSH)
<b>Canadian DSL</b>	: Canadian Domestic Substances List
<b>CAS N°</b>	: Chemical Abstracts Service number
<b>CLP</b>	: Classification Labelling Packaging Regulation: Regulation (EC) N°1272/2008
<b>CSR</b>	: Chemical Safety Report
<b>DNEL</b>	: Derived No effect Level
<b>EC N°</b>	: EINECS Number: European Inventory of Existing Commercial Substances
<b>EC<sub>50</sub></b>	: Half maximal effective concentration
<b>ENCS</b>	: Japan Inventory of Existing and New Chemical Substances
<b>Eti Maden</b>	: Eti Maden İşletmeleri Genel Müdürlüğü
<b>HazChem</b>	: Chinese Catalog of Hazardous Chemicals
<b>IECSC</b>	: Inventory of Existing Chemical Substances Produced or Imported in China
<b>IMO</b>	: International Maritime Organization
<b>Index N°</b>	: Atomic number of the element most characteristic of the properties of the substance
<b>KECI</b>	: South Korea Existing Chemicals List
<b>LC<sub>50</sub></b>	: Lethal Concentration, 50%
<b>LD<sub>50</sub></b>	: Median Lethal Dose
<b>N.A.</b>	: Not Applicable
<b>NZIoC</b>	: New Zealand Inventory of Chemicals
<b>OSHA</b>	: Occupational Safety & Health Administration
<b>PBT</b>	: Persistent, Bioaccumulative and Toxic substance



<b>PECs</b>	: South Korea Priority Existing Chemicals
<b>PEL</b>	: Permissible Exposure Limits
<b>PICCS</b>	: Philippines Inventory of Chemicals and Chemical Substances
<b>PNEC</b>	: Predicted No Effect Concentration
<b>REACH</b>	: Registration, Evaluation, Authorisation and Restrictions of Chemicals Regulation (EC) N°1907/2006
<b>Repr. Cat. 1B</b>	: Substance presumed human reproductive toxicant
<b>SDS</b>	: Safety Data Sheet
<b>TLV</b>	: Threshold Limit Value
<b>U.S. EPA TSCA</b>	: United States Environmental Protection Agency Toxic Substances Control Act
<b>UN</b>	: United Nations
<b>vPvB</b>	: Very Persistent and Very Bioaccumulative

### 16.3. List of relevant hazard statements and precautionary statements used in this SDS

According to CLP Regulation
Hazard Statement
<b>H360FD</b> : May damage fertility or the unborn child
Precautionary Statements
<p><b>Prevention</b></p> <p><b>P201</b>: Obtain special instructions before use.</p> <p><b>P202</b>: Do not handle until all safety precautions have been read and understood.</p> <p><b>P280</b>: Wear protective gloves/protective clothing/eye protection/face protection.</p> <p><b>Response</b></p> <p><b>P308+P313</b>: If exposed or concerned: get medical advice/attention.</p> <p><b>Storage</b></p> <p><b>P405</b>: Store locked up.</p> <p><b>Disposal:</b></p> <p><b>P501</b>: Dispose of contents/container to in accordance with local regulations.</p>

### 16.4. Key literature references and sources for data

- [1] Fail, P.A., George, J.D., Seely, J.C., Grizzle, T.B., & Heindel, J.J. (1991). Reproductive toxicity of boric acid in Swiss (CD-1) mice: Assessment using the continuous breeding protocol. *Fundamental and Applied Toxicology*, 17(2), 225-239.
- [2] Scialli, A.R., Bonde, J.P., Brüske-Hohlfeld, I., Culver, D.B., Li, Y., & Sullivan, F.M. (2010). An overview of male reproductive studies of boron with an emphasis on studies of highly exposed Chinese workers. *Reproductive Toxicology*, 29(1), 10-24.
- [3] Duydu, Y., Başaran, A., & Bolt, H. (2012). Exposure assessment of boron in Bandırma boric acid production plant. *Journal of Trace Elements in Medicine and Biology*, 26(2-3), 161-164.
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- [10] Hanstveit, A.O. & Oldersma, H. (2000). Determination of the effect of Boric acid, Manufacturing grade on the growth of the fresh water green alga *Selenastrum capricornutum*. Testing laboratory: TNO Nutrition and Food Research Institute. Report no.: V99.157. Owner Company: Borax Europe Limited. Study number: IMW-99-9047-05. Report date: 2000-03-06.
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- [12] Soucek, D., Dickinson, A., & Major, K. (2010). Acute and chronic toxicity of boron to freshwater organisms. Testing laboratory: Illinois Natural History Survey, University of Illinois, Champaign, Illinois. Owner Company: Illinois Natural History Survey, University of Illinois.

For general information on the toxicology of borates see ECETOC Technical Report No. 63 (1995); Patty's Industrial Hygiene and Toxicology, 4th Edition Vol. II, (1994) Chap. 42, 'Boron'.

#### **16.5. Disclaimer of Liability**

The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its accuracy, reliability or completeness. The conditions or methods of handling, storage use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Safety Data Sheet Prepared by Arzu DEMİŞ

Certificate Date: 30.09.2015

Certificate Number: 01.58.04

Safety Data Sheet Prepared by Zeynep GÜRTÜRK

Certificate Date: 30.09.2015

Certificate Number: 01.58.07



## 60er Kali® fine

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Date of issue: 01/11/2019 Revision date: 01/11/2019 Version: 10.0

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form	: Substance
Trade name	: 60er Kali® fine 60er Kali® dustfree 60er Kali® Standard SOLUMOP® SOLUMOP® Spezial 60er Kali® gran. 60er Kali® gran. B pink Absiebkali 60er Kali® coarse
Chemical name	: potassium chloride
EC-No.	: 231-211-8
CAS-No.	: 7447-40-7
REACH authorisation exemptions	: Exempted from REACH registration Annex V

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Fertilizer

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

#### Manufacturer/Supplier

K+S Minerals and Agriculture GmbH  
Bertha-von-Suttner-Str. 7  
34131 Kassel - Germany  
T (+49) 561 9301-0 - F (+49) 561 9301-1753

#### Email competent person

sds@kft.de

### 1.4. Emergency telephone number

Emergency number : For Hazardous Materials [or Dangerous Goods] Incidents  
Spill, Leak, Fire, Exposure, or Accident  
Call CHEMTREC Day or Night  
Within USA and Canada: 1-800-424-9300  
Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII



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according to Regulation (EC) No. 1907/2006 (REACH)

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name	Product identifier	%
potassium chloride	(CAS-No.) 7447-40-7 (EC-No.) 231-211-8	-

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

#### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Strong water jet.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released. Metal oxides.
--	--

#### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area.
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##### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
----------------------	---

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

#### 6.3. Methods and material for containment and cleaning up



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## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

For containment	: Collect spillage.
Methods for cleaning up	: Mechanically recover the product. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.
Other information	: Dispose of materials or solid residues at an authorized site. Disposal must be done according to official regulations.

### 6.4. Reference to other sections

For further information refer to section 13. Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep cool.
Information about storage in one common storage facility	: Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

potassium chloride (7447-40-7)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	910 mg/kg bodyweight/day
Acute - systemic effects, inhalation	5320 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	303 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1064 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	910 mg/kg bodyweight
Acute - systemic effects, inhalation	1365 mg/m <sup>3</sup>
Acute - systemic effects, oral	455 mg/kg bodyweight
Long-term - systemic effects, oral	91 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	273 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	182 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.1 mg/l
PNEC aqua (marine water)	0.1 mg/l
PNEC aqua (intermittent, freshwater)	1 mg/l
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

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according to Regulation (EC) No. 1907/2006 (REACH)

### Hand protection:

In case of repeated or prolonged contact wear gloves. EN 374. Nitrile rubber. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

### Eye protection:

In case of dust production: protective goggles. EN 166

### Skin and body protection:

Wear suitable protective clothing. EN 340

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. EN 143. Short term exposure. Dust production: dust mask with filter type P2. Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid.
Colour	: white.
Odour	: none to slight.
Odour threshold	: No data available
pH	: 8 - 11 (Aqueous solution)
Relative evaporation rate (butylacetate=1)	: Not applicable
Melting point	: 770 °C
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: Not applicable
Relative vapour density at 20 °C	: Not applicable
Relative density	: No data available
Density	: 1.984 g/cm <sup>3</sup>
Solubility	: Water: 355 g/l (25°C)
Log Pow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: Not applicable

### 9.2. Other information

Bulk density	: 1040 - 1130 kg/m <sup>3</sup>
Other properties	: No additional information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.



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## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

potassium chloride (7447-40-7)	
LD50 oral rat	3020 mg/kg bodyweight
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 8 - 11 (Aqueous solution)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 8 - 11 (Aqueous solution)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: Mutagenicity : Ames test : negative (OECD 471 method)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Not specifically applicable)

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)  
Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

potassium chloride (7447-40-7)	
LC50 fish 1	880 mg/l (96h; Pimephales promelas; (OECD 203 method))
EC50 Daphnia 1	440 mg/l (48h; Daphnia magna; (OECD 202 method))
EC50 72h algae	> 100 mg/l (72 h; Desmodesmus subspicatus; (OECD 201 method))
NOEC chronic algae	> 100 mg/l (72 h; Desmodesmus subspicatus; (OECD 201 method))

### 12.2. Persistence and degradability

potassium chloride (7447-40-7)	
Persistence and degradability	Not applicable for inorganic substances.

### 12.3. Bioaccumulative potential



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according to Regulation (EC) No. 1907/2006 (REACH)

potassium chloride (7447-40-7)

Bioaccumulative potential

Not applicable for inorganic substances.

### 12.4. Mobility in soil

potassium chloride (7447-40-7)

Mobility in soil

Expected to be highly mobile in soil

Ecology - soil

Not applicable.

### 12.5. Results of PBT and vPvB assessment

potassium chloride (7447-40-7)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

Other adverse effects

: No additional information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods

: Disposal must be done according to official regulations. European waste catalogue. Do not discharge into drains or the environment. Do not dispose of with domestic waste. Product is used as a fertilizer. Check the possibility for agricultural use before landfilling.

Product/Packaging disposal recommendations

: Recycle or dispose of in compliance with current legislation.

European List of Waste (LoW) code

: 02 01 09 - agrochemical waste other than those mentioned in 02 01 08

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

#### Inland waterway transport

Not applicable

# 60er Kali® fine

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

### Rail transport

Not applicable

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

potassium chloride is not on the REACH Candidate List

potassium chloride is not on the REACH Annex XIV List

60er Kali® fine is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

60er Kali® fine is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Other information, restriction and prohibition regulations

: REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 October 2003 relating to fertilisers. A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis.

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration



# 60er Kali® fine

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Data sources : ECHA (European Chemicals Agency). Information provided by the manufacturer.

Department issuing data specification sheet: : KFT Chemieservice GmbH  
Im Leuschnerpark. 3 64347 Griesheim  
Germany

Phone: +49 6155-8981-400 Fax: +49 6155 8981-500  
Safety Data Sheet Service: +49 6155 8981-522

Contact person : Dr. Lisa Schmitt

Other information : The versioning of the safety data sheet for this product begins with the version number 10.0 due to a change of the company's name on November 1, 2019.

KFT SDS EU 07

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*



### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Substance  
Trade name : Kalasul  
EC-No. : 231-915-5  
CAS-No. : 7778-80-5  
Type of product : Fertilizer  
Formula : K<sub>2</sub>SO<sub>4</sub>  
Product group : Raw material

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : Fertilizer  
Use of the substance/mixture : Agriculture.

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Anorel NV  
Lintsesteenweg 632  
2540 Hove  
T +3234880233  
anorel@anorel.net - [www.anorel.net](http://www.anorel.net)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwerwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (inhalation:dust,mist) H332  
Category 4  
Skin corrosion/irritation, Category 2 H315  
Serious eye damage/eye irritation, Category 2 H319

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Harmful if inhaled. Causes skin irritation. Causes serious eye irritation.

# Kalasil

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H332 - Harmful if inhaled.

Precautionary statements (CLP) :

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear eye protection, face protection.  
P302+P352 - IF ON SKIN: Wash with plenty of water.  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent  
Name : potassium sulfate  
CAS-No. : 7778-80-5  
EC-No. : 231-915-5

Name	Product identifier	%
potassium sulphate SG	(CAS-No.) 7778-80-5 (EC-No.) 231-915-5 (REACH-no) 01-2119489441-34	>= 80
potassium hydrogensulphate	(CAS-No.) 7646-93-7 (EC-No.) 231-594-1 (EC Index-No.) 016-056-00-4	1 - 5

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.  
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.  
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact : Irritation.  
Symptoms/effects after eye contact : Eye irritation.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.



# Kalasil

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

potassium sulphate SG (7778-80-5)		
Belgium	Limit value (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> 10 mg/m <sup>3</sup>
France	VME (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> 4 mg/m <sup>3</sup>
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (Particulates (insoluble or poorly soluble)(NOS); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction)

Kalasil (7778-80-5)	
PNEC (Water)	
PNEC aqua (freshwater)	0,68 mg/l
PNEC aqua (marine water)	0,068 mg/l
PNEC aqua (intermittent, freshwater)	6,8 mg/l
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l



# Kalasil

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Molecular mass	: 174,261 g/mol
Colour	: white.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 2,5 - 5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 1067 °C
Freezing point	: Not applicable
Boiling point	: 1689 °C
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Density	: ≈ 2,66 g/cm <sup>3</sup>
Solubility	: Water: 120 g/l
Log Pow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: Not applicable

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Heating may cause a fire.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

# Kalasal

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 10.4. Conditions to avoid

Reacts with (some) metals.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

On burning: release of (highly) toxic gases/vapours.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Conclusive but not sufficient for classification)  
 Acute toxicity (dermal) : Not classified (Conclusive but not sufficient for classification)  
 Acute toxicity (inhalation) : Inhalation:dust,mist: Harmful if inhaled. (Conclusive but not sufficient for classification)

Kalasal (7778-80-5)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight
LC50 inhalation rat (mg/l)	1,2 g/m <sup>3</sup>

Skin corrosion/irritation : Causes skin irritation. (Conclusive but not sufficient for classification)  
 pH: 2,5 - 5  
 Serious eye damage/irritation : Causes serious eye irritation.  
 pH: 2,5 - 5  
 Respiratory or skin sensitisation : Not classified (Conclusive but not sufficient for classification)  
 Germ cell mutagenicity : Not classified (Conclusive but not sufficient for classification)  
 Carcinogenicity : Not classified (Conclusive but not sufficient for classification)  
 Reproductive toxicity : Not classified (Conclusive but not sufficient for classification)  
 STOT-single exposure : Not classified (Conclusive but not sufficient for classification)  
 STOT-repeated exposure : Not classified (Conclusive but not sufficient for classification)  
 Aspiration hazard : Not classified (Conclusive but not sufficient for classification)

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.  
 Acute aquatic toxicity : Not classified  
 Chronic aquatic toxicity : Not classified

Kalasal (7778-80-5)	
LC50 fish 1	680 mg/l Pimephales promelas
LC50 fish 2	3550 mg/l Lepomis macrochirus
EC50 Daphnia 1	720 mg/l
EC50 Daphnia 2	890
EC50 96h algae (1)	2700 mg/l Chlorella vulgaris
NOEC chronic algae	>= 100 mg/l

potassium sulphate SG	
LC50 fish 1	653 - 796 mg/l (96 h, Lepomis macrochirus, Static system)
EC50 72h algae (1)	2900 mg/l (Scenedesmus subspicatus)

### 12.2. Persistence and degradability

potassium sulphate SG (7778-80-5)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable



# Kalasal

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 12.3. Bioaccumulative potential

<b>Kalasal (7778-80-5)</b>	
Bioaccumulative potential	Low bioaccumulation potential.
<b>potassium sulphate SG (7778-80-5)</b>	
BCF fish 1	≈
Bioaccumulative potential	Not bioaccumulative.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

<b>Component</b>	
potassium sulphate SG (7778-80-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

### 14.6. Special precautions for user

- Overland transport

No data available

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

No data available

- Rail transport

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Kalasal is not on the REACH Candidate List



# Kalasal

## Safety Data Sheet

according to Regulation (EU) 2015/830

Kalasal is not on the REACH Annex XIV List

### 15.1.2. National regulations

#### Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to waters (Classification according to AwSV; ID No. 255)  
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed  
SZW-lijst van mutagene stoffen : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Substance  
 Trade name : Maganit  
 Chemical name : Mg(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O  
 IUPAC name : Magnesium dinitrate hexahydrate  
 EC-No. : 233-826-7  
 CAS-No. : 13446-18-9  
 REACH registration No : 01-2119491164-38  
 Type of product : Fertilizer  
 Synonyms : Maganit  
 Product group : Raw material

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
 Industrial/Professional use spec : Fertilizer  
 Use of the substance/mixture : Agriculture, forestry, fishery

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Anorel NV  
 Lintsesteenweg 632  
 2540 Hove  
 T +3234880233  
[anorel@anorel.net](mailto:anorel@anorel.net) - [www.anorel.net](http://www.anorel.net)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 2 H319

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation.

#### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :





# Maganit

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according to Regulation (EU) 2015/830

GHS07

Signal word (CLP)	: Warning
Hazard statements (CLP)	: H319 - Causes serious eye irritation.
Precautionary statements (CLP)	: P264 - Wash hands, forearms and face thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention.

### 2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
Magnesium Nitrate Hexahydrate	(CAS-No.) 13446-18-9 (EC-No.) 233-826-7 (REACH-no) 01-2119491164-38	> 90

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: May cause moderate irritation.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: None known.
Symptoms/effects upon intravenous administration	: Not expected to be a primary route of exposure.
Chronic symptoms	: None known.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: earth, sand, dry chemical powder or foam.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Reactivity in case of fire	: Stable in use and storage conditions as recommended in item 7.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: On exposure to high temperature, may decompose, releasing toxic gases. Collect leaking and spilled liquid in sealable containers as far as possible.



# Maganit

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according to Regulation (EU) 2015/830

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not eat, drink or smoke in areas where product is used. Avoid all eye and skin contact and do not breathe vapour and mist. Eliminate every possible source of ignition. Use appropriate ventilation.

##### 6.1.1. For non-emergency personnel

Protective equipment : Protective clothing.

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

For containment : Contain leaking substance, pump over in suitable containers.

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep only in the original container in a cool well ventilated place away from acids. Protect material from direct sunlight. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Store in a well-ventilated place. Keep cool.

Incompatible products : Iron.

Storage temperature : 0 - 30 °C

Heat and ignition sources : Keep away from ignition sources.

Information on mixed storage : Strong acids, strong bases and oxidation agents.

Storage area : Store at ambient temperature. Store in a well-ventilated place.

Special rules on packaging : watertight. Store in a closed container. correctly labelled. meet the legal requirements.

Packaging materials : Polyethylene. polypropylene.

#### 7.3. Specific end use(s)

Fertilizer.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Maganit (13446-18-9)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	< mg/kg bodyweight/day
Long-term - systemic effects, dermal	20,8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	36,7 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	<= mg/kg bodyweight
PNEC (Water)	
PNEC aqua (freshwater)	0,45 mg/l
PNEC aqua (marine water)	0,045 mg/l
PNEC aqua (intermittent, freshwater)	4,5 mg/l
PNEC (STP)	
PNEC sewage treatment plant	18 mg/l

# Maganit

## Safety Data Sheet

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### 8.2. Exposure controls

**Appropriate engineering controls:**

Ensure good ventilation of the work station.

**Personal protective equipment:**

EN 374. Safety glasses.

**Hand protection:**

Protective gloves

**Eye protection:**

Safety glasses

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment

**Personal protective equipment symbol(s):****Environmental exposure controls:**

Local exhaust and general ventilation must be adequate to meet exposure standards. Avoid release to the environment.

**Consumer exposure controls:**

Do not eat, drink or smoke in areas where product is used.

**Other information:**

Use good personal hygiene practices.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granular powder.
Colour	: white.
Odour	: odourless.
Odour threshold	: No data available
pH	: 7 5% solution
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 95 °C at 1013hPa
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0,00001 Pa
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1,46 g/cm <sup>3</sup>
Solubility	: Water: 225 g/100ml
Log Pow	: -0,61
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: ANHYDROUS FORM. May intensify fire; oxidiser.
Explosive limits	: Not applicable



# Maganit

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 9.2. Other information

Minimum ignition energy : <=

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

Maganit (13446-18-9)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 5000 mg/kg

Skin corrosion/irritation : Not classified  
pH: 7 5% solution  
Serious eye damage/irritation : Causes serious eye irritation.  
pH: 7 5% solution  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified

Maganit (13446-18-9)	
NOAEL (oral, rat, 90 days)	> 1500 mg/kg bodyweight/day

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.  
Ecology - water : there is no direct test for magensium nitrate, the data were based on studies of similar substances.  
Acute aquatic toxicity : Not classified  
Chronic aquatic toxicity : Not classified

Maganit (13446-18-9)	
LC50 fish 1	1378 mg/l
EC50 Daphnia 1	490 mg/l
EC50 72h algae (1)	1700 mg/l
ErC50 (algae)	> 1700 mg/l 10 d
NOEC (acute)	> 180 mg/l
TLM fish 1	<



# Maganit

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### 12.2. Persistence and degradability

Maganit (13446-18-9)	
Persistence and degradability	degradable in water in anaerobic conditions.

### 12.3. Bioaccumulative potential

Maganit (13446-18-9)	
Log Pow	-0,61
Bioaccumulative potential	Low bioaccumulation potential.

### 12.4. Mobility in soil

Maganit (13446-18-9)	
Ecology - soil	soluble in water.

### 12.5. Results of PBT and vPvB assessment

Maganit (13446-18-9)	
PBT: not relevant – no registration required	
vPvB: not relevant – no registration required	

### 12.6. Other adverse effects

Other adverse effects : No other effects known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Non-hazardous waste.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

No data available

#### Transport by sea

No data available

#### Air transport

No data available

#### Inland waterway transport

No data available

#### Rail transport

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

# Maganit

## Safety Data Sheet

according to Regulation (EU) 2015/830

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Maganit is not on the REACH Candidate List

Maganit is not on the REACH Annex XIV List

Magnesium Nitrate Hexahydrate is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Magnesium Nitrate Hexahydrate is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

##### 15.1.2. National regulations

###### Germany

Reference to AwSV : Water hazard class (WGK) 1, Slightly hazardous to water (Classification according to AwSV; ID No. 363)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

###### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

#### Indication of changes:

Section	Changed item	Change	Comments
	Supersedes	Added	
	Revision date	Modified	
4.1	First-aid measures after eye contact	Modified	
5.1	Suitable extinguishing media	Modified	
7.1	Precautions for safe handling	Modified	
7.2	Storage conditions	Modified	
8.2	Environmental exposure controls	Modified	

#### Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation.

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*



**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1. Product identifier**

Product form	: Substance
Trade name	: MAP
EC-No.	: 231-764-5
CAS-No.	: 7722-76-1
REACH registration No	: 01-2119488166-29-0060
Type of product	: Fertilizer
Formula	: NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>
Synonyms	: ADP / ammonium acid phosphate / ammonium biphosphate / ammonium dihydro orthophosphate / MAP
Product group	: Raw material
BIG no	: 14612

**1.2. Relevant identified uses of the substance or mixture and uses advised against**
**1.2.1. Relevant identified uses**

Main use category	: Professional use
Industrial/Professional use spec	: Fertilizer
Use of the substance/mixture	: Agriculture, forestry, fishery
Function or use category	: Fertilisers

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet**
**Supplier**

Anorel NV  
 Lintsesteenweg 632  
 2540 Hove  
 T +3234880233  
[anorel@anorel.net](mailto:anorel@anorel.net) - [www.anorel.net](http://www.anorel.net)

**1.4. Emergency telephone number**

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	

**SECTION 2: Hazards identification**
**2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

**2.2. Label elements**

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable



# MAP

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
ammonium dihydrogen phosphate	(CAS-No.) 7722-76-1 (EC-No.) 231-764-5 (REACH-no) 01-2119488166-29-0060	100

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell. Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: If skin irritation or rash occurs: Call a physician immediately. Wash with plenty of water/.... Wash skin with plenty of water.
First-aid measures after eye contact	: Consult an ophtalmologist if irritation persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth out with water. Drink plenty of water as a precaution. Do not induce vomiting. Call a POISON CENTER/doctor if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: Inhalation of dust. Coughing. Irritation of the nasal mucous membranes.
Symptoms/effects after skin contact	: No effects known.
Symptoms/effects after eye contact	: Slight irritation. Redness of the eye tissue.
Symptoms/effects after ingestion	: On ingestion in large quantities: nausea, vomiting.
Chronic symptoms	: Repeated contact. Possible inflammation of the respiratory tract.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: None known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Non combustible.
Explosion hazard	: No reliable data available.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Advice for firefighters

Precautionary measures fire	: Keep upwind. Evacuate area.
Firefighting instructions	: Dilute toxic gases with water spray.
Protection during firefighting	: Compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment	: Protective clothing. Gloves. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit.
Emergency procedures	: Ventilate spillage area. Mark the danger area. Avoid formation of dust. No naked flames. Wash contaminated clothes. Keep upwind. Exposure to fire/heat: consider evacuation.



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### 6.1.2. For emergency responders

Protective equipment

: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment

: Contain leaking substance, pump over in suitable containers. Knock down/dilute dust cloud with water spray. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray.

Methods for cleaning up

: Mechanically recover the product. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Scoop solid spill into closing containers.

Other information

: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling

: Ensure good ventilation of the work station. Wear personal protective equipment. Avoid dust formation. Comply with applicable regulations. Keep container tight closed. Thoroughly clean/dry the installation before use. Keep away from naked flames/heat. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Observe normal hygiene standards.

Hygiene measures

: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Store in a well-ventilated place. Keep cool.

Heat and ignition sources

: Keep away from ignition sources. heat sources.

Information on mixed storage

: Keep away from. Strong acids, strong bases and oxidation agents.

Storage area

: Store in a well-ventilated place. Store in a dry area. meet the legal requirements. Store at ambient temperature.

Special rules on packaging

: closing. Clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials

: Suitable packing materials. stainless steel. paper. synthetic material. glass.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

MAP (7722-76-1)

DNEL/DMEL (Workers)

Long-term - systemic effects, dermal 34,7 mg/kg bw/day

Long-term - systemic effects, inhalation 6,1 mg/m<sup>3</sup>

DNEL/DMEL (General population)

Long-term - systemic effects, oral 2,1 mg/kg bw/day

Long-term - systemic effects, inhalation 1,8 mg/m<sup>3</sup>

Long-term - systemic effects, dermal 20,8 mg/kg bw/day

PNEC (Water)

PNEC aqua (freshwater) 1,7 mg/l

PNEC aqua (marine water) 0,17 mg/l

PNEC (STP)

PNEC sewage treatment plant 10 mg/l

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Hand protection:

Gloves

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<b>Eye protection:</b>
In case of dust production: protective goggles. Safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
Dust production: dust mask with filter type P2

### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Molecular mass	: 115,03 g/mol
Colour	: white.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 3,6 - 4,0 (1 %)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 197 °C (1013.25 hPa, OECD 102: Melting Point/Melting Range)
Freezing point	: Not applicable
Boiling point	: Not applicable (decomposes), OECD 103: Boiling Point
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 197 °C (OECD 102: Melting Point/Melting Range, 1013.25 hPa)
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0,0000147 hPa (20 °C, OECD 104: Vapour Pressure)
Relative vapour density at 20 °C	: Not applicable
Relative density	: No data available
Density	: 1810 kg/m <sup>3</sup> (20 °C, OECD 109: Density of Liquids and Solids)
Solubility	: Soluble in water. Water: 38 g/100cm <sup>3</sup> (20 °C)
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

### 9.2. Other information

Minimum ignition energy	: >=
VOC content	: Not applicable (inorganic)
Other properties	: Acid reaction.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

On heating/burning: release of toxic and corrosive gases/vapours (ammonia, nitrous vapours, phosphorus oxides). Reacts with (strong) oxidizers: (increased) risk of fire/explosion. Reacts violently with (some) acids. Reacts with (some) bases: release of corrosive gases/vapours (ammonia).

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.



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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

MAP (7722-76-1)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 5000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	> 5 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, Inhalation (dust), 14 day(s))

Skin corrosion/irritation	: Not classified pH: 3,6 - 4,0 (1 %)
Serious eye damage/irritation	: Not classified pH: 3,6 - 4,0 (1 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Non-toxic in contact with skin (LD50 skin > 5000 mg/kg). Not irritant to skin. Practically non-toxic by inhalation (LC50 inh, rat > 5 mg/l/4h). Not irritant to eyes.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - air	: Not dangerous for the ozone layer.
Ecology - water	: Mild water pollutant (surface water). slightly harmful to fish. pH shift. May cause eutrophication at very low concentration. Insufficient data available on ecotoxicity.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

MAP (7722-76-1)	
LC50 fish 1	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)
ErC50 (algae)	> 97,1 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

#### 12.2. Persistence and degradability

MAP (7722-76-1)	
Persistence and degradability	Biodegradability in water: no data available.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

#### 12.3. Bioaccumulative potential

MAP (7722-76-1)	
Bioaccumulative potential	Low bioaccumulation potential.

#### 12.4. Mobility in soil

MAP (7722-76-1)	
Ecology - soil	No (test)data on mobility of the substance available.

#### 12.5. Results of PBT and vPvB assessment

MAP (7722-76-1)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	



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This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Product/Packaging disposal recommendations : Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber. Do not discharge into surface water.  
Additional information : Non-hazardous waste.  
European List of Waste (LoW) code : 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Transport regulations (ADR) : Not subject

#### Transport by sea

Transport regulations (IMDG) : Not subject

#### Air transport

Transport regulations (IATA) : Not subject

#### Inland waterway transport

Transport regulations (ADN) : Not subject

#### Rail transport

Transport regulations (RID) : Not subject

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

MAP is not on the REACH Candidate List

MAP is not on the REACH Annex XIV List

ammonium dihydrogen phosphate is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

ammonium dihydrogen phosphate is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

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according to Regulation (EU) 2015/830

VOC content : Not applicable (inorganic)

### 15.1.2. National regulations

#### Germany

Reference to AwSV : Water hazard class (WGK) 1, Slightly hazardous to water (Classification according to AwSV; ID No. 2309)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

TA Luft : 5.2.1 Total Dust, including Micro Dust

#### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Indication of changes:

Section	Changed item	Change	Comments
	Supersedes	Modified	
	Revision date	Modified	
	Date of issue	Modified	
4.1	First-aid measures after ingestion	Modified	
4.1	First-aid measures after eye contact	Modified	
4.1	First-aid measures after skin contact	Modified	
4.1	First-aid measures after inhalation	Modified	
9.1	Melting point	Modified	
9.1	Boiling point	Modified	
9.1	Density	Modified	
9.1	Vapour pressure	Modified	
11.1	LD50 dermal rat	Modified	
11.1	LD50 oral rat	Modified	
11.1	LC50 inhalation rat (mg/l)	Modified	
12.1	ErC50 (algae)	Modified	
12.1	LC50 fish 1	Modified	
12.2	Biochemical oxygen demand (BOD)	Removed	
13.1	Regional legislation (waste)	Removed	

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*



## SAFETY DATA SHEET

in accordance to Regulation (EC) No 1907/2006  
(as amended by Commission Regulation (EU) No 453/2010)

Date of issue:	9.11.2014	Page: 1 / 19
Date of revision:	1.06.2015	
Product name:	<b>POTASSIUM CARBONATE</b>	

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1	Product identifier:	
	Name:	<b>POTASSIUM CARBONATE</b>
	CAS Number:	584-08-7
	Registration number:	01-2119532646-36-0009
	EINECS Number:	209-529-3
1.2	Appropriate specified applications of the substance /mixture and non recommended applications:	
	Specified applications:	<p><u>Industrial and professional uses:</u>            Manufacture – bulk, large scale chemicals (including petroleum products) and solid mineral fertilisers            Formulation of substance mand mixture            Use in:            Coatings (paints, ink, toners)            Cleaning agents (including paint strippers)            Alkalizing purposes in the cacao industry            Building and construction preparations            Laboratories            Chemical peeling            Pickling            Neutralizing and / or water treatment agent            Anti-freeze and de-icing products            Glass processes  <u>Consumer</u>            Use in:            Coatings (paints, ink, toners)            Washing and cleaning agents            Anti-freeze and de-icing products            Neutralizing and / or water treatment agent            Plantt protection products            Photochemicals            Fertilizers            Desinfectants            Stone-, plaster-, cement-, glasss-, ceramic-, metal-, paper-, ruber-, wood- and plastic articles.</p>
	Non recommended applications:	None specified
1.3	Detailed particulars about the provider of the safety data sheet:	
	Importer:	AG CHEMI GROUP s.r.o.
	Place of business or domicile:	Rybničná 18 Praha 6 Liboc PSČ 162 00


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	Identification number:	615 08 195
	Telefon:	+420 233 371 850
	Fax:	+420 233 371 860
	E-mail:	info@agchemigroup.eu
	Web:	<a href="http://www.agchemigroup.eu">http://www.agchemigroup.eu</a>
	Skilled advisor:	reach@agchemigroup.eu
1.4	Emergency phone:	<p><u>In the Czech republic:</u> Toxikologické informační středisko, Na Bojišti 1, 128 08, Praha 2 Telefon (24 hours/day): +420 2 2491 9293 +420 2 2491 5402 +420 2 2491 4575 Information concerning health risks – acute poisoning of people and animals only</p>

### SECTION 2: HAZARDS IDENTIFICATION

	General classification of the substance/mixture:	Dangerous substance
2.1	Classification according to Regulation (EC) No 1272/2008	Skin irritation cat. 2 Eye irritation cat. 2 STOT Single Exp. 3
2.2	Label elements:	
	Warning symbol of danger	
	Signal word	Warning
	Hazard statements	H315: Causes skin irritation H319: Causes serious eye irritation H335: May cause respiratory irritation
	Precautionary statements	P261: Avoid breathing dust/fume/gas/mist/vapours/spray. P264: Wash with soap and water thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Re-move contact lenses, if present and easy to do. Continue rinsing. P362: Take off contaminated clothing and wash before reuse. P403+P233: Store in a well-ventilated place. Keep container tightly closed.
2.3	Further hazards:	PBT and vPvB assessment: This substance is neither PBT nor vPvB.



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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1	Identifier of main substance:	
	Chemical name:	<b>Potassium carbonate</b>
	Content (%):	92,5 – 98,0 %
	CAS number:	584-08-7
	EC (EINECS) number:	209-529-3
For the full text of the H and R – Statements mentioned in this Section, see Section 16.		

### SECTION 4: FIRST AID MEASURES

4.1	Description of first aid measures:	Remove victims from hazardous area. Immediately remove soiled or soaked clothing and remove it to a safe distance. Keep victim warm, in a stabilized position and covered.
	If inhaled:	Move to fresh air. With labored breathing: Provide with oxygen. Consult a doctor.
	In case of skin contact:	Wash off with plenty of water for at least 15 minutes. Take off contaminated clothing.
	In case of eye contact:	Rinse out with plenty of water with the eyelid held wide open. If pain persists, call in ophthalmologist.
	If swallowed:	Make victim drink plenty of water. Induce vomiting. Summon doctor.
4.2	Most important acute and delayed symptoms and effects:	Not specified.
4.3	Indication of any immediate medical attention and special treatment needed:	Notes to physician: treat symptomatically. If large quantities swallowed, immediately contact a doctor specialized in poisoning.

### SECTION 5: FIRE-FIGHTING MEASURES

5.1	Extinguishing media	
	Suitable extinguishing media:	Depending on materials stored in the nearest neighborhood All extinguishing products are allowed: water, water/foam, carbon dioxide CO <sub>2</sub> , extinguishing powder.
	Unappropriate extinguishing media:	Do not use dense streams of water.
5.2	Particular hazards resulting from the substance/mixture	When heated to decomposition toxic gas and fumes of carbon oxides are emitted.
5.3	Advice for firefighters:	Isolate the area by removing all persons from the surrounding of the accident, when a fire broke out. Do not take any action involving any personal risk. Fire fighters should wear appropriate protective equipment and breathing apparatus. This product is not flammable.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	Personal precautions, protective equipment and emergency procedures:	For non-emergency personnel: Do not take any action that could cause personal risk unless you are properly trained. Do not touch or walk through spillage of material. Wear appropriate personal protective equipment.
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in accordance to Regulation (EC) No 1907/2006  
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		For emergency responders: Workwear, respiratory protection (fabric or protective masks with particle filter P2), tight-fitting goggles, gloves.
6.2	Environmental precautions:	Should not be released into the environment. Do not allow entrance in sewage water, soil or stretches of water. When such situation occurs, call the relevant health and environmental protection authorities.
6.3	Methods and materials for containment and cleaning up:	Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Residues rinse with water.
6.4	References to others sections:	For more information, refer to Sections 8 and 13 of this Safety Data Sheet.

### SECTION 7: HANDLING AND STORAGE

7.1	Precautions for safe handling:	Wear personal protective equipment. Use of the basic principles of Industrial Hygiene. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. Eating, drinking and smoking in areas where the material is handled, stored and processed should be forbidden. Workers should wash hands and face before eating, drinking and smoking.
7.2	Conditions for safe storage including non compatible matters and mixtures	Store in a tightly closed container. Keep containers in a cool, dry, well-ventilated place. Do not use light-weight-metal containers. Do not store together with aids. Warehouse personnel must be equipped with the necessary protective equipment. Storage time 10 month from production date.
7.3	Specific final application/applications:	For specific end uses see section 1.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1	Controlling parameters: Limits of exposition set by Governmental decree No.361/2007 Sb.:	Alkali metal carbonates: PEL: 5 mg/m <sup>3</sup> NPK – P: 10 mg/m <sup>3</sup>
	Substance name (Component):	Dust and powder 10 mg/m <sup>3</sup>
Recommended monitoring procedures: atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.		
Derived No Effect Levels (DNELs) - Workers		
Acute/Short term exposure (Systemic effect)		
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	
Acute/Short term exposure (Local effect)		
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	

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	Long-term exposure (Systemic effect)	
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	
	Long-term exposure (Local effect)	
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	1 mg/m <sup>3</sup>
	Derived no effect levels (DNELs) – General population	
	Acute/Short term exposure (local effect)	
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	
	DNEL Oral	
	Acute/Short term exposure (Local effect)	
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	
	Long-term exposure (Systemic effects)	
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	
	Long-term exposure (Local effects)	
	DNEL Dermal	Because of nature and properties of the substance, DNEL will not be derived
	DNEL Inhalation	
	Predicted no effect concentration (PNEC)	
	PNEC aqua	Potassium carbonate is not expected to have a toxic activity to aqua environment
	PNEC sediment	No data available
8.2	Exposure controls:	Appropriate engineering controls: Ensure sufficient ventilation, use personal protection equipment.
	Respiratory protection:	Fabric or protective masks with particle filter P2 or wear a self contained respiratory apparatus.
	Hand protection:	Protective gloves resistant to chemicals, made of butyl-rubber, PVC, Polychloroprene with natural-latex liner, nitrile rubber (Camatril, Tricotril, Dermatril), Fluorinated rubber (Vitoject).
	Eye/face protection:	Tight-fitting goggles.
	Skin and body protection:	Protective clothing of a compact fabric. Working boots.
	Other:	Prior to handling with this product, please select the appropriate footwear and additional skin protection measures, based on the tasks performed and the associated risks. They are subject to approval by the Health and Safety Specialist



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Environment protection:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
Occupational hygiene practices:	After work wash the skin and take off contaminated clothes. Do not eat, drink, smoke or take drugs during the work.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	Information on basic physical and chemical properties	
	Appearance:	Solid, fine crystalline of white colour
	Odour or smell:	Odourless
	Threshold value of odour:	No data available
	pH (50 g/l H <sub>2</sub> O/25°C):	11,5-12,5
	Melting point / Freezing point:	891 °C
	Initial boiling point and distillation range (°C):	Not measurable due to decomposition
	Flash point (°C):	The study does not need to be conducted if the substance is inorganic.
	Evaporation rate:	No data available
	Flammability:	Not flammable
	Explosion or flammability limits:	Not flammable
	Vapour density:	No data available
	Vapour tension:	Testing of vapour pressure is not necessary if the melting point is >300°C
	Solubility in water:	110 g/l/20°C
	Density:	2270 - 2430 kg/m <sup>3</sup>
	Partition coefficient n-octanol/water:	The study does not need to be conducted if the substance is inorganic.
	Autoignition:	The study does not need to be conducted if preliminary results exclude self-heating of the substance up to 400°C
	Decomposition temperature:	No data available
	Viscosity:	No data available
	Explosion properties:	Potassium carbonate does not contain any functional groups indicating explosive properties.
	Oxidation properties:	The substance does not contain any structural groups known to be correlated with a tendency to react exothermically with combustible material.
9.2	Additional information:	
	Bulk density:	750 kg/m <sup>3</sup>
	Molecular weight:	138,21 g/mol

### SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity:	No
10.2	Chemical stability:	Stable



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10.3	Possibility of hazardous reactions:	No possible reactions
10.4	Conditions to avoid:	Humidity
10.5	Incompatible materials:	Acids
10.6	Hazardous decomposition products:	Under normal conditions of storage and use product does not decompose.

### SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Acute toxicity:	LD50 (oral, rat) > 2000 mg/kg bw LD50 (dermal, rat) > 2000 mg/kg bw LC50 (inhalation, rat) > 4960 mg/m <sup>3</sup> air
	Skin corrosion/irritation:	Causes skin irritation
	Serious eye damage/eye irritation:	Causes serious eye irritation
	Respiratory irritation:	May cause respiratory irritation
	Respiratory or skin sensitization:	May cause respiratory irritation
	Germ cell mutagenicity:	Negative
	Carcinogenicity:	No data available
	Reproductive toxicity:	No toxicity is expected
	Specific target organ toxicity - single exposure:	May cause respiratory irritation
	Specific target organ toxicity - repeated exposure:	No data available
	Aspiration hazard:	No data available
	Information on likely route of exposition:	Inhalation, skin/eyes, ingestion
	Symptoms related to the physical, chemical and toxicological characteristics:	Contact with skin: Irritation with redness. Defatting of the skin. Contact of dust with eyes: Irritation with redness and tearing. Eyesight damage may occur. Inhalation of dust: Coughing, sore throat, respiratory tract irritation. Ingestion: Nausea, sore throat, esophagus, stomach pain. Swallowing large quantities can cause intestinal perforation.
	Delayed and immediate effects as well as chronic effects from short and long-term exposure:	No data available
	Interactive effects:	No data available
	Other information:	No other information.

### SECTION 12: ECOLOGICAL INFORMATION

12.1	Acute (short term) toxicity:	
	Fish:	LC50 Oncorhynchus mykiss 68 mg/litr/96 hod

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	Algae:	No data available
	Invertebrates (Crustacea):	EC50 Daphnia magna 430 mg/liter/48 hod EC50 Daphnia pulex 200 mg/liter/48 hod
12.2	Persistence and degradability:	Soluble in water, increases pH.
12.3	Bioaccumulative potential:	Not applicable
12.4	Soil mobility:	No data available
12.5	PBT and vPvB assessment:	This substance is neither PBT nor vPvB.
12.6	Other adverse effects:	Hazard depends on the pH. In small quantities is not hazardous to the environment.
12.7	Additional information:	No data available

### SECTION 13: DISPOSAL CONSIDERATIONS:

13.1	Methods for waste disposal:	
	Appropriate methods for removal of waste product and contaminated packing:	The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
	Applicable Czech regulations for waste management:	Act No. 185/2001 Coll. On waste as amended by Decree of the Ministry of Environment 381/2001 Sb Waste Catalogue as amended by Decrees 503/2004Sb, 168/2007Sb374/2008Sb Decree and the Ministry of Environment as amended by Decrees 383/2001Sb 41/2005Sb, 294 / 2005 Sb and 353/2005Sb 351/2008Sb

### SECTION 14: TRANSPORT INFORMATION

14.1	UN number:	Not applicable
	Hazard Label:	Not applicable
14.2	UN Proper Shipping Name:	Not applicable
14.3	Transport hazard class:	Not applicable
	Classification code:	Not applicable
	Kemler code:	Not applicable
14.4	Packing group:	Not applicable
14.5	Environmental hazard:	Not applicable
14.6	Special precautions for user:	Not applicable
	Additional information:	During the transport avoid humidity.



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14.7	Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	No data available
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### SECTION 15: REGULATORY INFORMATION

15.1	Regulation concerning safety, health and environment / specific legal regulations concerning the product or mixture:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Official Journal of the European Union series L No. 396 of 30 December 30 2006 with later changes). In the Czech republic: Law 350/2011 Sb (Chemical law), in current version and its implementing legislation Law 102/2001 Sb., in current version Law 185/2001 Sb., in current version Regulation (EU)1907/2006 (REACH) Regulation (EU) 1272/2008 (CLP)
15.2	Examination of chemical security:	The Chemical Safety Report has been completed.
15.5	Further information:	Substance is not SVHC, neither listed in Annex XIV or XVII of REACH Regulation

### SECTION 16: OTHER INFORMATION

<p>Changes of MSDS made within framework of revision: 1<sup>st</sup> Version according to CLP regulation</p> <p>Important references to literature and sources of information: MSDS of the producer from 5.01.2011 revised 13.12.2011 (Version 2.1)</p> <p>List of relevant standard phrases (H – phrases) / ( P –phrases): H315: Causes skin irritation H319: Causes serious eye irritation. H335: May cause respiratory irritation.</p> <p>Abbreviations and acronymes used: REACH Registration, Evaluation, Authorisation and restriction of CHemicals DNEL Derived No Effect Level PNEC Predicted No Effect Concentration LC50 Lethal Concentration 50% EC50 Effective Concentration 50% PBT Persistent, Bioaccumulative and Toxic vPvB Very Persistent and Very Bioaccumulative</p>	
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SVHC Substances of Very High Concern

Full text of classifications CLP/GHS:

Skin Irrit. 2 Skin corrosion/irritation, Category 2;

Eye Irrit. 2 Serious eye damage/eye irritation, Category 2

STOT Single Exp. 3 Specific target organ toxicity — single exposure, Category 3

List of relevant descriptors

Sector of use

SU1 Agriculture, forestry, fishery

SU2a Mining (without offshore industries)

SU4 Manufacture of food products

SU5 Manufacture of textiles, leather, fur

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU13 Manufacture of other non-metallic mineral products, e.g. plasters, cement

SU19 Building and construction work

SU0 Others

Product category:

PC4 Anti-freeze and de-icing products

PC8 Biocidal products (e.g. disinfectants, pest control)

PC Ink and toners

PC27 Plant protection products

PC30 Photo-chemicals

PC35 Washing and cleaning products (including solvent based products)

Product category:

PC4 Anti-freeze and de-icing products

PC8 Biocidal products (e.g. disinfectants, pest control)

PC Ink and toners

PC27 Plant protection products

PC30 Photo-chemicals

PC35 Washing and cleaning products (including solvent based products)

Process category:

PROC1 Use in closed process, no likelihood of exposure PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC7 Industrial spraying.

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at

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dedicated facilities  
 PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing) removers  
 PROC10 Roller application or brushing  
 PROC11 Non industrial spraying  
 PROC12 Use of blowing agents in manufacture of foam  
 PROC13 Treatment of articles by dipping and pouring  
 PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation  
 PROC15 Use as laboratory reagent  
 PROC19 Hand-mixing with intimate contact and only PPE available  
 PROC 21 Low energy manipulation of substances bound in materials and/or articles  
 PROC22 Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting  
 PROC23 Open processing and transfer operations with minerals/metals at elevated temperature  
 PROC24 High (mechanical) energy work-up of substances bound in materials and/or articles

Article category:

AC35 Scented paper articles  
 AC4 Stone, plaster, cement, glass and ceramic articles  
 AC7 Metal articles  
 AC8 Paper articles  
 AC10 Rubber articles  
 AC11 Wood articles  
 AC12 Plastic articles

Instructions for staff training:

Training on operating with chemicals

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information is based on the preset knowledge and is applicable to the product with regard to appropriate safety precaution. It does not represent any guarantee of the properties of the product

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 (as amended by Commission Regulation (EU) No 453/2010).



## Appendix: Exposition scenarios

### Potassium carbonate

CAS: 584-08-7

<b>Section 1. Exposure Scenario Title</b>
<b>Exposure Scenario 1: Manufacturing, formulation and industrial use of potassium carbonate (industrial setting)</b>
<b>Generic description of the exposure scenario</b>
<p>This exposure scenario covers uses of potassium carbonate as such or in preparations at industrial sites, manufacture of bulk, large scale chemicals (including petroleum products), fine chemicals as well as formulation (mixing) of preparations containing or involving the use of potassium carbonate. Potassium carbonate is manufactured in the following settings: closed process with no likelihood of exposure, closed, continuous process with occasional controlled exposure, closed batch process (synthesis or formulation), batch and other process (synthesis) where opportunity for exposure arises as well as mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). Activities involve industrial spraying, transfer of potassium carbonate or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, transfer of potassium carbonate or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities, transfer of potassium carbonate or preparation into small containers (dedicated filling line, including weighing), roller application or brushing, treatment of articles by dipping and pouring, production of preparations or articles by tableting, compression, extrusion, pelletisation, use as laboratory reagent, hand-mixing with intimate contact and only PPE available, low energy manipulation of potassium carbonate bound in materials and/or articles, potentially closed processing operations with potassium carbonate at elevated temperature, open processing and transfer operations with potassium carbonate at elevated temperature, high (mechanical) energy work-up of potassium carbonate bound in materials and/or articles. Exposure to workers by PC and AC are not applicable for this ES.</p>
<b>Section 2. Operational conditions and risk management measures</b>
<b>Operational conditions</b>
<p>The amount used per worker varies from activity to activity. The maximum duration considered for this exposure scenario is a full working shift (8h/day) and 220 days/year.</p>
<b>Risk management measures related to workers</b>
<p>General risk management measures related to workers handling potassium carbonate are summarized in Table 32. A distinction is made between measures that are required or compulsory and measures that indicate good practice. Specific requirements apply to PROCs 7 and 21-24. These requirements are stated in Table 33 by indication of risk management target factors, which need at least to be met unless results of work-place measurements allow less stringent measures.</p> <p>Because potassium carbonate is irritating to skin and the respiratory system, and can produce severe effects on the eye, the risk management measures for human health should focus on the prevention of exposure e.g. by dust or aerosol formation of the substance. For this reason automated and closed systems should preferably be used.</p> <p>Due to the irritating properties especially to eyes, appropriate skin and eye protection is required during any handling of this substance. Respiratory protection is needed when dust or aerosols of potassium carbonate can be formed.</p>



**Table 32: General risk management measures related to workers handling potassium carbonate**

Information type	Data field	Explanation
Containment plus good work practice required	<p>Good practice: replacing, where appropriate, manual processes by automated and/or closed processes. This would avoid irritating dust, mists, sprayings and subsequent potential splashes:</p> <ul style="list-style-type: none"> <li>• Use closed systems or covering of open containers (e.g. screens) (good practice)</li> <li>• Transport over pipes, technical barrel filling/emptying of barrel with automatic systems (suction pumps etc.) (good practice)</li> <li>• Use of pliers, grip arms with long handles with manual use "to avoid direct contact and exposure by splashes (no working over one's head)" (good practice)</li> </ul>	Partly based on the EU RRS (2008) for NaOH
Local exhaust ventilation required plus good work practice	Local exhaust ventilation is not required but good practice.	To improve air quality and avoid potential respiratory tract irritation in working areas
General ventilation	General ventilation is <u>good practice</u> unless local exhaust ventilation is present	To improve air quality and avoid potential respiratory tract irritation in working areas.
Personal protection equipment (PPE) required under regular working conditions	<ul style="list-style-type: none"> <li>• Respiratory protection: In case of dust or aerosol formation: use respiratory protection with approved filter (P2) (<u>required</u>)</li> <li>• Hand protection: impervious chemical resistant protective gloves (<u>required</u>): <ul style="list-style-type: none"> <li>○ material: butyl-rubber, PVC, polychloroprene with natural latex liner, material thickness: 0.5 mm, breakthrough time: &gt; 480 min</li> <li>○ material: nitrile-rubber, fluorinated rubber, material thickness: 0.35-0.4 mm, breakthrough time: &gt; 480 min</li> </ul> </li> <li>• Eye protection: chemical resistant goggles must be worn. If splashes are likely to occur, wear tightly fitting safety goggles, face - shield (<u>required</u>)</li> <li>• Wear suitable protective clothing, aprons, shield, protective helmet and suits, if splashes are likely to occur, wear: rubber or plastic boots, rubber or plastic boots (<u>required</u>)</li> </ul>	
Other risk management measures related to workers. For example: Particular training systems, monitoring/reporting or auditing systems, specific control guidance.	<p>Next measures are <u>required</u> (from EU RRS, 2008):</p> <ul style="list-style-type: none"> <li>• workers in the risky process/areas identified should be trained a) to avoid to work without respiratory protection and b) to understand the irritating properties and, especially, the respiratory inhalation effects of potassium carbonate and c) to follow the safer procedures instructed by the employer</li> <li>• the employer has also to ascertain that the required PPE is available and used according to instructions</li> </ul>	Partly based on the EU RRS (2008) for NaOH

**Specific requirements for PROCs 7 and 21-24**

Based on results of the ECETOC TRA exposure estimation, PROCs 7 and 21-24 require specific risk

management measures during handling of potassium carbonate. The following table shows applicable risk management target factors which need at least to be met by implementation of one or combination of two or more risk management measures (examples for calculation are given further down). Please note that general risk management measures given in Table 32 still apply to these PROCs. In case of the given target factors have already been met by implementation of general risk management measures stated above, no further RMM are needed for the respective PROC(s).

**Table 33 Risk management target factors**

Process Category	Target factor - liquid K <sub>2</sub> CO <sub>3</sub> (solid K <sub>2</sub> CO <sub>3</sub> , low dustiness)
PROC 7	0.0017 (0.99)
PROC 21	N/A (0.99)
PROC22-24 (worst case)	N/A (0.1)

**Table 34 Risk reduction factors<sup>1</sup>**

Risk management measure	Data field	Risk reduction factor
Working restrictions	1-4 hours	0.6
	0.25-1 hours	0.2
	< 0.25 hours	0.1
Concentration (mixtures only)	5-25%	0.6
	1-5%	0.2
	<1	0.1
Local exhaust ventilation (LEV)	Effectiveness (usually between 80 and 95%)	Examples: 0.2 (Effectiveness = 80%) 0.1 (Effectiveness = 90%) 0.05 (Effectiveness = 95%)
Respiratory protective equipment	Effectiveness (usually between 90 and 95%)	Examples: 0.1 (Effectiveness = 90%) 0.05 (Effectiveness = 95%)

<sup>1</sup> Based on ECETOC default values

Example for calculation of total risk reduction factor to verify if given RMM target factor is met:

**Given risk management target factor: 0.005**

RMM aimed to be applied:

Working restriction: reduction of total duration of activity per 8 h shift to < 0.25 h (risk reduction factor: **0.1**)

Use of respiratory protective equipment with effectiveness of 95% (risk reduction factor: **0.05**)

Calculation of total risk reduction factor: **0.1** (working restriction) x **0.05** (RPE) = **0.005**

The total risk reduction factor of 0.005 does not exceed the given risk management target factor of 0.005 and thus, the applied risk management measures meet the requirements for safe handling.

Note that a combination of e.g. concentration range 1-5% (risk reduction factor 0.2) and use of local exhaust ventilation with an effectiveness of 95% (risk reduction factor 0.05) will not be sufficient to assure a safe handling since 0.2 x 0.05 equals 0.01 and thus exceeds the given risk management target factor of this example.

#### **Risk management measures related to environment**

Risk management measures related to the environment aim to avoid discharging potassium carbonate solutions into municipal wastewater or to surface water, in case such discharges are expected to cause significant and undesired pH changes. Adequate control of the pH value during introduction into open waters is required. In general, discharges should be carried out such that pH changes in receiving surface waters are minimised. Most aquatic organisms can tolerate pH values in the range of 6.5-8.5. This is also reflected in the description of standard OECD tests with aquatic organisms. In exceptional cases, local conditions may sometimes require specific measures, usually in agreement with local authorities. Indirect discharge, i.e. discharge to municipal sewer systems, generally require wastewater to be in the range of pH 6.5-9.5.

#### **Waste related measures**

Liquid potassium carbonate waste should be re-used or discharged to the industrial wastewater and further neutralized if needed (cfr. RMM related to environment).



<b>Section 3. Exposure Estimation</b>
<b>3.1. Health (workers exposure)</b>
<b>3.2. Environment</b>
<b>Section 4. Guidance to check compliance with the Exposure Scenario</b>
<p>The DU works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate on his own that his operational conditions and implemented risk management measures are adequate. This has to be done by showing that they limit the inhalation and dermal exposure to a level below the respective DNEL (given that the processes and activities in question are covered by the PROCs listed above) as given below. If measured data are not available, the DU may make use of an appropriate scaling tool such as ECETOC TRA.</p> <p>Worst case inhalation exposure to vapour or aerosols (PROC 7) is estimated by ECETOC TRA</p> <p>Important note: By demonstrating a safe use when comparing exposure estimates with the long-term DNEL, the acute DNEL is therefore also covered (according to R.14 guidance, acute exposure levels can be derived by multiplying long-term exposure estimates by a factor of 2).</p>
<b>Section 1. Exposure Scenario Title</b>
<b>Exposure Scenario 2: Industrial and professional end use of solid and liquid products containing potassium carbonate</b>
<p>This exposure scenario covers the use of liquid or solid potassium carbonate in the following sectors: agriculture, forestry, fishery, mining, offshore industries, manufacture of food products, textiles, leather, fur and other non-metallic mineral products, printing and reproduction of recorded media, building and construction work as well as professional uses in the public domain (administration, education, entertainment, services, craftsmen).</p> <p>The use of potassium carbonate is carried out in the following settings: use in closed process with no likelihood of exposure, closed, continuous processes with occasional controlled exposure, closed batch processes (synthesis or formulation), batch and other processes (synthesis) where opportunity for exposure arises, mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), calendaring operations as well as industrial and non-industrial spraying. Activities involve: transfer of potassium carbonate or its preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, transfer of potassium carbonate or its preparation (charging/discharging) from/to vessels/large containers at dedicated facilities, transfer of potassium carbonate or its preparation into small containers (dedicated filling line, including weighing), roller application or brushing, treatment of articles by dipping and pouring, production of preparations or articles by tableting, compression, extrusion, pelletisation, use of potassium carbonate as laboratory reagent, using potassium carbonate-containing material as fuel sources (limited exposure to unburned product to be expected), hand-mixing with intimate contact and only PPE available, low energy manipulation of potassium carbonate bound in materials and/or articles, potentially closed processing operations with minerals/metals at elevated temperature in an industrial setting, open processing and transfer operations with minerals/metals at elevated temperature as well as high (mechanical) energy work-up of potassium carbonates bound in materials and/or articles. Exposure to workers by PC and AC are not applicable for this ES.</p>
<b>Section 2. Operational conditions and risk management measures</b>
<b>Description of activities, processes and operational conditions covered in the exposure scenario</b>
<p>Main activities included in this scenario are the use of solid or liquid products or articles containing potassium carbonate for the purpose of fertilization of amenity (parks, public lawns, sport fields, golf courses), for greenhouse applications (including leaf spray, surface spreading, irrigation), leaf spraying at open field, sowing of seeds coated in fertilizer (including surface coating of seeds), for alkalisng purposes in the cacao-industry, pH regulation for the production of yeast, manufacture of solid mineral fertilizers, for the use in building and construction preparations, during glass processes (including batch transportation to furnace, raw material transport, dosing weighing, mixing and batch filling to tank as well as fumes treatment), for the use of or in detergents, paint strippers, chemical peeling, pickling, for titration and extraction purposes and use as pH regulator, neutralizing and/or water treatment agent, for application, receipt and storage of imaging and printing chemicals as well as for the use as anti-freeze and de-icing product in the form of granules or powder.</p>
<b>Risk management measures related to industrial and professional workers</b>
<p>General risk management measures related to workers handling potassium carbonate are summarized in Table 38. A distinction is made between measures that are required or compulsory and measures that indicate good practice. Specific requirements apply to industrial processes described by PROCs 7 and 21-24 as well as to professional processes described by PROCs 4-6, 11, 14, 16, 21 and 23-24. These requirements are stated in Table 39 by indication of risk management target factors, which need at least to be met unless results of workplace measurements allow less stringent measures.</p> <p>Because potassium carbonate is irritating to skin, eyes and the respiratory system, the risk management measures for human health should focus on the prevention of exposure e.g. by dust or aerosol formation of the substance. For this reason automated and closed systems should preferably be used. Due to the skin irritating properties and</p>



the seriously irritating eye nature, appropriate skin and eye protection is required during any handling of this substance. Respiratory protection is needed when dust or aerosols of potassium carbonate can be formed.

Table 38: General risk management measures related to workers handling potassium carbonate

Information type	Data field	Explanation
Containment plus good work practice required	<p>Good practice: replacing, where appropriate, manual processes by automated and/or closed processes. This would avoid irritating dust, mists, sprayings and subsequent potential splashes:</p> <ul style="list-style-type: none"> <li>• Use closed systems or covering of open containers (e.g. screens) (good practice)</li> <li>• Transport over pipes, technical barrel filling/emptying of barrel with automatic systems (suction pumps etc.) (good practice)</li> <li>• Use of pliers, grip arms with long handles with manual use "to avoid direct contact and exposure by splashes (no working over one's head)" (<u>good practice</u>)</li> </ul>	Partly based on the EU RRS (2008) for NaOH
Local exhaust ventilation required plus good work practice	Local exhaust ventilation is not required but good practice.	To improve air quality and avoid potential respiratory tract irritation in working areas
General ventilation	General ventilation is <u>good practice</u> unless local exhaust ventilation is present	To improve air quality and avoid potential respiratory tract irritation in working areas.
Personal protection equipment (PPE) required under regular working conditions	<ul style="list-style-type: none"> <li>• Respiratory protection: In case of dust or aerosol formation: use respiratory protection with approved filter (P2) (<u>required</u>)</li> <li>• Hand protection: impervious chemical resistant protective gloves (<u>required</u>): <ul style="list-style-type: none"> <li>◦ material: butyl-rubber, PVC, polychloroprene with natural latex liner, material thickness: 0.5 mm, breakthrough time: &gt; 480 min</li> <li>◦ material: nitrile-rubber, fluorinated rubber, material thickness: 0.35-0.4 mm, breakthrough time: &gt; 480 min</li> </ul> </li> <li>• Eye protection: chemical resistant goggles must be worn. If splashes are likely to occur, wear tightly fitting safety goggles, face -shield (<u>required</u>)</li> <li>• Wear suitable protective clothing, aprons, shield, protective helmet and suits, if splashes are likely to occur, wear: rubber or plastic boots, rubber or plastic boots (<u>required</u>)</li> </ul>	
Other risk management measures related to workers. For example: Particular training systems, monitoring/reporting or auditing systems, specific control guidance.	<p>Next measures are <u>required</u> (from EU RRS, 2008):</p> <ul style="list-style-type: none"> <li>• workers in the risky process/areas identified should be trained a) to avoid to work without respiratory protection and b) to understand the irritating properties and, especially, the respiratory inhalation effects of potassium carbonate and c) to follow the safer procedures instructed by the employer</li> <li>• the employer has also to ascertain that the required PPE is available and used according to instructions</li> </ul>	Partly based on the EU (2008) for NaOH

Specific requirements for PROCs 4-7, 11, 14, 16 and 21-24

Based on results of the ECETOC TRA exposure estimation, PROCs 4-7, 11, 14, 16 and 21-24 require specific risk management measures during handling of potassium carbonate. The following table shows applicable risk management target factors which need at least to be met by implementation of one or combination of two or more risk management measures (examples for calculation are given further down). Please note that general risk



management measures given in Table 38 still apply to these PROCs. In case of the given target factors have already been met by implementation of general risk management measures stated above, no further RMM are needed for the respective PROC(s).

Table 39 Risk management target factors

Process Category	Target factor for industrial use - liquid K <sub>2</sub> CO <sub>3</sub> (solid K <sub>2</sub> CO <sub>3</sub> , low dustiness)	Target factor for professional use - li K <sub>2</sub> CO <sub>3</sub> (solid K <sub>2</sub> CO <sub>3</sub> , low dustiness)
PROC 4-6	—	N/A (0.99)
PROC 7	0.0017 (0.99)	N/A (N/A)
PROC11	N/A (N/A)	0.0017 (0.99)
PROC14	—	--- (0.99)
PROC16	—	--- (0.2)
PROC 21	N/A (0.99)	N/A (0.33)
PROC 22 (worst case)	N/A (0.1)	N/A (N/A)
PROC 23-24 (worst case)	N/A (0.1)	N/A (0.05)

Table 40 Risk reduction factors<sup>4</sup>

Risk management measure	Data field	Risk reduction factor
Working restrictions	1-4 hours	0.6
	0.25-1 hours	0.2
	< 0.25 hours	0.1
Concentration (mixtures only)	5-25%	0.6
	1-5%	0.2
	<1	0.1
Local exhaust ventilation (LEV)	Effectiveness (usually between 80 and 95%)	Examples: 0.2 (Effectiveness = 80%) 0.1 (Effectiveness = 90%) 0.05 (Effectiveness = 95%)
Respiratory protective equipment	Effectiveness (usually between 90 and 95%)	Examples: 0.1 (Effectiveness = 90%) 0.05 (Effectiveness = 95%)

<sup>4</sup> Based on ECETOC default values

Example for calculation of total risk reduction factor to verify if given RMM target factor is met:

Given risk management target factor: 0.005

RMM aimed to be applied:

Working restriction: reduction of total duration of activity per 8 h shift to < 0.25 h (risk reduction factor: 0.1)

Use of respiratory protective equipment with effectiveness of 95% (risk reduction factor: 0.05)

Calculation of total risk reduction factor: 0.1 (working restriction) x 0.05 (RPE) = 0.005

The total risk reduction factor of 0.005 does not exceed the given risk management target factor of 0.005 and thus, the applied risk management measures meet the requirements for safe handling.

Note that a combination of e.g. concentration range 1-5% (risk reduction factor 0.2) and use of local exhaust ventilation with an effectiveness of 95% (risk reduction factor 0.05) will not be sufficient to assure a safe handling since 0.2 x 0.05 equals 0.01 and thus exceeds the given risk management target factor of this example.

#### Risk management measures related to environment

Risk management measures related to the environment aim to avoid discharging potassium carbonate solutions into municipal wastewater or to surface water, in case such discharges are expected to cause significant and undesired pH changes. Adequate control of the pH value during introduction into open waters is required. In general, discharges should be carried out such that pH changes in receiving surface waters are minimized. Most aquatic organisms can tolerate pH values in the range of 6.5-8.5. This is also reflected in the description of standard OECD tests with aquatic organisms. In exceptional cases, local conditions may sometimes require specific measures, usually in agreement with local authorities. Indirect discharge, i.e. discharge to municipal sewer systems generally require wastewater to be in the range of pH 6.5-9.5.

#### Waste related measures

Liquid potassium carbonate waste should be reused or discharged to the industrial wastewater and further neutralized if needed (cfr. RMM related to environment). Deposition or application of solid potassium carbonate should not alter prevalent pH-ranges in soil. Respective impact by releases to the environment by e.g. stormwater should also comply with local legal requirements and/or requirements stated above.

### Section 3. Exposure Estimation

#### 3.1. Health (workers exposure)



3.2. Environment
Potassium carbonate will rapidly dissolve and dissociate in water when released to water. The environmental exposure assessment for solid potassium carbonate is consequently the same as for liquid potassium carbonate (see ES 1).
Section 4. Guidance to check compliance with the Exposure Scenario
The DU works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate on his own that his operational conditions and implemented risk management measures are adequate. This has to be done by showing that they limit the inhalation and dermal exposure to a level below the respective DNEL (given that the processes and activities in question are covered by the PROCs listed above) as given below. If measured data are not available, the DU may make use of an appropriate scaling tool such as ECETOC TRA. Worst case inhalation exposure to vapour or aerosols (PROCs 7 and 11) is estimated by ECETOC TRA Important note: By demonstrating a safe use when comparing exposure estimates with the long-term DNEL, the acute DNEL is therefore also covered (according to R.14 guidance, acute exposure levels can be derived by multiplying long-term exposure estimates by a factor of 2).
Section 1. Exposure Scenario Title
Exposure Scenario 3: Consumer use of potassium carbonate in solid or liquid preparations and articles (private/domestic use)
This scenario covers the consumer use of anti-Freeze and deicing products, disinfectants, coatings and paints, thinners, paint removers, fertilizers, ink and toners, plant protection products, photo-chemicals, washing and cleaning products (including solvent based products) as well as stone-, plaster-, cement-, glass-, ceramic-, metal-, paper-, rubber-, wood- and plastic articles.
Section 2. Operational conditions and risk management measures
Description of activities, processes and operational conditions covered in the exposure scenario
Based on information provided by industry, less than 12% of the potassium carbonate production is applied in wide dispersive uses and enters in consumer products, i.e. approx. 2.25% supplied as powder and about 9.6% supplied as granules containing potassium carbonate through glass production and chemical-mechanical polishing products. However, the use of granules by consumers is estimated by industry to not exceed 2% of the total production (dmt) and that the use of potassium carbonate powder by consumers is very unlikely. The amounts used will interact with other ingredients in acid-base reactions and thus practically no potassium carbonate is left in the final consumer product. However, some cleaning products may contain up to 40% of potassium carbonate (photo-chemicals), which however, are diluted by the consumer to 3% before use. Regular laundry powder or liquids contain up to 9.6% of potassium carbonate, toilet cleaners are expected to contain 0.025% and surface cleaners (liquid, powder, gel neat, spray neat) contain up to 5% in the formulated product. Germ care and other disinfectants contain max 0.15% of potassium carbonate. However, since the risk of harmful exposure to potassium carbonate needs to be considered during product design by setting the pH in consumer products to between 5 and 8 (see further details below), no health effects are expected from any consumer use of potassium carbonate.
Risk management measures related to consumers
The risk management measures related to consumers are mainly related to prevent accidents. Measures related to the design of the product 1. since the hazard of potassium carbonate to man is driven by pH only, all consumer products need to be designed so that the pH is between pH 5-8 in the product itself and during any use where exposure can be expected. 2. for consumer products where the pH range of 5-8 is not maintained, the following measures related to the design of products should be maintained • All consumer products should be designed so that exposure by inhalation of aerosols and powder is inhibited (see also recommended risk management measure on viscosity). • It is required to use resistant labelling-package to avoid its auto-damage and loss of the label integrity, under normal use and storage of the product. The lack of quality of the package provokes the physical loss of information on hazards and use instructions. • It is required that household chemicals, containing potassium carbonate in concentrations > 3%, which may be accessible to children should be provided with a child-resistant fastening (currently applied) and a tactile warning of danger (Adaptation to Technical Progress of the Directive 1999/45/EC, annex IV, Part A and Article 15(2) of Directive 67/548 in the case of, respectively, dangerous preparations and substances intended for domestic use). This would prevent accidents by children and other sensitive groups of society. • It is required that appropriate use instructions, and product information should always be provided to consumers. This clearly can reduce the risk of misuse. For reducing the number of accidents, it is advisable to use these products in the absence of children or other sensitive groups. To prevent improper use of potassium carbonate, instructions for use should contain a warning against dangerous mixtures. • It is advisable to deliver only in very viscous preparations. • It is advisable to deliver only in small amounts. Instructions addressed to consumers for consumer products where the pH range of 5-8 is not maintained • Keep out of reach of children.



• Do not apply product into ventilator openings or slots.

PPE required under regular conditions of consumer use of products where the pH range of 5-8 is not maintained

	PPE	concentration in product	PPE	concentration in product
Respiratory protection: In case of dust or aerosol formation (e.g. spraying): use respiratory protection with approved filter (P2)	required	> 3 %	Not needed	< 3 %
Hand protection: In case of potential dermal contact: use impervious chemical resistant protective gloves	required	> 3 %	No	< 3 %
Eye protection: If splashes are likely to occur, wear tightly fitting goggles, face -shield	required	> 3 %	No	< 3 %

### Risk management measures related to environment

There are no specific risk management measures related to environment.

#### Waste related measures

Wasted material and its containers must be disposed of in a safe way (e.g. by returning to a public recycling facility). If container is empty, trash as regular municipal waste.

#### Section 3. Exposure Estimation

##### 3.1. Health (Consumer exposure)

##### 3.2. Environment

Consumer uses relate to already diluted products which will be quickly further neutralized in the sewer and therefore will not reach WWTP or surface water.

The environmental release from the consumer use during service life is negligible because batteries are sealed articles with a long service life (service life only applies if substance is contained in article >1 year). After use, batteries normally are recycled and even in case it is disposed as municipal waste, potassium carbonate is not expected to cause a significant (pH) effect to the environment when incinerated or landfilled.

#### Section 4. Guidance to check compliance with the Exposure Scenario

The DU works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate on his own that his operational conditions and implemented risk management measures are adequate. This has to be done by showing that they limit the inhalation and dermal exposure to a level below the respective DNEL (given that the processes and activities in question are covered by the PROCs listed above) as given below. If measured data are not available, the DU may make use of an appropriate scaling tool.

Important note: By demonstrating a safe use when comparing exposure estimates with the long-term DNEL, the acute DNEL is therefore also covered (according to R.14 guidance, acute exposure levels can be derived by multiplying long-term exposure estimates by a factor of 2).



**Safety Data Sheet**  
**Zinc sulfate, monohydrate**  
**Revision 4, Date 19 Oct 2019**

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Zinc sulfate, monohydrate</b>
<b>Other Names</b>	Zinc sulphate, monohydrate
<b>Uses</b>	Dietary/mineral supplement; used in animal feeds, fertilisers, toothpaste; used commercially as an astringent, coagulant, electrolyte, mordant, preservative.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	ZnSO <sub>4</sub> .H <sub>2</sub> O
<b>Chemical Name</b>	Sulfuric acid, zinc salt (1:1), monohydrate
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

## 2. HAZARD IDENTIFICATION

**Poisons Schedule (Aust)**

Schedule 6

**Globally Harmonised System**

Redox Pty Ltd  
Corporate Office Sydney  
Locked Bag 15 Minto NSW 2566 Australia  
2 Swettenham Road Minto NSW 2566 Australia  
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

Phone +61 2 9733 3000  
Fax +61 2 9733 3111  
E-mail [sydney@redox.com](mailto:sydney@redox.com)  
Web [www.redox.com](http://www.redox.com)  
ABN 92 000 762 345

Australia Adelaide Brisbane Melbourne Perth Sydney	New Zealand Auckland Christchurch Hawke's Bay UK London	Malaysia Kuala Lumpur USA Los Angeles Oakland Mexico Saltito
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## Safety Data Sheet Zinc sulfate, monohydrate Revision 4, Date 19 Oct 2019

<b>Hazard Classification</b>	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
<b>Hazard Categories</b>	Acute Toxicity (Oral) - Category 4 Serious Eye Damage/Irritation - Category 1 Acute Hazard To The Aquatic Environment - Category 1

**Pictograms**



**Signal Word** Danger

<b>Hazard Statements</b>	<b>H302</b>	Harmful if swallowed.
	<b>H318</b>	Causes serious eye damage.
	<b>H400</b>	Very toxic to aquatic life.

<b>Precautionary Statements</b>	Prevention	<b>P270</b>	Do not eat, drink or smoke when using this product.
		<b>P273</b>	Avoid release to the environment.
		<b>P280</b>	Wear eye protection/face protection.
		<b>P264</b>	Wash skin thoroughly after handling.
	Response	<b>P301 + P312</b>	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
		<b>P330</b>	Rinse mouth.
		<b>P305 + P351 + P338 + P310</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.
		<b>P391</b>	Collect spillage.
	Disposal	<b>P501</b>	Dispose of contents/container in accordance with local / regional / national / international regulations.

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification** NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>HSNO Classifications</b>	Health Hazards	<b>6.1D</b>	Substances that are acutely toxic - Harmful
		<b>6.9B</b>	Substances that are harmful to human target organs or systems
		<b>8.3A</b>	Substances that are corrosive to ocular tissue
	Environmental Hazards	<b>9.1A</b>	Substances that are very ecotoxic in the aquatic environment
		<b>9.2C</b>	Substances that are harmful in the soil environment
		<b>9.3C</b>	Substances that are harmful to terrestrial vertebrates

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Ingredients**





Chemical Entity	Formula	CAS Number	Proportion
Zinc sulphate, monohydrate	ZnSO <sub>4</sub> .H <sub>2</sub> O	7446-19-7	<= 100 %

#### 4. FIRST AID MEASURES

##### Description of necessary measures according to routes of exposure

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
<b>Eye</b>	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.
<b>Skin</b>	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Wash skin and hair with plenty of soap and running water. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

#### 5. FIRE FIGHTING MEASURES

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	Non-combustible; Material itself does not burn.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO <sub>2</sub> ), foam or water spray for extinction.
<b>Fire and Explosion Hazard</b>	Decomposes on heating, emitting toxic fumes. Containers may explode when heated.
<b>Hazardous Products of Combustion</b>	Fire or heat may produce irritating and/or toxic fumes, including Sulfur oxides, Zinc oxides.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

#### 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Collect material (sweep up, shovel) and keep in suitable, closed containers for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
<b>Decontamination</b>	Clean contaminated surfaces with an excess of water.
<b>Environmental Precautionary Measures</b>	Spillages and decontamination runoff should be prevented from entering drains and watercourses.



<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

## 7. HANDLING AND STORAGE

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust/fume and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid release to the environment - Collect spillage (see SECTION 6).
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from water/moisture (hygroscopic). Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
<b>Container</b>	Keep in the original container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m <sup>3</sup> (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m <sup>3</sup> ; TWA = 3 mg/m <sup>3</sup> (respirable dust).
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
<b>Personal Protection Equipment</b>	- Respiratory protection: In case of dust production, wear respiratory protection. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Safety glasses, in case of dust production, protective goggles. - Hand protection: Handle with gloves. Recommended: Impermeable protective gloves, e.g. Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Chemical-resistant protective clothing and safety shoes.
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Always wash hands and face immediately after handling this product and before leaving the workplace. Remove contaminated clothing immediately and wash before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Powder granules
<b>Odour</b>	Odourless
<b>Colour</b>	White
<b>pH</b>	No Data Available
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	No Data Available
<b>Melting Point</b>	229 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	210 g/l in water 20°C



<b>Specific Gravity</b>	No Data Available
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	3.35 g/cm <sup>3</sup>
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	179.467
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	No information available.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Non-combustible; Material itself does not burn.
<b>Reactions That Release Gases or Vapours</b>	Decomposes on heating, emitting irritating and/or toxic fumes, including Sulfur oxides, Zinc oxides.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	No dangerous reactions known under normal conditions of use.
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Conditions to Avoid</b>	Avoid generating dust. Protect from moisture/water (hygroscopic).
<b>Materials to Avoid</b>	Incompatible/reactive with strong bases, oxidising agents.
<b>Hazardous Decomposition Products</b>	Decomposes on heating, emitting irritating and/or toxic fumes, including Sulfur oxides, Zinc oxides.
<b>Hazardous Polymerisation</b>	Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"> <li>- Acute toxicity: Harmful if swallowed; May cause gastrointestinal complaints, nausea, vomiting, abdominal pain, diarrhoea, blood in stool, decreased renal function.</li> <li>- Skin corrosion/irritation: May cause slight irritation.</li> <li>- Eye damage/irritation: Causes serious eye damage; May cause corrosion of the eye tissue, visual disturbances.</li> </ul>
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- Respiratory/skin sensitisation: Not considered to be a skin sensitiser.
- Germ cell mutagenicity: Not mutagenic to germ cells.
- Carcinogenicity: No information available.
- Reproductive toxicity: While fertility toxicity has been observed at very high doses, the levels at which this occurs are unlikely to result from industrial use of the chemical.
- STOT (single exposure): Inhalation of dust or fume can irritate the respiratory tract; may cause coughing.
- STOT (repeated exposure): Not considered to cause serious damage to health from repeated exposure. Zinc over-consumption may cause haematological effects such as anaemia, neutropaenia, decreased cholesterol levels, immuno-toxic and gastrointestinal effects.
- Aspiration toxicity: No information available.

**Acute**

<b>Ingestion</b>	Acute toxicity (Oral): - LD50, Mouse: 926 mg/kg bw. (equiv. 337 mg Zn/kg) [ECHA].
<b>Carcinogen Category</b>	None

**12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	Aquatic toxicity: - LC50, Fish: 2.4 mg/l (96 h). - EC50, Crustacea (Daphnia): 0.56 mg/l (48 h). - EC50, Algae: 0.05 - 0.36 mg/l (72 h).
<b>Persistence/Degradability</b>	Biodegradation is not applicable to metals/inorganic substances.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Very toxic to aquatic life - Avoid release to the environment.
<b>Bioaccumulation Potential</b>	No information available.
<b>Environmental Impact</b>	No Data Available

**13. DISPOSAL CONSIDERATIONS**

<b>General Information</b>	Recycle/reuse or dispose of contents/container to a licensed disposal company and in accordance with local/regional/national regulations.
<b>Special Precautions for Land Fill</b>	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**14. TRANSPORT INFORMATION**

**Land Transport (Australia)**

ADG Code

<b>Proper Shipping Name</b>	Zinc sulfate, monohydrate
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	AU01
<b>Comments</b>	Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.



**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate, monohydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate, monohydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	Zinc sulfate, monohydrate
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>ERG</b>	171 Substances (Low to Moderate Hazard)
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	Not regulated as a hazardous material when transported by land in packagings <1,000 lbs (454 kg).

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate, monohydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available
<b>EMS</b>	F-A, S-F
<b>Marine Pollutant</b>	Yes

**Air Transport**

IATA DGR

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate, monohydrate)
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<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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**15. REGULATORY INFORMATION**

<b>General Information</b>	ZINC SULFATE
<b>Poisons Schedule (Aust)</b>	Schedule 6

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>Approval Code</b>	HSR003733
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**National/Regional Inventories**

<b>Australia (AICS)</b>	Listed
<b>Canada (DSL)</b>	Not Determined
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Not Determined
<b>Europe (EINECS)</b>	231-793-3
<b>Europe (REACH)</b>	Not Determined
<b>Japan (ENCS/METI)</b>	Not Determined
<b>Korea (KECI)</b>	Not Determined
<b>Malaysia (EHS Register)</b>	Not Determined
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Not Determined
<b>Switzerland (Giftliste 1)</b>	Not Determined
<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined
<b>Taiwan (NCSR)</b>	Not Determined
<b>USA (TSCA)</b>	Not Determined





## 16. OTHER INFORMATION

## Related Product Codes

ZISULF1000, ZISULF1002, ZISULF1003, ZISULF2000, ZISULP0068, ZISULP0100, ZISULP0101, ZISULP0102, ZISULP0103, ZISULP0104, ZISULP0105, ZISULP0106, ZISULP0107, ZISULP0108, ZISULP0109, ZISULP0110, ZISULP0111, ZISULP0112, ZISULP0113, ZISULP0114, ZISULP0115, ZISULP0116, ZISULP0117, ZISULP0118, ZISULP0119, ZISULP0120, ZISULP0121, ZISULP0122, ZISULP0123, ZISULP0124, ZISULP0125, ZISULP0126, ZISULP0127, ZISULP0128, ZISULP0129, ZISULP0130, ZISULP0131, ZISULP0132, ZISULP0133, ZISULP0134, ZISULP0135, ZISULP0200, ZISULP0201, ZISULP0400, ZISULP0401, ZISULP0500, ZISULP0501, ZISULP0502, ZISULP0503, ZISULP0504, ZISULP0505, ZISULP0900, ZISULP1000, ZISULP1001, ZISULP1002, ZISULP1003, ZISULP1004, ZISULP1005, ZISULP1006, ZISULP1007, ZISULP1008, ZISULP1009, ZISULP1010, ZISULP1011, ZISULP1012, ZISULP1013, ZISULP1014, ZISULP1015, ZISULP1016, ZISULP1017, ZISULP1018, ZISULP1019, ZISULP1020, ZISULP1021, ZISULP1022, ZISULP1050, ZISULP1060, ZISULP1100, ZISULP1101, ZISULP1102, ZISULP1103, ZISULP1200, ZISULP1201, ZISULP1250, ZISULP1251, ZISULP1252, ZISULP1253, ZISULP1254, ZISULP1255, ZISULP1260, ZISULP1300, ZISULP1301, ZISULP1302, ZISULP1303, ZISULP1304, ZISULP1305, ZISULP1306, ZISULP1307, ZISULP1308, ZISULP1310, ZISULP1312, ZISULP1313, ZISULP1320, ZISULP1400, ZISULP1401, ZISULP1402, ZISULP1403, ZISULP1404, ZISULP1600, ZISULP1601, ZISULP1602, ZISULP1603, ZISULP1604, ZISULP1800, ZISULP1801, ZISULP1804, ZISULP1805, ZISULP1806, ZISULP1807, ZISULP1808, ZISULP1810, ZISULP1811, ZISULP1812, ZISULP1813, ZISULP1814, ZISULP1815, ZISULP1816, ZISULP1817, ZISULP1818, ZISULP1819, ZISULP1824, ZISULP2500, ZISULP2501, ZISULP2700, ZISULP2701, ZISULP2702, ZISULP2703, ZISULP2704, ZISULP2705, ZISULP2706, ZISULP2707, ZISULP2708, ZISULP2709, ZISULP2750, ZISULP2800, ZISULP3000, ZISULP3001, ZISULP3002, ZISULP3003, ZISULP3004, ZISULP3005, ZISULP3006, ZISULP3007, ZISULP3008, ZISULP3200, ZISULP3201, ZISULP3202, ZISULP3203, ZISULP3204, ZISULP3500, ZISULP3501, ZISULP3502, ZISULP3503, ZISULP3600, ZISULP3601, ZISULP3602, ZISULP3603, ZISULP3604, ZISULP3800, ZISULP3801, ZISULP3900, ZISULP4000, ZISULP4001, ZISULP4002, ZISULP4003, ZISULP4004, ZISULP4005, ZISULP4006, ZISULP4010, ZISULP4100, ZISULP4101, ZISULP4102, ZISULP4200, ZISULP4201, ZISULP4202, ZISULP4203, ZISULP4204, ZISULP4250, ZISULP4300, ZISULP4700, ZISULP4701, ZISULP4900, ZISULP4901, ZISULP5000, ZISULP5100, ZISULP5200, ZISULP5205, ZISULP5225, ZISULP5300, ZISULP5301, ZISULP5302, ZISULP5400, ZISULP5600, ZISULP5700, ZISULP5701, ZISULP5900, ZISULP6050, ZISULP6100, ZISULP6101, ZISULP6200, ZISULP6201, ZISULP6202, ZISULP6203, ZISULP6205, ZISULP6206, ZISULP6210, ZISULP6250, ZISULP6251, ZISULP6252, ZISULP6255, ZISULP6260, ZISULP6261, ZISULP6262, ZISULP6265, ZISULP6270, ZISULP6275, ZISULP6300, ZISULP6301, ZISULP6302, ZISULP6401, ZISULP6500, ZISULP6501, ZISULP6700, ZISULP6701, ZISULP6900, ZISULP6901, ZISULP6902, ZISULP7007, ZISULP7100, ZISULP7101, ZISULP7102, ZISULP7105, ZISULP7106, ZISULP7300, ZISULP7301, ZISULP7400, ZISULP7401, ZISULP7402, ZISULP7403, ZISULP7404, ZISULP7500, ZISULP7501, ZISULP7502, ZISULP7503, ZISULP7504, ZISULP7505, ZISULP7600, ZISULP7601, ZISULP7602, ZISULP7603, ZISULP7700, ZISULP7701, ZISULP7702, ZISULP7704, ZISULP7705, ZISULP7710, ZISULP7712, ZISULP7750, ZISULP7751, ZISULP7760, ZISULP7761, ZISULP7800, ZISULP7801, ZISULP7900, ZISULP7910, ZISULP7912, ZISULP8000, ZISULP8001, ZISULP8002, ZISULP8003, ZISULP8004, ZISULP8005, ZISULP8006, ZISULP8007, ZISULP8008, ZISULP8100, ZISULP8200, ZISULP8201, ZISULP8300, ZISULP8400, ZISULP8500, ZISULP8501, ZISULP8600, ZISULP8601, ZISULP8605, ZISULP8700, ZISULP8701, ZISULP8851, ZISULP8852, ZISULP8853, ZISULP8854, ZISULP8900, ZISULP8950, ZISULP8951, ZISULP9500, ZISULP9501, ZISULP9900, ZISULP9970, ZISULP9975

## Revision

4

## Revision Date

19 Oct 2019

## Reason for Issue

SDS Updated

## Key/Legend

&lt; Less Than

&gt; Greater Than

**AICS** Australian Inventory of Chemical Substances**atm** Atmosphere**CAS** Chemical Abstracts Service (Registry Number)**cm<sup>2</sup>** Square Centimetres**CO<sub>2</sub>** Carbon Dioxide**COD** Chemical Oxygen Demand**deg C (°C)** Degrees Celcius**EPA (New Zealand)** Environmental Protection Authority of New Zealand**deg F (°F)** Degrees Fahrenheit**g** Grams**g/cm<sup>3</sup>** Grams per Cubic Centimetre**g/l** Grams per Litre**HSNO** Hazardous Substance and New Organism**IDLH** Immediately Dangerous to Life and Health**immiscible** Liquids are insoluable in each other.**inHg** Inch of Mercury**inH<sub>2</sub>O** Inch of Water**K** Kelvin**kg** Kilogram**kg/m<sup>3</sup>** Kilograms per Cubic Metre**lb** Pound**LC50** LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of

## Safety Data Sheet Zinc sulfate, monohydrate Revision 4, Date 19 Oct 2019

50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

**LD50** LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

**ltr** or **L** Litre

**m<sup>3</sup>** Cubic Metre

**mbar** Millibar

**mg** Milligram

**mg/24H** Milligrams per 24 Hours

**mg/kg** Milligrams per Kilogram

**mg/m<sup>3</sup>** Milligrams per Cubic Metre

**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre

**mmH<sub>2</sub>O** Millimetres of Water

**mPa.s** Millipascals per Second

**N/A** Not Applicable

**NIOSH** National Institute for Occupational Safety and Health

**NOHSC** National Occupational Health and Safety Commission

**OECD** Organisation for Economic Co-operation and Development

**Oz** Ounce

**PEL** Permissible Exposure Limit

**Pa** Pascal

**ppb** Parts per Billion

**ppm** Parts per Million

**ppm/2h** Parts per Million per 2 Hours

**ppm/6h** Parts per Million per 6 Hours

**psi** Pounds per Square Inch

**R** Rankine

**RCP** Reciprocal Calculation Procedure

**STEL** Short Term Exposure Limit

**TLV** Threshold Limit Value

**tne** Tonne

**TWA** Time Weighted Average

**ug/24H** Micrograms per 24 Hours

**UN** United Nations

**wt** Weight





# KYNOCH FERTILIZER

## MATERIAL SAFETY DATA SHEET

### 1. Product and Company identification

Identification of the substance or preparation

Product name	: Urea and Low Biuret Urea	Number	111
Synonyms	: Urea and LB Urea		
Material uses	: Fertilizer		
Supplier address	: Kynoch Fertilizer 1 <sup>st</sup> Floor Selborne Building Fourways Golf Park 1016 Roos Street Fourways	Tel: 011 317 2000	

### 2. Composition / Information on ingredients

Composition	: A stable substance containing ca. 100% Urea. Low biuret containing urea contains less than 0.5% biuret. Methylenediurea < 2.42.
Appearance	: White solid prills or granules

### 3. Hazards Identification

Effects and symptoms	: Heating under confinement may lead to violent reaction or explosion. Dust may cause irritation or coughing. CAS NO: 57-13-6
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### 4. First Aid Measures

Inhalation	: Remove patient from exposure, keep warm and at rest. et medical attention.
Ingestion	: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Give plenty of water to drink. Get medical attention if symptoms appear.
Skin contact	: In case of contact, immediately flush skin with plenty of water. Get medical attention if symptoms appear
Eye contact	: In case of contact, immediately flush eyes with plenty of water for at least 15

Date of issue	: November 2009 (Updated July 2016)
---------------	-------------------------------------

Page 1/4



minutes. Check for and remove any contact lenses. Get medical attention if symptoms appear.

## 5. Fire-fighting measures

### Extinguishing Media

**Special fire-fighting procedures** : Extinguishing media should be determined by surrounding materials.  
Thermal decomposition may evolve ammonia.

**Protection of fire-fighters** : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## 6. Accidental release measures

**Personal Precautions** : As a minimum use rubber gloves and a dust mask.

**Environmental precautions and clean-up methods** : Shovel into well labelled containers for disposal. Thereafter wash the spillage area with water to drain.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

## 7. Handling and Storage

**Handling** : Control dust formation. Avoid contact with eyes. Avoid prolonged contact with skin.

**Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Store and use away from strong bases.

**Packaging materials** : Use original container.

## 8. Exposure Controls / Personal Protection

**Engineering measures** : Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Hygiene measures** : Wash hands after handling compounds and before eating, smoking using lavatory, and at the end of the day.

**Skin and body protection** : Overalls, dust mask.

**Hand protection** : Gloves (impervious)

**Eye protection** : Use dust goggles if high dust concentration is generated.



## 9. Physical and chemical properties

Appearance	: White solid prills / granules
Melting point	: 133°C
Solubility water	: Highly soluble, hygroscopic
Bulk density	: 0,76 g/ml

## 10. Stability and reactivity

Stability	: Stable under recommended storage and handling conditions.
Decomposition products	: Decomposition may evolve the oxides of nitrogen and ammonia.
Hazardous reactions	: Contact with reducing agents and some flammable substances may cause violent reaction and combustion.

## 11. Toxicological information

Eyes	: Hazardous in case of eye contact.
Skin	: May cause irritation from abrasion.
Inhalation	: Dust may irritate to nose, throat and the respiratory tract and may cause coughing.
Ingestion	: Swallowing large amounts may cause irritation and gastrointestinal disorders and in extreme cases.

## 12. Ecological information

Users should ensure that they comply with local; provincial and national environmental legislation.

**Environmental effects, behaviour and fate** : Toxic to aquatic organisms in low concentrations.

## 13. Disposal considerations

**Method of disposal** : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## 14. Transport information

International Regulations : Not regulated.

## 15. *Regulatory information*

- Risk phrases** : Contact with combustible material may cause fire.  
Explosive when mixed with combustible material.
- Safety phrases** : Keep away from combustible material  
This material and its container must be disposed of as hazardous waste.

Users should ensure that they comply with any relevant local, state or national legislation.

## 16. *Other information*

This MSDS summarises at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product, and in particular how to safely handle, use, store and transport the product. Since Kynoch cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review this MSDS in the context of how the user intends to handle, use, store or transport the product and beyond, and communicate such information to all relevant parties.

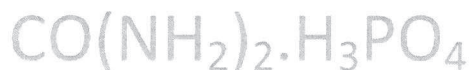
We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part.





## Material Safety Data Sheet

# UREA PHOSPHATE



Revised: 17/08/2011

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Urea Phosphate  
Chemical formula :  $\text{CO}(\text{NH}_2)_2 \cdot \text{H}_3\text{PO}_4$   
Synonyms : UP; UP44

Supplier : Aquasol Nutri  
Aquasol House  
7 Fick Street  
Potchefstroom

Emergency telephone number : 018-294-8901

### 2. COMPOSITION AND INFORMATION ON INGREDIENTS

Composition:

Name	CAS No.	%
Urea Phosphate	4861-19-2	100

### 3. HAZARDS IDENTIFICATION

Physical state and appearance : Solid (Forms phosphoric acid and urea in water)

*Potential acute health effects:*

Skin contact - Hazardous in case of skin contact (irritant and burns).  
Eye contact - Hazardous in case of eye contact (irritant and burns).  
Ingestion - Hazardous in case of ingestion.  
Inhalation - Hazardous in case of inhalation. Irritant to mucous membranes.

*Potential chronic health effects:*

Carcinogenic effects - Not available  
Mutagenic effects - Not available  
Teratogenic effects - Not available

*Medical conditions aggravated by prolonged exposure:*

Repeated or prolonged exposure is not known to aggravate medical conditions.

### 4. FIRST AID MEASURES

Eye contact : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin contact : In case of contact, immediately flush skin with plenty of water and soap or mild detergent. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation persists.

Inhalation : If inhaled, move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion : Do not induce vomiting unless directed to do so by medical personnel. Dilute ingested material by drinking plenty of water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Get medical attention if symptoms appear.

## 5. FIRE AND EXPLOSION DATA

Flammability : Non flammable.  
Auto-ignition temperature : Not applicable.  
Flash points : Not applicable.  
Flammable limits : Not applicable.

### *Products of combustion:*

Heating can release hazardous gases (NH<sub>3</sub> and CO<sub>2</sub>).

### *Fire hazards in presence of various substances:*

No information found.

### *Explosion hazards in presence of various substances:*

This product is non-explosive.

### *Fire fighting media and instructions:*

Extinguish small fires with carbon dioxide, dry powder or alcohol resistant foam. Water spray or fog can be used for larger fires or cooling of unaffected stock. In the event of fire, wear full protective clothing and an approved self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

### *Environmental precautions:*

Take care to avoid the contamination of waterways and drains. Inform the appropriate authorities in case of accidental contamination of waterways.

### *Small spill:*

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

### *Large spill:*

Use a shovel to put the material into a convenient waste disposal container. Use water spray to reduce dust. Do not let water get inside the container. Do not touch the spilled material and eliminate all ignition sources. Call for assistance on disposal.

## 7. HANDLING AND STORAGE

### *Handling:*

Avoid breathing dust. Do not ingest. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Keep away from oxidising agents.

### *Storage:*

Keep container tightly closed. Keep container in a cool, dry, well ventilated area.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### *Engineering controls:*

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### *Exposure limits:*

Suggested according to US regulations : 15 mg/m<sup>3</sup> (total dust) ; 5 mg/m<sup>3</sup> (respirable fraction)

*Personal protection:*

Eyes	:	Splash goggles
Body	:	Overalls
Respiratory	:	Dust respirator. Be sure to use approved or certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	:	Gloves (impervious)
Feet	:	Boots

*Personal protection in case of large spills:*

Splash goggles, overalls, dust respirator, boots and gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient. Consult a specialist before handling this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Solid crystals / powder
Colour	:	White
Odour	:	Odourless
Molecular weight	:	158 g/mole
pH	:	2.75 [acidic] in 0.05% aqueous solution.
Boiling point	:	No data available
Melting point	:	117°C
Solubility	:	Soluble in water

## 10. STABILITY AND REACTIVITY DATA

Stability	:	The product is stable.
Instability temperature	:	Not available.
Conditions of instability	:	Avoid high temperatures.
Incompatibility	:	Contact with strong oxidizing agents, strong reducing agents, bases.
Corrosivity	:	Corrosive.

*Special remarks on reactivity:*

Decomposes to form hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxides, ammonia.

## 11. TOXICOLOGICAL INFORMATION

Toxicity to animals	:	Acute Oral Toxicity (LD50) : 5840 mg/Kg [Rat]
Chronic effects on humans	:	No information found.
Other toxic effects on human	:	Causes burns and irritates eyes and skin.

*Special remarks on toxicity to animals:*

No information found.

*Special remarks on chronic effects on humans:*

No information found.

*Special remarks on other toxic effects on humans:*

Irritating to eyes and skin. May cause burns.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity	:	May be harmful to aquatic organisms (pH). Eutrophication.
BOD5 and COD	:	Not available.
Biodegradable/OECD	:	Not available.
Mobility	:	Mobile. Forms phosphoric acid and urea when dissolved in water.
Products of degradation	:	Possibly long term degradation products to be expected.

*Special remarks on the products of degradation:*

No additional remarks.



### 13. DISPOSAL CONSIDERATIONS

Waste information : Waste must be disposed of in accordance with federal, state, and local environmental control regulations.  
Waste stream : No data available.

**Consult local or regional authorities.**

### 14. TRANSPORT INFORMATION

Not hazardous.

### 15. OTHER REGULATORY INFORMATION

EC Classification : No information found  
National Legislation : National Road Traffic Act, 1996 (Act 93 of 1996)  
Fire Brigade Service Act, 1987 (Act 99 of 1987)  
Occupational Health & Safety Act, 1993 (Act 85 of 1993)  
Fertilizers, farm feeds, agricultural remedies and stock remedies Act, 1947 (Act 36 of 1947)

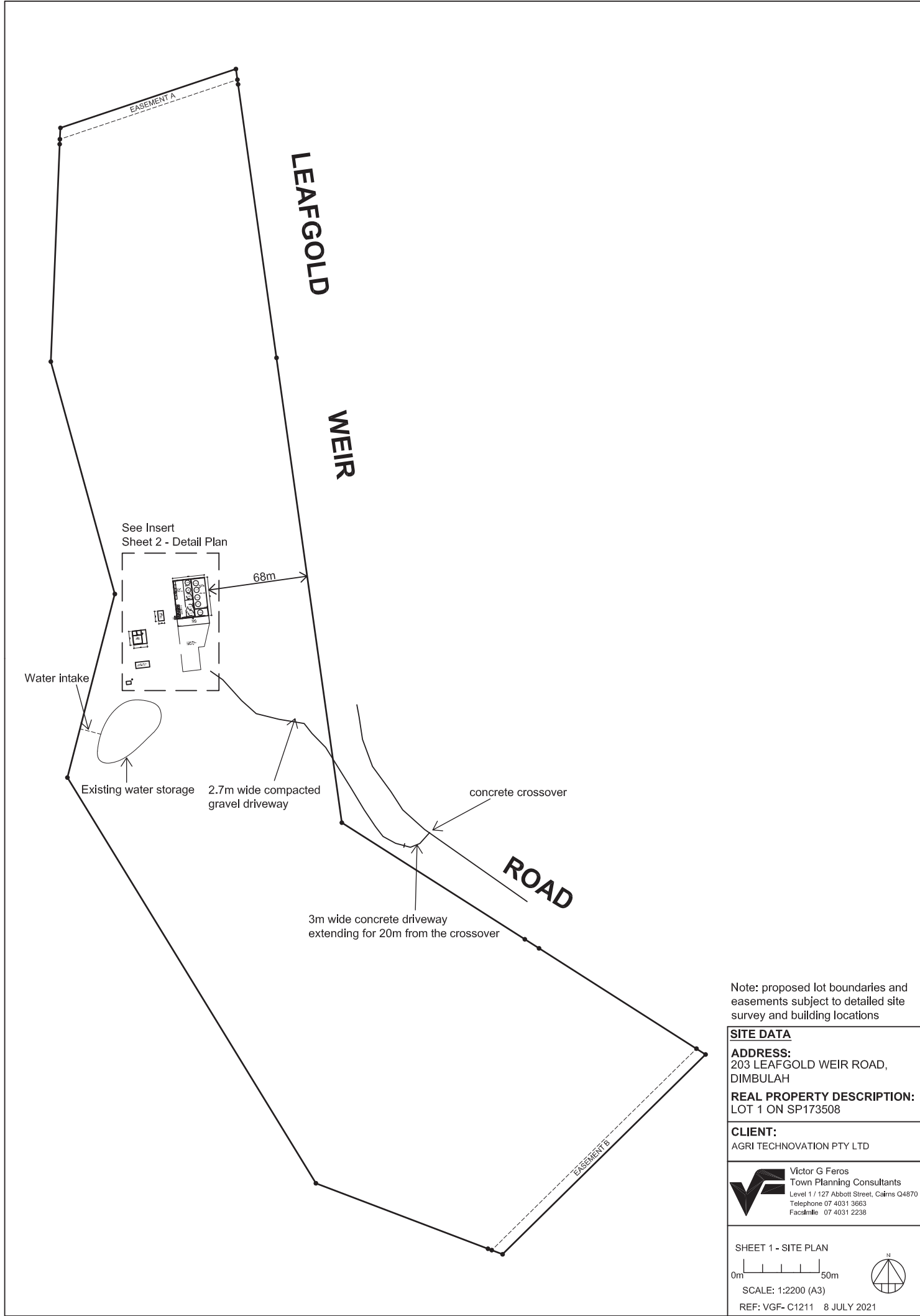
### 16. OTHER INFORMATION / DISCLAIMER

This safety data sheet provides health and safety information. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

The product information in this sheet is, to the best of this company's knowledge, correct as at the date of publication. The user must be satisfied that the product is entirely suitable for the purpose for which it is being used. It is the user's obligation to determine and to ensure the conditions for the safe use of the material.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions of the consequences thereof.

# **APPENDIX E**




Note: proposed lot boundaries and easements subject to detailed site survey and building locations

<b>SITE DATA</b>
<b>ADDRESS:</b> 203 LEAFGOLD WEIR ROAD, DIMBULAH
<b>REAL PROPERTY DESCRIPTION:</b> LOT 1 ON SP173508
<b>CLIENT:</b> AGRI TECHNOVATION PTY LTD




Victor G Feros  
Town Planning Consultants  
Level 1 / 127 Abbott Street, Cairns Q4870  
Telephone 07 4031 3663  
Facsimile 07 4031 2238

SHEET 1 - SITE PLAN



SCALE: 1:2200 (A3)



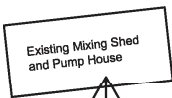
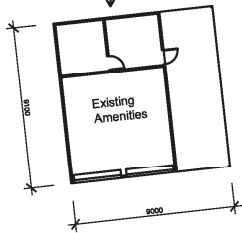
REF: VGF-C1211 8 JULY 2021



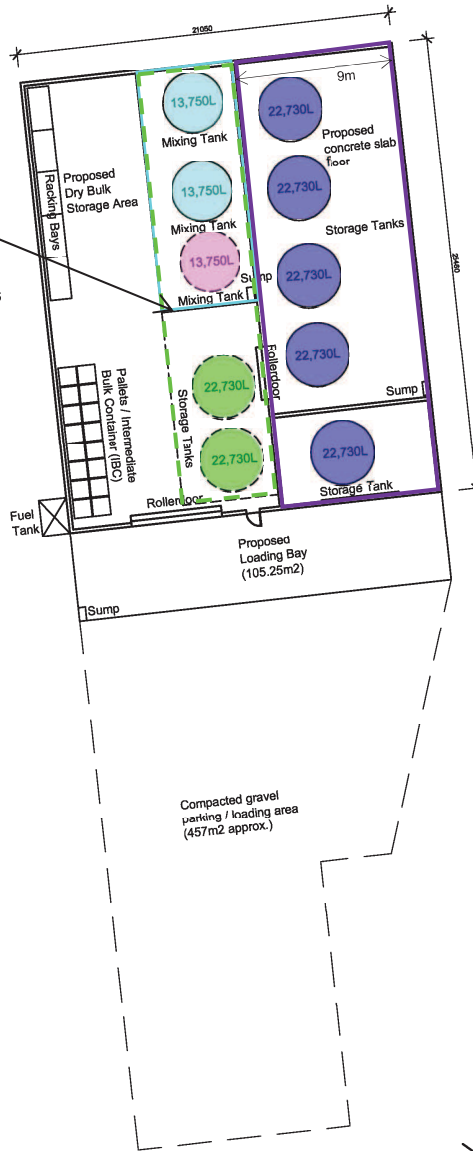
Stage 1 bund wall removed when Stage 2 bund wall is established

Existing covered water tanks included in proposal

This existing building will be used as an Office / Amenities and included in the proposal



The existing Mixing Shed and Pump House is not included in the proposal.



**LEGEND**

- STAGE 1 - MIXING TANKS
- STAGE 1 - STORAGE TANKS
- STAGE 1 - MIXING TANKS BUND WALL (0.5M HIGH)
- STAGE 1 - STORAGE TANKS BUND WALL (0.65M HIGH)
- STAGE 2 - MIXING TANK
- STAGE 2 - STORAGE TANKS
- STAGE 2 - EXPANSION TO MIXING TANKS AND STORAGE TANKS BUND WALL (1M HIGH)

Note: proposed lot boundaries and easements subject to detailed site survey and building locations

**SITE DATA**

**ADDRESS:**  
203 LEAFGOLD WEIR ROAD,  
DIMBULAH

**REAL PROPERTY DESCRIPTION:**  
LOT 1 ON SP173508

**CLIENT:**  
AGRI TECHNOVATION PTY LTD

Victor G Feros  
Town Planning Consultants  
Level 1 / 127 Abbott Street, Cairns Q4870  
Telephone 07 4031 3663  
Facsimile 07 4031 2238

SHEET 2 - DETAIL PLAN



REF: VGF- C1211 1 JULY 2021



**Technovation**

Specialized to succeed

# **Australia Liquids Production Plant**

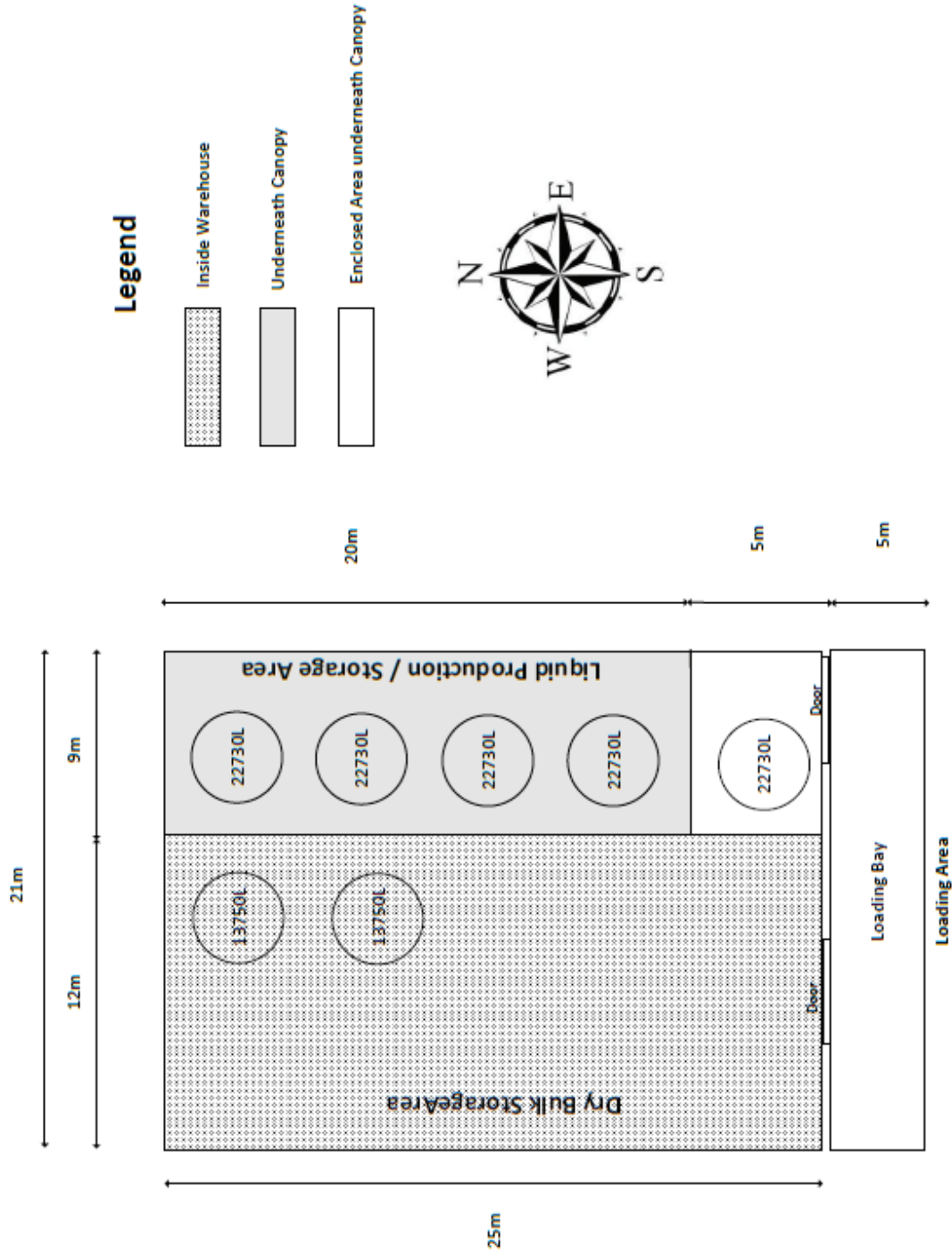
**DATE: 30 June 2021**

# Bund Wall Height

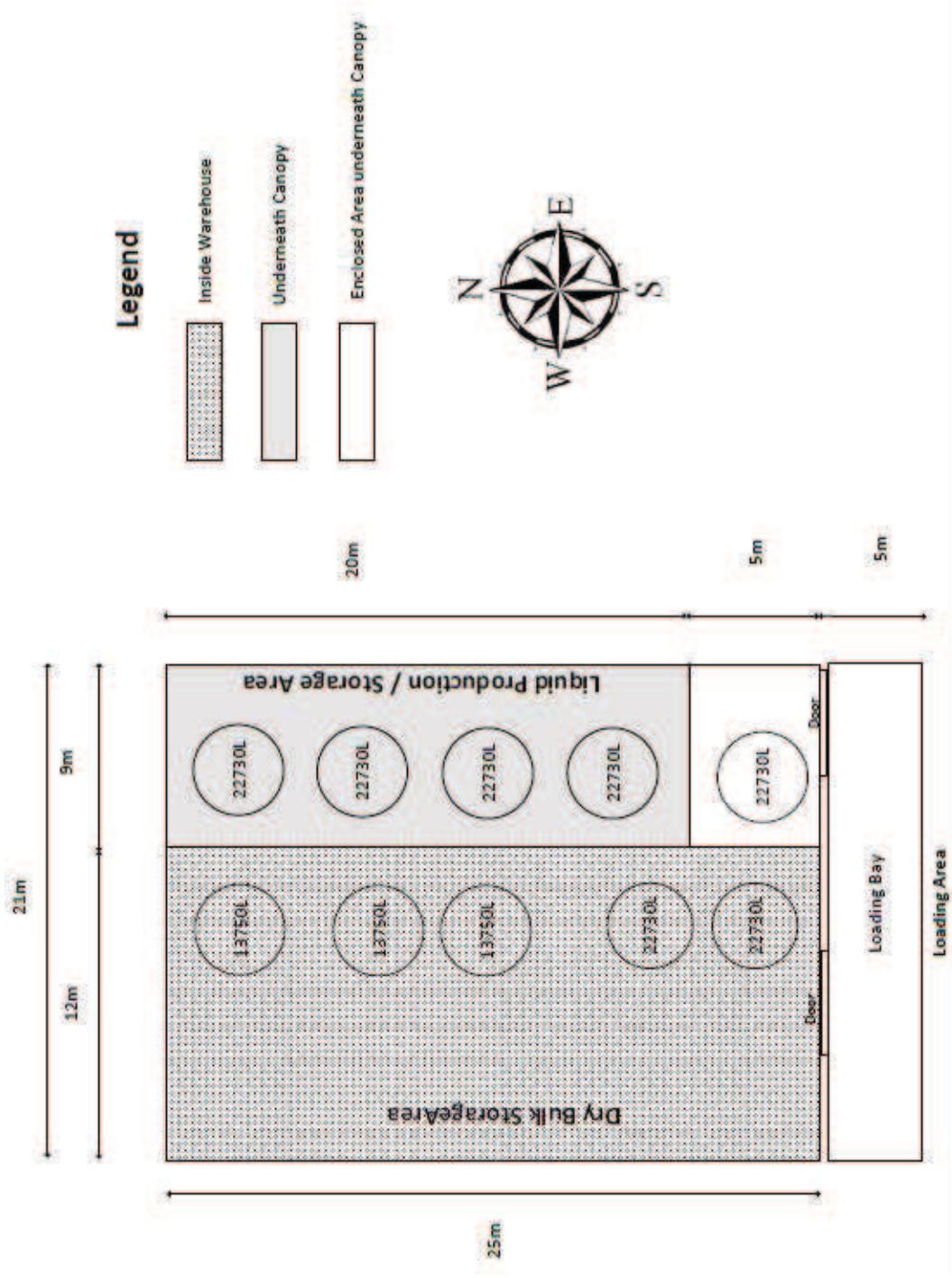
Separate Bund Walls for Mixing Tanks and Storage Tanks



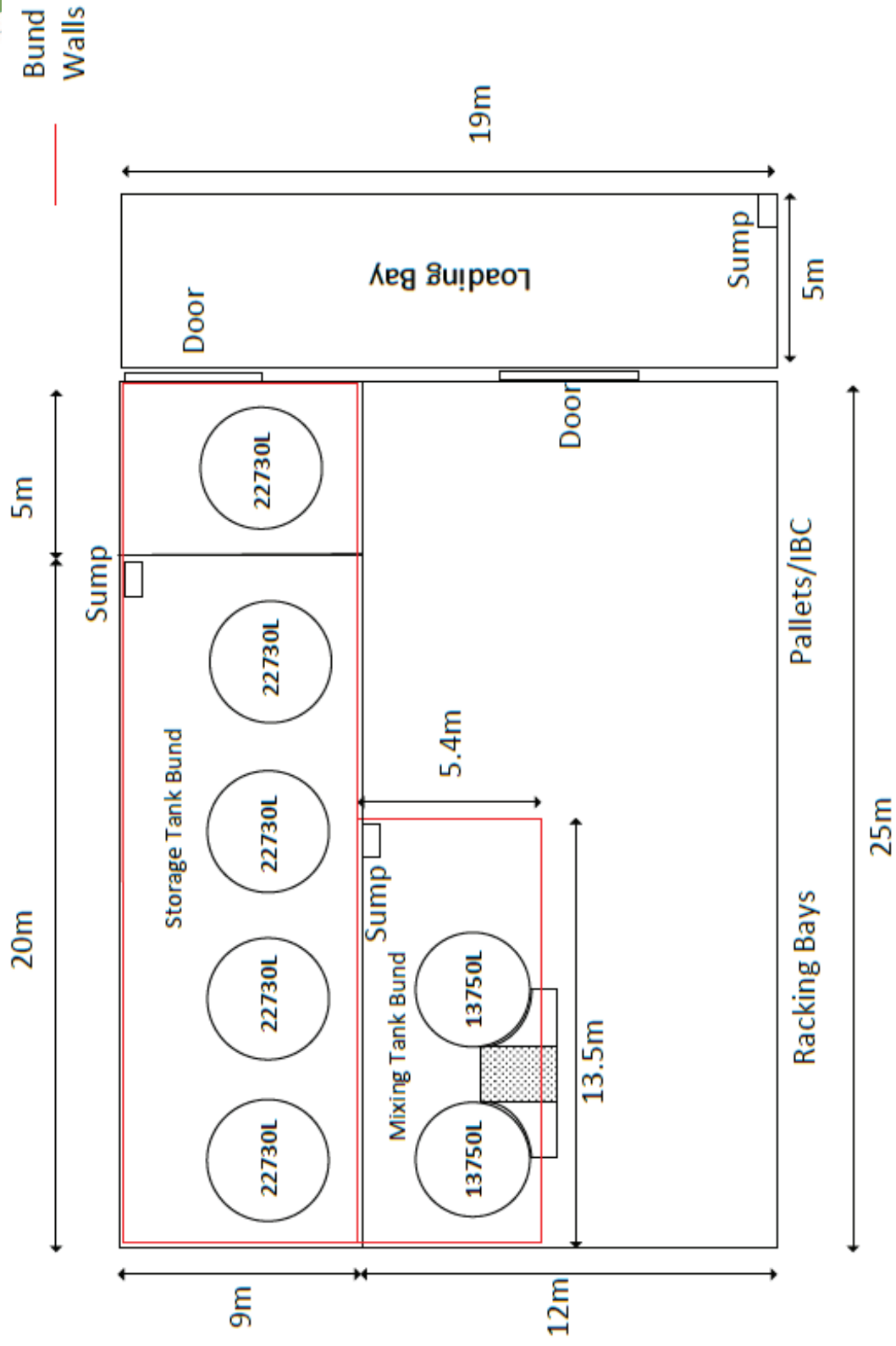
# Planned Plant Layout Phase 1



# Planned Plant Layout Phase 2

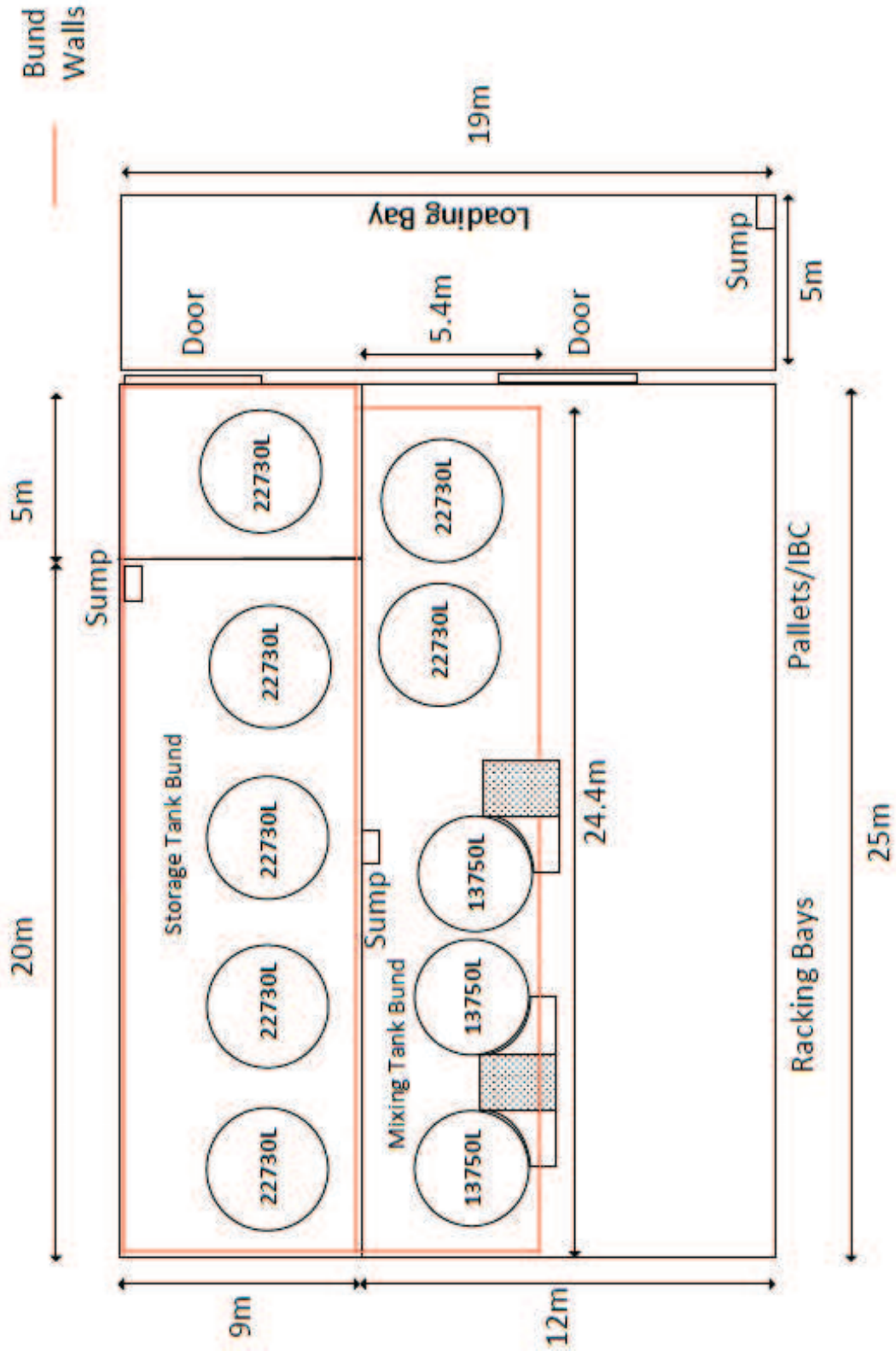


# Bund Wall Layout Phase 1





# Bund Wall Layout Phase 2



# Bund Wall Height Calculation



# Mixing Tank Bund Wall Height Calculation

## Phase 1

### Total Tank Volume

- Two (2) 13 750L Mixing Tanks
- Total Volume to contain - 27 500L

### Total Bund Area

- Mixing Tank Area
  - $5.4\text{m} \times 13.5\text{m} = 72.90\text{m}^2$

### Total Tank Area

- 13 750L Mixing Tanks Diameter 3.3m
  - $17.09\text{m}^2$

### Available Bund Area

- Total Bund Area - Total Tank Area = Available Bund Area
  - $72.90\text{m}^2 - 17.09\text{m}^2 = 55.80\text{m}^2$

### Calculate Height to Contain $27.50\text{m}^3$

- Available Bund Area x Height (m) = Volume Contained  $\text{m}^3$ 
  - $55.80\text{m}^2 \times 0.5\text{m} = 27.90\text{m}^3$

**Bund Wall Height 500mm sufficient to contain  $27.150 \text{ m}^3$**



# Storage Tank Bund Wall Height Calculation

## Phase 1

### Total Tank Volume

- Five (5) 22 730L Mixing Tanks
- Total Volume to contain - 113 650L

### Total Bund Area

- Mixing Tank Area
  - $9\text{m} \times 25\text{m} = 225\text{m}^2$

### Total Tank Area

- 22 730L Mixing Tanks Diameter 3.51m
  - $48.36\text{m}^2$

### Available Bund Area

- Total Bund Area - Total Tank Area = Available Bund Area
  - $225\text{m}^2 - 48.36\text{m}^2 = 176.64\text{m}^2$

### Calculate Height to Contain 113.65m<sup>3</sup>

- Available Bund Area x Height (m) = Volume Contained m<sup>3</sup>
  - $176.64\text{m}^2 \times 0.65\text{m} = 113.98\text{m}^3$

**Bund Wall Height 650mm sufficient to contain 113.65m<sup>3</sup>**

# Mixing Tank Bund Wall Height Calculation

## Phase 2

- The mixing tank bund wall will be expanded to include:
  - 1 additional 13 750L mixing tank
  - 2 additional 22 730L storage tanks
- The storage tank bund and contents will remain the same

# Mixing Tank Bund Wall Height Calculation

## Phase 2

### Total Tank Volume

- Three (3) 13 750L Mixing Tanks
- Two (2) 22 730L Storage Tanks
- Total Volume to contain - 86 710L

### Total Bund Area

- Mixing Tank Area
- $5.4\text{m} \times 24.4\text{m} = 131.76\text{m}^2$

### Total Tank Area

- 13 750L Mixing Tanks Diameter 3.3m
- Storage Tanks Diameter 3.51m
- 44.99m<sup>2</sup>

### Available Bund Area

- Total Bund Area - Total Tank Area = Available Bund Area
- $131.76\text{m}^2 - 44.99\text{m}^2 = 86.77\text{m}^2$

### Calculate Height to Contain 86.71m<sup>3</sup>

- Available Bund Area x Height (m) = Volume Contained m<sup>3</sup>
- $86.77\text{m}^2 \times 1\text{m} = 86.77\text{m}^3$

**Bund Wall Height 1000mm sufficient to contain 86.71 m<sup>3</sup>**

**Bund Wall Height Adjusted for Phase 2**



# Storage Tank Bund Wall Height Calculation

## Phase 2

Layout within this bund wall remains the same

- Five (5) 22 730L Mixing Tanks
- Total Volume to contain - 113 650L



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# **APPENDIX F**



## 6.2.9 Rural zone code

### 6.2.9.1 Application

- (1) This code applies to assessing development where:
  - (a) located in the Rural zone; and
  - (b) it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

### 6.2.9.2 Purpose

- (1) The purpose of the Rural zone code is to:
  - (a) provide for rural uses including cropping, intensive horticulture, intensive animal industries, animal husbandry, animal keeping and other primary production activities;
  - (b) provide opportunities for non-rural uses that are compatible with agriculture, the environmental features, and landscape character of the rural area where the uses do not compromise the long-term use of the land for rural purposes;
  - (c) protect or manage significant natural resources and processes to maintain the capacity for primary production.
- (2) Mareeba Shire Council's purpose of the Rural zone code is to recognise the importance of primary production to the economy of the region and to maintain and strengthen the range of primary industries which contribute to the rural economy.

The purpose of the Rural zone code is to:

- (a) recognise the diversity of rural uses that exists throughout the region;
  - (b) protect the rural character of the region;
  - (c) provide facilities for visitors and tourists that are accessible and offer a unique experience;
  - (d) protect the infrastructure of the Mareeba-Dimbulah Irrigation Scheme Area from development which may compromise long term use for primary production;
  - (e) maintain distinct boundaries between the rural areas and the villages, towns and urban areas of the region;
  - (f) provide for a range of uses, compatible and associated with rural or ecological values including recreational pursuits and tourist activities;
  - (g) prevent adverse impacts of development on ecological values;
  - (h) preserve land in large holdings; and
  - (i) facilitate the protection of strategic corridors across the landscape which link remnant areas of intact habitat and transport corridors.
- (3) The purpose of the Rural zone code will be achieved through the following overall outcomes:
    - (a) Areas for use for primary production are conserved and fragmentation below economically viable lot sizes is avoided;
    - (b) The establishment of a wide range of rural pursuits is facilitated, including cropping, intensive horticulture, forestry, intensive animal industries, animal husbandry and animal keeping and other compatible primary production uses;
    - (c) The establishment of extractive industries, mining and associated activities and alternative forms of energy generation is appropriate where environmental impacts and land use conflicts are minimised;
    - (d) Uses that require isolation from urban areas as a consequence of their impacts such as noise or odour may be appropriate where land use conflicts are minimised;
    - (e) Development is reflective of and responsive to the environmental constraints of the land;
    - (f) Residential and other development is appropriate only where directly associated with the rural nature of the zone;
    - (g) Low-impact tourism and recreation activities do not compromise the long-term use of the land for rural purposes;
    - (h) The viability of both existing and future rural uses and activities is protected from the intrusion of incompatible uses;

- (i) Visual impacts of clearing, building, materials, access ways and other aspects of development are minimised or appropriately managed;
- (j) Adverse impacts of development both on-site and from adjoining areas are avoided and any impacts are minimised through location, design, operation and management; and
- (k) Natural features such as creeks, gullies, waterways, wetlands and bushland are retained, managed, enhanced and separated from adjacent development.

### 6.2.9.3 Criteria for assessment

**Table 6.2.9.3—Rural zone code - For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<b>Height</b>		
<b>PO1</b> Building height takes into consideration and respects the following: <ul style="list-style-type: none"> <li>(a) the height of existing buildings on adjoining premises;</li> <li>(b) the development potential, with respect to height, on adjoining premises;</li> <li>(c) the height of buildings in the vicinity of the site;</li> <li>(d) access to sunlight and daylight for the site and adjoining sites;</li> <li>(e) privacy and overlooking; and</li> <li>(f) site area and street frontage length.</li> </ul>	<b>AO1.1</b> Development, other than buildings used for rural activities, has a maximum building height of: <ul style="list-style-type: none"> <li>(a) 8.5 metres; and</li> <li>(b) 2 storeys above ground level.</li> </ul>	<b>Not Applicable</b>
	<b>AO1.2</b> Buildings and structures associated with a rural activity including machinery, equipment, packing or storage buildings do not exceed 10 metres in height.	<b>Complies</b> – the existing buildings to be used for the proposal do not exceed 10m in height.
<b>Siting, where not involving a Dwelling house</b>		
Note—Where for Dwelling house, the setbacks of the Queensland Development Code apply.		
<b>PO2</b>	<b>AO2.1</b> Buildings and structures include a minimum setback of: <ul style="list-style-type: none"> <li>(a) 40 metres from a frontage to a State-controlled road; and</li> <li>(b) 10 metres from a boundary to an adjoining lot.</li> </ul>	<b>Complies</b>
	<b>AO2.2</b> Buildings and structures, where for a Roadside stall, include a minimum setback of 0 metres from a frontage to a road that is not a State-controlled road.	<b>Not Applicable</b>

Performance outcomes	Acceptable outcomes	Response
<p>Development is sited in a manner that considers and respects:</p> <ul style="list-style-type: none"> <li>(a) the siting and use of adjoining premises;</li> <li>(b) access to sunlight and daylight for the site and adjoining sites;</li> <li>(c) privacy and overlooking;</li> <li>(d) air circulation and access to natural breezes;</li> <li>(e) appearance of building bulk; and</li> <li>(f) relationship with road corridors.</li> </ul>	<p><b>AO2.3</b> Buildings and structures, except where a Roadside stall, include a minimum setback of:</p> <ul style="list-style-type: none"> <li>(a) 10 metres from a frontage to a sealed road that is not a State-controlled road; and</li> <li>(b) 100 metres from a frontage to any other road that is not a State-controlled road;</li> </ul>	<b>Not Applicable</b>
<b>Accommodation density</b>		
<p><b>PO3</b> The density of Accommodation activities:</p> <ul style="list-style-type: none"> <li>(a) respects the nature and density of surrounding land use;</li> <li>(b) is complementary and subordinate to the rural and natural landscape values of the area; and</li> <li>(c) is commensurate to the scale and frontage of the site.</li> </ul>	<p><b>AO3.1</b> Residential density does not exceed one dwelling house per lot.</p>	<b>Not Applicable</b>
	<p><b>AO3.2</b> Residential density does not exceed two dwellings per lot and development is for:</p> <ul style="list-style-type: none"> <li>(a) a secondary dwelling; or</li> <li>(b) Caretaker's accommodation and includes building work or minor building work with a maximum gross floor area of 100m<sup>2</sup>; or</li> <li>(c) Rural worker's accommodation.</li> </ul>	<b>Not Applicable</b>
<b>For assessable development</b>		
<b>Site cover</b>		
<p><b>PO4</b> Buildings and structures occupy the site in a manner that:</p> <ul style="list-style-type: none"> <li>(a) makes efficient use of land;</li> <li>(b) is consistent with the bulk and scale of buildings in the surrounding area; and</li> <li>(c) appropriately balances built and natural features.</li> </ul>	<p><b>AO4</b> No acceptable outcome is provided.</p>	<b>Complies</b>



Performance outcomes	Acceptable outcomes	Response
<p><b>PO5</b> Development complements and integrates with the established built character of the Rural zone, having regard to:</p> <ul style="list-style-type: none"> <li>(a) roof form and pitch;</li> <li>(b) eaves and awnings;</li> <li>(c) building materials, colours and textures; and</li> <li>(d) window and door size and location.</li> </ul>	<p><b>AO5</b> No acceptable outcome is provided.</p>	<p><b>Complies</b></p>

Performance outcomes	Acceptable outcomes	Response
<b>Amenity</b>		
<p><b>PO6</b> Development must not detract from the amenity of the local area, having regard to:</p> <ul style="list-style-type: none"> <li>(a) noise;</li> <li>(b) hours of operation;</li> <li>(c) traffic;</li> <li>(d) advertising devices;</li> <li>(e) visual amenity;</li> <li>(f) privacy;</li> <li>(g) lighting;</li> <li>(h) odour; and</li> <li>(i) emissions.</li> </ul>	<p><b>AO6</b> No acceptable outcome is provided.</p>	<p>Refer to <b>Section 5.00 and Section 7.00</b> of the <b>Town Planning Report</b> and <b>Appendix G – Environmental Authority Application – Supporting Information</b> and for response.</p>
<p><b>PO7</b> Development must take into account and seek to ameliorate any existing negative environmental impacts, having regard to:</p> <ul style="list-style-type: none"> <li>(a) noise;</li> <li>(b) hours of operation;</li> <li>(c) traffic;</li> <li>(d) advertising devices;</li> <li>(e) visual amenity;</li> <li>(f) privacy;</li> <li>(g) lighting;</li> <li>(h) odour; and</li> <li>(i) emissions.</li> </ul>	<p><b>AO7</b> No acceptable outcome is provided.</p>	<p>Refer to <b>Section 5.00 and Section 7.00</b> of the <b>Town Planning Report</b> and <b>Appendix G – Environmental Authority Application – Supporting Information</b> and for response.</p>

## 8.2.1 Agricultural land overlay code

### 8.2.1.1 Application

- (1) This code applies to assessing development where:
  - (a) land the subject of development is located within the agricultural land areas identified on the **Agricultural land overlay maps (OM-001a-n)**; and
  - (b) it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

Note—Agriculture is appropriately reflected in Overlay Map 1 and is required to be mapped by State Government in response to Economic Growth State Interests.

### 8.2.1.2 Purpose

- (1) The purpose of the Agricultural land overlay code is to protect or manage important agricultural areas, resources, and processes which contribute to the shire's capacity for primary production.
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) The alienation, fragmentation or reduction in primary production potential of land within the 'Class A' area or 'Class B' area is avoided, except where:
    - (i) an overriding need exists for the development in terms of public benefit,
    - (ii) no suitable alternative site exists; and
    - (iii) the fragmentation or reduced production potential of agricultural land is minimised;
  - (b) 'Class A' areas and 'Class B' areas continue to be used primarily for more intensive agricultural activities which utilise the land quality provided in these areas;
  - (c) Grazing on very large land holdings is maintained as the dominant rural activity in the 'Broadhectare rural' area; and
  - (d) Land with the 'Broadhectare rural' area is maintained in its current configuration.



### 8.2.1.3 Criteria for assessment

**Table 8.2.1.3 – Agricultural land overlay code - For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<p><b>PO1</b> The fragmentation or loss of productive capacity of land within the 'Class A' area or 'Class B' area identified on the <b>Agricultural land overlay maps (OM-001a-n)</b> is avoided unless:</p> <ul style="list-style-type: none"> <li>(a) an overriding need exists for the development in terms of public benefit;</li> <li>(b) no suitable alternative site exists; and</li> <li>(c) loss or fragmentation is minimised to the extent possible.</li> </ul>	<p><b>AO1</b> Buildings and structures are not located on land within the 'Class A' area or 'Class B' area identified on the <b>Agricultural land overlay maps (OM-001a-n)</b> unless they are associated with:</p> <ul style="list-style-type: none"> <li>(a) animal husbandry; or</li> <li>(b) animal keeping; or</li> <li>(c) cropping; or</li> <li>(d) dwelling house; or</li> <li>(e) home based business; or</li> <li>(f) intensive animal industry (only where for feedlotting); or</li> <li>(g) intensive horticulture; or</li> <li>(h) landing; or</li> <li>(i) roadside stalls; or</li> <li>(j) winery.</li> </ul>	<p><b>Complies</b> – the proposal will include the use of existing buildings for development to service the surrounding rural uses.</p>
<b>For assessable development</b>		
<p><b>PO2</b> Sensitive land uses in the 'Class A' area, 'Class B' area or the 'Broadhectare rural' area identified on the <b>Agricultural land overlay maps (OM-001a-n)</b> are designed and located to:</p> <ul style="list-style-type: none"> <li>(a) avoid land use conflict;</li> <li>(b) manage impacts from agricultural activities, including chemical spray drift, odour, noise, dust, smoke and ash;</li> <li>(c) avoid reducing primary production potential; and</li> <li>(d) not adversely affect public health, safety and amenity.</li> </ul>	<p><b>AO2</b> No acceptable outcome is provided.</p>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
<p><b>PO3</b> Development in the 'Class A' area or 'Class B' area identified on the <b>Agricultural land overlay maps (OM-001a-n)</b>:</p> <p>(a) ensures that agricultural land is not permanently alienated;</p> <p>(b) ensures that agricultural land is preserved for agricultural purposes; and</p> <p>(c) does not constrain the viability or use of agricultural land.</p>	<p><b>AO3</b> No acceptable outcome is provided.</p>	<p><b>Complies</b> – the site is located within a "Class A" Area. The proposal will provide a rural service to the surrounding area and will utilize existing buildings and structures. The proposal will not result in loss of any existing land used for agricultural purposes or constrain or alienate the use of the land for rural purposes in the future.</p>
<b>If for Reconfiguring a lot</b>		
<p><b>PO4</b> The 'Broadhectare rural area' identified on the <b>Agricultural land overlay maps (OM-001a-n)</b> is retained in very large rural holdings viable for broad scale grazing and associated activities.</p>	<p><b>AO4</b> Development does not involve the creation of a new lot within the 'Broadhectare rural' area identified on the <b>Agricultural land overlay maps (OM-001a-n)</b>.</p>	<p><b>Not Applicable</b></p>
<p><b>PO5</b> Reconfiguring a lot in the 'Class A' area, 'Class B' area or the 'Broadhectare rural' area identified on the <b>Agricultural land overlay maps (OM-001a-n)</b> that is severed by a gazetted road occurs only where it does not fragment land used for agricultural purposes.</p>	<p><b>AO5</b> No acceptable outcome is provided.</p>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
<p><b>PO6</b> Any Reconfiguring a lot in the 'Class A' area, 'Class B' area or the 'Broadhectare rural' area identified on the <b>Agricultural land overlay maps (OM-001a-n)</b>, including boundary realignments, only occurs where it:</p> <ul style="list-style-type: none"> <li>(a) improves agricultural efficiency;</li> <li>(b) facilitates agricultural activity; or</li> <li>(c) facilitates conservation outcomes; or</li> <li>(d) resolves boundary issues where a structure is built over the boundary line of two lots.</li> </ul>	<p><b>AO6</b> No acceptable outcome is provided.</p>	<p><b>Not Applicable</b></p>



## 8.2.3 Bushfire hazard overlay code

### 8.2.3.1 Application

- (1) This code applies to assessing development where:
- land the subject of development is located within a Bushfire hazard area and Potential impact buffer (100 metres) identified on the **Bushfire hazard overlay maps (OM-003a-o)**; and
  - it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

Note—Natural hazards are appropriately reflected in Overlay Maps 3, 6 and 8 and are required to be mapped by State Government in response to Hazard and Safety State Interests.

### 8.2.3.2 Purpose

- (1) The purpose of the Bushfire hazard overlay code is to minimise the threat of bushfire to people and property.
- (2) The purpose of the code will be achieved through the following overall outcomes:
- Development in a Bushfire hazard area is compatible with the nature of the hazard;
  - The number of people and properties subject to bushfire hazards are minimised through appropriate building design and location;
  - Development does not result in a material increase in the extent, duration or severity of bushfire hazard; and
  - Appropriate infrastructure is available to emergency services in the event of a bushfire.

### 8.2.3.3 Criteria for assessment

**Table 8.2.3.3—Bushfire hazard overlay code — For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<b>Water supply for fire-fighting purposes</b>		
<p><b>PO1</b> Development where within a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b> maintains the safety of people and property by providing an adequate, accessible and reliable water supply for fire-fighting purposes which is safely located and has sufficient flow and pressure characteristics.</p> <p>Note— A Bushfire hazard management plan must be prepared by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.</p>	<p><b>Where within a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the Bushfire hazard overlay maps (OM-003a-o)</b></p> <p><b>AO1.1</b> Where in a reticulated water service area, the on-site water supply has flow and pressure characteristics of 10 litres a second at 200 kPa. OR</p>	<b>Not Applicable</b>
	<p><b>AO1.2</b> Where access to the reticulated water network is not available, a minimum on site water storage of 5,000 litres is provided that must comprise:</p> <ol style="list-style-type: none"> <li>a separate tank; or</li> <li>a reserve section in the bottom part of the main water supply tank; or</li> <li>a dam; or</li> </ol>	<b>Complies –</b> there is access to an on-site dam with supply provided via an adjoining irrigation channel.

Performance outcomes	Acceptable outcomes	Response
	(d) a swimming pool. Note—Where a water tank is provided for fire-fighting purposes it is fitted with standard rural fire brigade fittings and the tank is provided with a hardstand area for heavy vehicles.	
<b>For assessable development</b>		
<b>Land use</b>		
<p><b>PO2</b> Development within a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b> is appropriate to the bushfire hazard risk having regard to the:</p> <ul style="list-style-type: none"> <li>(a) the bushfire risk compatibility of development;</li> <li>(b) the vulnerability of and safety risk to persons associated with the use; and</li> <li>(c) consequences of bushfire in regard to impacts on essential infrastructure, buildings and structures.</li> </ul> <p>Note— A Bushfire hazard management plan must be prepared by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.</p>	<p><b>AO2</b> All buildings, structures, infrastructure and facilities associated with the following uses are located outside any area of the site located within a 'Bushfire hazard area' and a 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b>:</p> <ul style="list-style-type: none"> <li>(a) child care centre; or</li> <li>(b) community care centre; or</li> <li>(c) correctional facility; or</li> <li>(d) educational establishment; or</li> <li>(e) emergency services; or</li> <li>(f) hospital; or</li> <li>(g) residential care facility; or</li> <li>(h) retirement facility; or</li> <li>(i) rooming accommodation; or</li> <li>(j) shopping centre; or</li> <li>(k) tourist park; or</li> <li>(l) tourist attraction.</li> </ul>	<p><b>Complies</b> – none of the nominated uses are proposed.</p>
<b>Lot design</b>		
<p><b>PO3</b> Reconfiguring a lot within a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b> minimises the potential adverse impacts of bushfire on the safety of people, property and the environment through lot design that:</p> <ul style="list-style-type: none"> <li>(a) is responsive to the nature and extent of bushfire risk; and</li> <li>(b) allows efficient emergency access to buildings for fire-fighting appliances.</li> </ul>	<p><b>Where within a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the Bushfire hazard overlay maps (OM-003a-o)</b></p> <p><b>AO3.1</b> No new lots are created.</p> <p>OR</p> <p><b>AO3.2</b> All lots include a building envelope that achieves a radiant heat flux level of 29kW/m<sup>2</sup> at the perimeter of the building envelope.</p>	<p><b>Not Applicable.</b></p>

Performance outcomes	Acceptable outcomes	Response
<p>Note— A Bushfire hazard management plan must be prepared by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.</p>	<p>Note—Where a radiant heat flux of 29kW/m<sup>2</sup> is achieved and this relies on cleared or maintained land external to the land the subject of the development application it must be demonstrated that land external to the site will be maintained to a standard that does not exceed the level of bushfire hazard identified in a Bushfire hazard management plan.</p>	
<b>Firebreaks and access</b>		
<p><b>PO4</b> In a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b>, vehicular access is designed to mitigate against bushfire hazard by:</p> <ul style="list-style-type: none"> <li>(a) ensuring adequate access for fire-fighting and other emergency vehicles;</li> <li>(b) ensuring adequate access for the evacuation of residents and emergency personnel in an emergency situation, including alternative safe access routes should access in one direction be blocked in the event of a fire; and</li> <li>(c) providing for the separation of developed areas and adjacent bushland.</li> </ul> <p>Note—Where it is not practicable to provide firebreaks in accordance with A04.2 Fire Maintenance Trails are provided in accordance with the following:</p> <ul style="list-style-type: none"> <li>i. located as close as possible to the boundaries of the lot and the adjoining hazardous vegetation;</li> <li>ii. the minimum cleared width not less than 6 metres;</li> <li>iii. the formed width is not less than 2.5 metres;</li> <li>iv. the formed gradient is not greater than 15%;</li> <li>v. vehicular access is provided at both ends;</li> <li>vi. passing bays and turning areas are provided for fire-fighting appliances located on public land.</li> </ul> <p>Note— A Bushfire hazard management plan must be prepared</p>	<p><b>A04.1</b> In a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b>, roads are designed and constructed:</p> <ul style="list-style-type: none"> <li>(a) with a maximum gradient of 12.5%;</li> <li>(b) to not use cul-de-sacs; and</li> <li>(c) a constructed road width and weather standard complying with Planning Scheme Policy 4 - FNQROC Regional Development Manual.</li> </ul>	<b>Complies</b>
	<p><b>A04.2</b> In a 'Bushfire hazard area' and 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b>, firebreaks are provided:</p> <ul style="list-style-type: none"> <li>(a) consisting of a perimeter road that separates lots from areas of bushfire hazard;</li> <li>(b) a minimum cleared width of 20 metre;</li> <li>(c) a maximum gradient of 12.5%; and</li> <li>(d) a constructed road width and weather standard complying with Planning Scheme Policy 4 - FNQROC Regional Development Manual.</li> </ul>	<b>Complies</b>



Performance outcomes	Acceptable outcomes	Response
by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.		
<b>Hazardous materials</b>		
<p><b>PO5</b> Public safety and the environment are not adversely affected by the detrimental impacts of bushfire of hazardous materials manufactured or stored in bulk.</p> <p>Note— A Bushfire hazard management plan must be prepared by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.</p>	<p><b>A05</b> The processing or storage of dangerous goods or hazardous materials is not undertaken in a 'Bushfire hazard area' and a 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b>.</p>	Refer to <b>Section 7.00</b> of the <b>Town Planning Report</b> for response.
<b>Landscaping</b>		
<p><b>PO6</b> Landscaping within a 'Bushfire hazard area' and a 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b> does not result in a material increase in the extent, duration or severity of bushfire hazard having regard to:</p> <p>(a) fire ecology; (b) slope of site; and (c) height and mix of plant species.</p> <p>Note—Frost hollows and the associated grass kill facilitates a rapid curing of fuel and exacerbates bushfire hazard.</p> <p>Note— A Bushfire hazard management plan must be prepared by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.</p>	<p><b>A06</b> No acceptable outcome is provided.</p>	<b>Complies</b> – No new on-site landscaping is proposed.
<b>Infrastructure</b>		
<p><b>PO7</b> Infrastructure services located in a 'Bushfire hazard area' and a 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b> are protected from damage or destruction in the event of a bushfire.</p> <p>Note— A Bushfire hazard management plan must be prepared</p>	<p><b>A07</b> The following infrastructure services are located below ground:</p> <p>(a) water supply; (b) sewer; (c) electricity; (d) gas; and (e) telecommunications</p>	<b>Complies</b> – all existing infrastructure is to be retained.

Performance outcomes	Acceptable outcomes	Response
by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.		
<b>Private driveways</b>		
<p><b>PO8</b> All premises located in a 'Bushfire hazard area' and a 'Potential impact buffer (100 metres)' identified on the <b>Bushfire hazard overlay maps (OM-003a-o)</b> are provided with vehicular access that enables safe evacuation for occupants and easy access by fire-fighting appliances.</p> <p>Note— A Bushfire hazard management plan must be prepared by suitably qualified persons in seeking to demonstrate compliance with the Performance outcome.</p>	<p><b>A08</b> Private driveways:</p> <ul style="list-style-type: none"> <li>(a) do not exceed a length of 60 metres from the street frontage;</li> <li>(b) do not exceed a gradient of 12.5%;</li> <li>(c) have a minimum width of 3.5 metres;</li> <li>(d) have a minimum vertical clearance of 4.8 metres;</li> <li>(e) accommodate turning areas for fire-fighting appliances in accordance with the Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; and</li> <li>(f) serve no more than three dwellings or buildings.</li> </ul>	<p>Refer to <b>Section 7.00</b> of the <b>Town Planning Report</b> for response.</p>

## 8.2.4 Environmental significance overlay code

### 8.2.4.1 Application

- (1) This code applies to assessing development where:
  - (a) land the subject of development is affected by a constraint category identified on the **Environmental significance overlay maps (OM-004a-z)**; and
  - (b) it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

Note—Biodiversity and Water quality are appropriately reflected in Overlay Map 4 and is required to be mapped by State Government in response to Environment and Heritage State Interests.

### 8.2.4.2 Purpose

- (1) The purpose of the Environmental significance overlay code is to identify and protect matters of environmental significance, which include matters of state environmental significance (MSES) as defined under the state planning policy.

The Environmental significance overlay code ensures that:

- (a) waterways and high ecological significance wetlands are protected and enhanced to maintain ecosystem services and hydrological processes and provide aquatic habitat for flora and fauna; and
  - (b) the environmental values of regulated vegetation, wildlife habitat, protected areas and legally secured offset areas are protected and managed.
- (2) The purpose of the code will be achieved through the following overall outcomes:
    - (a) the biodiversity values, ecosystem services and climate change resilience of areas of environmental significance are protected, managed, enhanced and rehabilitated;
    - (b) the biodiversity values of protected areas and legally secured offset areas are protected from development unless overriding community need is demonstrated;
    - (c) development is located, designed and managed to minimise the edge effects of development on areas of regulated vegetation and wildlife habitat;
    - (d) areas of regulated vegetation and wildlife habitat are managed to minimise biodiversity losses;
    - (e) development maintains, protects and enhances a regional network of vegetated corridors that assist in wildlife movement and contribute to the maintenance of habitat and biological diversity;
    - (f) development is appropriately setback from waterways and high ecological significance wetlands to minimise direct and indirect impacts on water quality and biodiversity; and
    - (g) riparian vegetation and vegetation associated with high ecological significance wetlands is protected and enhanced to improve water quality and natural ecosystem function.



### 8.2.4.3 Criteria for assessment

**Table 8.2.4.3A - Environmental significance overlay code - For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<b>Regulated vegetation</b>		
<p><b>PO1</b> Vegetation clearing in areas mapped as 'Regulated vegetation' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> is avoided unless:</p> <ul style="list-style-type: none"> <li>(a) it is demonstrated that the area does not support regulated vegetation as mapped;</li> <li>(b) the loss or reduction in regulated vegetation is for community infrastructure and associated access facilities that cannot be avoided;</li> <li>(c) wildlife interconnectivity is maintained or enhanced at a local and regional scale; and</li> <li>(d) the loss or reduction in regulated vegetation is minimised and any residual impacts are offset.</li> </ul> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>	<p><b>AO1.1</b> No clearing of native vegetation is undertaken within areas of 'Regulated vegetation' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>.</p>	<p><b>Complies</b></p>
<p><b>PO2</b> Development on sites adjacent to areas of 'Regulated vegetation' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> protects the environmental significance of regulated vegetation and:</p> <ul style="list-style-type: none"> <li>(a) does not interrupt, interfere, alter or otherwise impact on underlying natural ecosystem processes such as water quality, hydrology,</li> </ul>	<p><b>AO2</b> Development (excluding roads, earthworks, drainage infrastructure and underground infrastructure) is not located within 20 metres of 'Regulated vegetation' areas identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>.</p>	<p><b>Complies</b></p>

Performance outcomes	Acceptable outcomes	Response
<p>geomorphology and biophysical processes;</p> <p>(b) does not negatively impact the movement of wildlife at a local or regional scale; and</p> <p>(c) avoids noise, light, vibration or other edge affects, including weed and pest incursion on identified environmental values.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>		
<b>Regulated vegetation intersecting a watercourse</b>		
<p><b>PO3</b></p> <p>Vegetation clearing in areas mapped as ‘Regulated vegetation intersecting a watercourse’, identified as ‘Waterway’ and ‘Waterway buffer’ on the <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> is avoided unless wildlife interconnectivity between habitats is maintained or enhanced at a local and regional scale, to the extent that migration or normal movement of significant species between habitats or normal gene flow between populations is not inhibited.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>	<p><b>Where within a ‘Waterway buffer’ on Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b></p> <p><b>AO3.1</b></p> <p>A minimum setback in accordance with <b>Table 8.2.4.3B</b> is provided between development and the top of the high bank of a ‘Waterway’ identified on the <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b>.</p>	<p>Refer to <b>Section 7.00</b> of the <b>Town Planning Report</b> for response.</p>
	<p><b>Where within a ‘Waterway buffer’ on Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b></p> <p><b>AO3.2</b></p> <p>No clearing of native vegetation is undertaken within the minimum setback identified at <b>AO3.1</b>.</p>	<p><b>Complies – no clearing is proposed.</b></p>

Performance outcomes	Acceptable outcomes	Response
<b>Waterways and wetlands</b>		
<p><b>PO4</b> ‘High ecological significance wetlands’ identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> and ‘Waterways’ on <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> and are protected by:</p> <p>(a) maintaining adequate separation distances between waterways/wetlands and development;</p> <p>(b) maintaining and enhancing aquatic and terrestrial habitat including vegetated corridors to allow for native fauna (terrestrial and aquatic) movement;</p> <p>(c) maintaining waterway bank stability by minimising bank erosion and slumping;</p> <p>(d) maintaining water quality by providing buffers to allow filtering of sediments, nutrients and other pollutants; and</p> <p>(e) retaining and improving existing riparian vegetation and existing vegetation associated with a wetland.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>	<p><b>Where within a ‘Waterway buffer’ on Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b></p> <p><b>AO4.1</b> A minimum setback in accordance with <b>Table 8.2.4.3B</b> is provided between development and the top of the high bank of a ‘Waterway’ identified on the <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b>.</p>	Refer to <b>Section 7.00</b> of the <b>Town Planning Report</b> for response.
	<p><b>Where within a ‘High ecological significance wetland buffer’ on Environmental Significance Overlay Maps (OM-004a-o)</b></p> <p><b>AO4.2</b> A minimum buffer of 200 metres is provided between development and the edge of a ‘High ecological significance wetland’ identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>.</p>	
		<p><b>Where within a ‘Waterway buffer’ on Environmental Significance - Waterway Overlay Maps (OM-004p-z) or ‘High ecological significance wetland buffer’ on Environmental Significance Overlay Maps (OM-004a-o)</b></p> <p><b>AO4.3</b> No stormwater is discharged to a ‘Waterway’ on <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> or ‘High ecological significance wetland’ identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>.</p> <p>Note— An alternative outcome is required to demonstrate that the ecological impacts of stormwater discharge to a ‘Waterway’ or ‘High</p>



Performance outcomes	Acceptable outcomes	Response
	<p>ecological significance wetland' are mitigated in accordance with PO3 through appropriate stormwater management / treatment (where possible).</p> <p><b>Where within a 'Waterway buffer' on Environmental Significance - Waterway Overlay Maps (OM-004p-z) or 'High ecological significance wetland buffer' on Environmental Significance Overlay Maps (OM-004a-o)</b></p> <p><b>AO4.4</b> No wastewater is discharged to a 'Waterway' on <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> or 'High ecological significance wetland' identified on the <b>Environmental Significance Overlay Map (OM-004a-z)</b>.</p> <p>Note— A alternative outcome is required to demonstrate that the ecological impacts of wastewater discharge to a 'Waterway' or 'High ecological significance wetland' are mitigated in accordance with PO3 through appropriate wastewater management / treatment (where possible).</p>	<p><b>Complies</b> – there will be no waste water discharge into the waterway</p>
<b>For assessable development</b>		
<b>Wildlife Habitat</b>		
<p><b>PO5</b> Development within a 'Wildlife habitat' area identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>:</p> <p>(a) protects and enhances the habitat of Endangered, Vulnerable and Near Threatened (EVNT) species and local species of significance;</p> <p>(b) incorporates siting and design measures to protect and retain identified ecological values and underlying ecosystem processes within or adjacent to the development site;</p> <p>(c) maintains or enhances wildlife interconnectivity</p>	<p><b>AO5</b> No acceptable outcome is provided</p>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
<p>at a local and regional scale; and</p> <p>(d) mitigates the impact of other forms of potential disturbance (such as presence of vehicles, pedestrian use, increased exposure to domestic animals, noise and lighting impacts) to protect critical life stage ecological processes (such as feeding, breeding or roosting).</p> <p>Note—Development applications must identify any EVNT species or their habitats that may be affected by the proposal. In particular, applications are to identify and describe how the development avoids adverse impacts on ecological processes within or adjacent to the development area.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>		
<b>Legally secured offset areas</b>		
<p><b>PO6</b> Development within a ‘Legally secured offset area’ identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> or other known Legally Secured Offset Area is consistent with the binding requirements of the offset and does not prejudice, undermine, or negatively impact the inherent ecological values, including all naturally occurring native flora, fauna and their habitat within the Legally Secured Offset Area.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>	<p><b>AO6</b> No acceptable outcome is provided.</p>	<p><b>Not Applicable</b></p>
<b>Protected areas</b>		
<p><b>PO7</b> Development within a ‘Protected area’ identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> is consistent with the values of the Protected Area and:</p>	<p><b>AO7</b> No acceptable outcome is provided</p>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
<p>(a) supports the inherent ecological and community values of the Protected Area asset;</p> <p>(b) maintains or enhances wildlife interconnectivity at a local and regional scale; and</p> <p>(c) does not prejudice, undermine, or negatively impact the inherent ecological values, including all naturally occurring native flora, fauna and their habitat within the Protected Area.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>		
Ecological corridors and Habitat linkages		
<p><b>PO8</b> Development located:</p> <p>(a) in the Conservation zone, Emerging community zone, Recreation and open space zone, Rural zone or Rural residential zone; and</p> <p>(b) within an 'Ecological corridor' or a 'Habitat linkage' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b></p> <p>does not compromise the provision of habitat connectivity of the corridor/linkage, having regard to:</p> <p>(a) the environmental values of the area of the site identified in the 'Ecological corridor' or 'Habitat linkage';</p> <p>(b) the environmental values of adjoining and nearby land within the 'Ecological corridor' or 'Habitat linkage';</p> <p>(c) the extent of any modification proposed to the natural environment including (but not limited</p>	<p><b>AO8</b> No acceptable outcome is provided</p>	<p><b>Not Applicable</b></p>



Performance outcomes	Acceptable outcomes	Response
<p>(d) to) vegetation and topography; the location and design of proposed improvements that may impact on the functions of the 'Ecological corridor' or 'Habitat linkage' including (but not limited to) buildings, structures, fences, lighting, vehicle movement areas and infrastructure services; and</p> <p>(e) the ability for the 'Ecological corridor' or 'Habitat linkage' to be enhanced to improve ecological connectivity.</p> <p>Note—A supporting Ecological Assessment Report prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports may be appropriate to demonstrate compliance with PO8.</p>		

**Table 8.2.4.3B - Setback and buffer distances from waterways**

Stream order	Setback and buffer from waterways
1	10 metres from top of high bank
2-4	25 metres from top of high bank
5 or more	50 metres from top of high bank

Note—The stream order of a 'waterway' is to be determined on a case by case basis.

## 8.2.12 Transport infrastructure overlay code

### 8.2.12.1 Application

- (1) This code applies to assessing development where:
- land the subject of development adjoins a rail corridor identified on the **Transport infrastructure overlay maps (OM-012a-j)**; and
  - it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

Note—State transport infrastructure is appropriately reflected in Overlay Map 12 and is required to be mapped by State Government in response to Infrastructure State Interests.

Note—The Transport infrastructure overlay includes mapped Transport Noise Corridors in accordance with section 246ZA of the Building Act. These corridors are mapped on **Transport infrastructure overlay maps (OM-012i-s)** for information purposes only. Development on land within a mapped corridor is not subject to any specific provisions under this planning scheme. The Queensland Development Code should be consulted in this respect.

### 8.2.12.2 Purpose

- (1) The purpose of the Transport infrastructure overlay code is to promote the ongoing and expanded use of rail corridors within the shire for the transportation of passengers and freight.
- (2) The purpose of the code will be achieved through the following overall outcomes:
- Active 'Rail corridors' are protected from adjoining land uses which may prejudice their ongoing and expanded use;
  - Inactive 'Rail corridors' are preserved and protected for potential reuse for passenger or freight movements;
  - Non-residential development adjoining a 'Rail corridor' does not prevent the future use of the rail corridor by the site; and
  - Development compliments the use of 'Rail corridors' for tourist activities.

### 8.2.12.3 Criteria for assessment

**Table 8.2.12.3 – Transport infrastructure overlay code - For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<p><b>PO1</b> Development does prejudice the:</p> <ol style="list-style-type: none"> <li>ongoing operation of an active 'Rail corridor' identified on the <b>Transport infrastructure overlay maps (OM-012a-j)</b>; or</li> <li>the potential future use of an inactive 'Rail corridor' identified on the <b>Transport infrastructure overlay maps (OM-012a-j)</b>.</li> </ol>	<p><b>AO1</b> Buildings and structures are setback from a boundary with an active or inactive 'Rail corridor' identified on the <b>Transport infrastructure overlay maps (OM-012a-j)</b> a minimum of:</p> <ol style="list-style-type: none"> <li>40 metres where:               <ol style="list-style-type: none"> <li>in the Rural zone; and</li> <li>on a site with an area of 2 hectares or greater; or</li> </ol> </li> <li>5 metres otherwise.</li> </ol>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
<b>For assessable development</b>		
<p><b>PO2</b>  Non-residential development adjoining a rail corridor identified on the <b>Transport infrastructure overlay maps (OM-012a-j)</b> is designed to allow for the future use of the 'Rail corridor' by the land use.</p>	<p><b>AO2</b>  No acceptable outcome is provided</p>	<p><b>Not Applicable</b></p>
<p><b>PO3</b>  Development adjoining a 'Rail corridor' identified on the <b>Transport infrastructure overlay maps (OM-012a-j)</b> used for the transportation of tourists is designed to:</p> <ul style="list-style-type: none"> <li>(a) provide visual interest;</li> <li>(b) screen or enhance areas of limited visual interest; and</li> <li>(c) complement and enhance the character of the shire.</li> </ul>	<p><b>AO3</b>  No acceptable outcome is provided</p>	<p><b>Not Applicable</b></p>



### 9.3.5 Industrial activities code

#### 9.3.5.1 Application

- (1) This code applies to assessing development where:
  - (a) involving Industrial activities; and
  - (b) it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

#### 9.3.5.2 Purpose

- (1) The purpose of the Industrial activities code is to ensure Industrial activities are:
  - (a) appropriately located within designated industrial areas;
  - (b) established and operated in an efficient manner with minimal impact on the character, scale, amenity and environmental values of the surrounding area; and
  - (c) managed to allow for progressive rehabilitation where involving Extractive industry.
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) Industrial activities are appropriately located having regard to topography, surrounding land uses, natural environment, accessibility, local character and potential social and community impacts;
  - (b) Industrial activities meet the needs of the local community and the local economy through well located, safe and convenient points of service;
  - (c) Industrial activities are designed to have minimal impact on the character, amenity and environment of the surrounding area;
  - (d) Industrial activities provide a safe working environment;
  - (e) Industrial activities are designed to promote sustainability and energy efficiency;
  - (f) Industrial activities are co-located with complimentary and compatible uses;
  - (g) External impacts associated with Extractive industry operations do not impact on the character and amenity of the surrounding area and the safety and wellbeing of the community;
  - (h) Extractive industry operations are adequately separated from potentially incompatible land uses; and
  - (i) Extractive industry sites are progressively rehabilitated.

### 9.3.5.3 Criteria for assessment

**Table 9.3.5.3—Industrial activities code— For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<b>Separation</b>		
<p><b>PO1</b> Industrial activities are appropriately separated from sensitive uses to ensure their amenity is maintained, having regard to:</p> <ul style="list-style-type: none"> <li>(a) noise;</li> <li>(b) odour;</li> <li>(c) light; and</li> <li>(d) emissions.</li> </ul> <p>Note—Development proposed to be located closer than the separation distances specified in AO2 requires supporting investigations to demonstrate that the expected impacts from the industry use have been adequately mitigated in consideration of the local context.</p>	<p><b>AO1</b> Development is separated from sensitive uses as follows:</p> <ul style="list-style-type: none"> <li>(a) medium impact industry—250 metres; or</li> <li>(b) high impact industry—500 metres; or</li> <li>(c) special industry— 1.5 kilometres.</li> </ul>	<p>Refer to <b>Section 7.00</b> of the <b>Town Planning Report</b> and <b>Appendix G – Environmental Authority Application – Supporting Information</b> for response.</p>
<b>For assessable development</b>		
<b>Amenity</b>		
<p><b>PO2</b> Industrial activities protect and enhance the character and amenity of the locality and streetscape through the appropriate location and screening of:</p> <ul style="list-style-type: none"> <li>(a) air conditioning;</li> <li>(b) refrigeration plant;</li> <li>(c) mechanical plant; and</li> <li>(d) refuse bin storage areas.</li> </ul>	<p><b>AO2</b> No acceptable outcome is provided.</p>	<p><b>Complies</b> – the proposal has substantial setbacks from surrounding uses and the rural amenity of the locality will be maintained.</p>
<p><b>PO3</b> Development avoids and, where unavoidable, mitigates impacts on ground water, particularly where ground water is heavily drawn upon for irrigation or domestic purposes.</p>	<p><b>AO3</b> No acceptable outcome is provided.</p>	<p><b>Complies</b> – the proposal does not require the use of ground water.</p>

Performance outcomes	Acceptable outcomes	Response
<b>If for Extractive industry</b>		
<p><b>PO4</b> The site has sufficient area and dimensions to safely accommodate:</p> <ul style="list-style-type: none"> <li>(a) the extractive use;</li> <li>(b) vehicular access and on site vehicular movements;</li> <li>(c) buildings including staff facilities;</li> <li>(d) parking areas for visitors and employees;</li> <li>(e) storage areas and stockpiles;</li> <li>(f) any environmentally significant land; and</li> <li>(g) landscaping and buffer areas.</li> </ul> <p>Note—Refer to Planning Scheme Policy 3 - Extractive Industry.</p>	<p><b>AO4</b> No acceptable outcome is provided.</p>	<p><b>Not Applicable</b></p>
<p><b>PO5</b> Extractive industry is established and operated in a way that does not impact on public safety.</p>	<p><b>AO5</b> Safety fencing is provided for the full length of the perimeter of the site and is appropriately signed with warning signs advising of the nature of the use and any danger or hazard.</p>	<p><b>Not Applicable</b></p>
<p><b>PO6</b> Extractive industry is appropriately located to adequately mitigate visual, noise, vibration and dust impacts on sensitive uses.</p>	<p><b>AO6</b> All aspects of the Extractive industry are setback from all boundaries:</p> <ul style="list-style-type: none"> <li>(a) 200 metres where not involving blasting or crushing; and</li> <li>(b) 1,000 metres for where involving blasting or crushing.</li> </ul> <p>Note—Refer to Planning Scheme Policy 3 - Extractive Industry.</p>	<p><b>Not Applicable</b></p>
<p><b>PO7</b> The Extractive industry is designed and managed to appropriately address its interface with the natural</p>	<p><b>AO7.1</b> The Extractive industry does not cause a reduction in the quality of ground water or receiving surface waters.</p>	<p><b>Not Applicable</b></p>



Performance outcomes	Acceptable outcomes	Response
environment and landscape, having regard to: (a) water quality; (b) existing vegetation; and (c) declared plants.	<b>A07.2</b> Vegetation is retained on site that contributes towards alleviating the impact of the development on the visual amenity of surrounding sensitive land uses.	<b>Not Applicable</b>
	<b>A07.3</b> No declared plants are transported from the site.	<b>Not Applicable</b>
<b>PO8</b> Extractive industry actively integrates rehabilitation into the ongoing operations on the site to progressively restore the site to its original (or an improved) condition, having regard to matters of: (a) locally prevalent plant species; (b) plant spacing; (c) local climatic conditions; (d) locations of waterways and wetlands; (e) ongoing maintenance; (f) potential habitat opportunities; (g) erosion and sediment control; and (h) fencing.  Note—A revegetation plan must be prepared by a suitably experienced person in the field of natural area revegetation and rehabilitation, at a standard acceptable to Council, which addresses the items identified in Performance Outcome PO8.	<b>A08</b> No acceptable outcome is provided.	<b>Not Applicable</b>

## 9.4.2 Landscaping code

### 9.4.2.1 Application

This code applies where it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

### 9.4.2.2 Purpose

- (1) The purpose of the Landscaping code is to ensure all development is landscaped to a standard that:
  - (a) complements the scale and appearance of the development;
  - (b) protects and enhances the amenity and environmental values of the site;
  - (c) complements and enhances the streetscape and local landscape character; and
  - (d) ensures effective buffering of incompatible land uses to protect local amenity.
  
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) Landscaping is a functional part of development design and is commensurate with the intended use;
  - (b) Landscaping accommodates the retention of existing significant on site vegetation where appropriate and practical;
  - (c) Landscaping treatments complement the scale, appearance and function of the development;
  - (d) Landscaping contributes to an attractive streetscape;
  - (e) Landscaping enhances the amenity and character of the local area;
  - (f) Landscaping enhances natural environmental values of the site and the locality;
  - (g) Landscaping provides effective screening both on site, if required, and between incompatible land uses;
  - (h) Landscaping provides shade in appropriate circumstances;
  - (i) Landscape design enhances personal safety and reduces the potential for crime and vandalism; and
  - (j) Intensive land uses incorporate vegetated buffers to provide effective screening of buildings, structures and machinery associated with the use.

### 9.4.2.3 Criteria for assessment

**Table 9.4.2.3A—Landscaping code - For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<p><b>PO1</b> Development, other than in the Rural zone, includes landscaping that:</p> <ul style="list-style-type: none"> <li>(a) contributes to the landscape character of the Shire;</li> <li>(b) compliments the character of the immediate surrounds;</li> <li>(c) provides an appropriate balance between built and natural elements; and</li> <li>(d) provides a source of visual interest.</li> </ul>	<p><b>AO1</b> Development, other than in the Rural zone, provides:</p> <ul style="list-style-type: none"> <li>(a) a minimum of 10% of the site as landscaping;</li> <li>(b) planting in accordance with Planning Scheme Policy 6 - Landscaping and preferred plant species;</li> <li>(c) for the integration of retained significant vegetation into landscaping areas;</li> <li>(d) on-street landscaping works in accordance with the Design Guidelines set out in Section D9 Landscaping, of the Planning Scheme Policy 4 - FNQROC Regional Development Manual.</li> </ul> <p>Note—Where development exceeds a site cover of 90%, areas of landscaping may be provided above ground level to achieve a total supply of landscaping equivalent to 10% of the site area.</p>	<p><b>Not Applicable</b> – land included in the Rural Zone.</p>
<p><b>PO2</b> Development, other than in the Rural zone, includes landscaping along site frontages that:</p> <ul style="list-style-type: none"> <li>(a) creates an attractive streetscape;</li> <li>(b) compliments the character of the immediate surrounds;</li> <li>(c) assists to break up and soften elements of built form;</li> <li>(d) screen areas of limited visual interest or servicing;</li> <li>(e) provide shade for pedestrians; and</li> <li>(f) includes a range and variety of planting.</li> </ul>	<p><b>AO2</b> Development, other than in the Rural zone, includes a landscape strip along any site frontage:</p> <ul style="list-style-type: none"> <li>(a) with a minimum width of 2 metres where adjoining a car parking area;</li> <li>(b) with a minimum width of 1.5 metres in all other locations; and</li> <li>(c) in accordance with Planning Scheme Policy 6 - Landscaping and preferred plant species.</li> </ul> <p>Note—Where development is setback from a frontage less than 1.5 metres, the setback area is provided as a landscape strip</p>	<p><b>Not Applicable</b> – land included in the Rural Zone.</p>
<p><b>PO3</b> Development includes landscaping and fencing along side and rear boundaries that:</p>	<p><b>AO3.1</b> Development provides landscape treatments along side and rear boundaries in accordance with <b>Table 9.4.2.3B</b>.</p>	<p><b>Complies</b> – substantial setbacks to the surrounding boundaries will be retained and the existing lime orchard will be retained.</p>



Performance outcomes	Acceptable outcomes	Response
<p>(a) screens and buffer land uses;</p> <p>(b) assists to break up and soften elements of built form;</p> <p>(c) screens areas of limited visual interest;</p> <p>(d) preserves the amenity of sensitive land uses; and</p> <p>(e) includes a range and variety of planting.</p>	<p><b>AO3.2</b></p> <p>Shrubs and trees provided in landscape strips along side and rear boundaries:</p> <p>(a) are planted at a maximum spacing of 1 metre;</p> <p>(b) will grow to a height of at least 2 metres;</p> <p>(c) will grow to form a screen of no less than 2 metres in height; and</p> <p>(d) are mulched to a minimum depth of 0.1 metres with organic mulch.</p>	<p><b>Complies</b> – substantial setbacks to the surrounding boundaries will be retained and the existing lime orchard will be retained.</p>
	<p><b>AO3.3</b></p> <p>Any landscape strip provided along a side or rear boundary is designed in accordance with Planning Scheme Policy 6 - Landscaping and preferred plant species.</p>	<p><b>Complies</b> – substantial setbacks to the surrounding boundaries will be retained and the existing lime orchard will be retained.</p>
<p><b>PO4</b></p> <p>Car parking areas are improved with a variety of landscaping that:</p> <p>(a) provides visual interest;</p> <p>(b) provides a source of shade for pedestrians;</p> <p>(c) assists to break up and soften elements; and</p> <p>(d) improves legibility.</p>	<p><b>AO4.1</b></p> <p>Landscaping is provided in car parking areas which provides:</p> <p>(a) a minimum of 1 shade tree for every 4 parking spaces, or part thereof, where the car parking area includes 12 or more spaces;</p> <p>(b) a minimum of 1 shade tree for every 6 parking spaces, or part thereof, otherwise; and</p> <p>(c) where involving a car parking area in excess of 500m<sup>2</sup>:</p> <p>(i) shade structures are provided for 50% of parking spaces; and</p> <p>(ii) a minimum of 10% of the parking area as landscaping.</p> <p>Note—Where a shade structure is provided over part of a car parking area, shade tree planting is not required in this area of the car parking area.</p>	<p><b>Not Applicable</b> – given the rural nature of the location and position of the car parking allocation.</p>
	<p><b>AO4.2</b></p> <p>Landscaping in car parking areas is designed in accordance with Planning Scheme Policy 6 - Landscaping and preferred plant species.</p>	<p><b>Not Applicable</b> – given the rural nature of the location and position of the car parking allocation.</p>

Performance outcomes	Acceptable outcomes	Response
<p><b>PO5</b> Landscaping areas include a range and variety of planting that:</p> <p>(a) is suitable for the intended purpose and local conditions;</p> <p>(b) contributes to the natural character of the Shire;</p> <p>(c) includes native species;</p> <p>(d) includes locally endemic species, where practical; and</p> <p>(e) does not include invasive plants or weeds.</p>	<p><b>AO5.1</b> Plant species are selected from the Plant Schedule in Planning Scheme Policy 6 - Landscaping and preferred plant species.</p>	<p><b>Not Applicable</b> – given the rural nature of the location and position of the car parking allocation.</p>
	<p><b>AO5.2</b> A minimum of 25% of (new and existing) plants is provided as larger, advanced stock with a minimum plant height of 0.7 metres and mulched to a minimum depth of 0.1 metres with organic mulch.</p>	<p><b>Not Applicable</b> – given the rural nature of the location and position of the car parking allocation.</p>
<p><b>PO6</b> Landscaping does not impact on the ongoing provision of infrastructure and services to the Shire.</p>	<p><b>AO6.1</b> Tree planting is a minimum of</p> <p>(a) 2 metres from any underground water, sewer, gas, electricity or telecommunications infrastructure; and</p> <p>(b) 4 metres from any inspection chamber.</p>	<p><b>Not Applicable</b></p>
	<p><b>AO6.2</b> Vegetation below or within 4 metres of overhead electricity lines and power poles has a maximum height of 3.5 metres at maturity.</p>	<p><b>Not Applicable</b></p>
	<p><b>AO6.3</b> Vegetation adjoining an electricity substation boundary, at maturity, will have:</p> <p>(a) a height of less than 4 metres; and</p> <p>(b) no foliage within 3 metres of the substation boundary, unless the substation has a solid wall along any boundary.</p>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
<b>For assessable development</b>		
<p><b>PO7</b> Landscaping areas are designed to:</p> <ul style="list-style-type: none"> <li>(a) be easily maintained throughout the ongoing use of the site;</li> <li>(b) allow sufficient area and access to sunlight and water for plant growth;</li> <li>(c) not cause a nuisance to occupants of the site or members of the public; and</li> <li>(d) maintain or enhance the safety of pedestrians through the use of Crime Prevention Through Environmental Design principles.</li> </ul>	<p><b>A07</b> No acceptable outcome is provided.</p>	<p><b>Not Applicable</b></p>



**Table 9.4.2.3B—Side and rear boundary landscape treatments**

Location or use	Landscape Strip Minimum Width	Screen Fencing Minimum Height	Extent of treatment
Where car parking, servicing or manoeuvring areas adjoin a side or rear boundary	1 metre	Not applicable	To the extent these areas adjoin the boundary
Where involving a use other than a dwelling house on a site with a common boundary with land in the Low density residential zone, the Medium density residential zone or the Rural residential zone:	1.5 metres	1.8 metres	Along the common boundary.
Development for an industrial activity which has a common boundary with land not within the Industry zone	2 metres	1.8 metres	Along the common boundary
Development involving (a) Tourist park not in the Rural zone (b) Sales office (c) Multiple dwelling (d) Residential care facility; or (e) Dual occupancy	Not applicable	1.8 metres	Along all side and rear boundaries and between dwellings for a Dual occupancy.
Development involving (a) Tourist park in the Rural zone (b) Service station (c) Car wash; or (d) Utility installation	2 metres	Not applicable	Along all side and rear boundaries
For: (a) waste storage; (b) equipment; (c) servicing areas; and (d) private open space and site facilities associated with Caretaker's accommodation.	Not applicable	1.8 metres	To prevent visibility

Note—Where more than one landscape treatment is applicable to a development in the above table, the development is to provide a landscape treatment that satisfies all applicable minimum specifications.

### 9.4.3 Parking and access code

#### 9.4.3.1 Application

This code applies to assessing development where it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

#### 9.4.3.2 Purpose

- (1) The purpose of the Parking and access code is to ensure:
  - (a) parking areas are appropriately designed, constructed and maintained;
  - (b) the efficient functioning of the development and the local road network; and
  - (c) all development provides sufficient parking, loading/service and manoeuvring areas to meet the demand generated by the use.
  
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) Land uses have a sufficient number of parking and bicycle spaces designed in a manner to meet the requirements of the user;
  - (b) Parking spaces and associated manoeuvring areas are safe, functional and provide equitable access;
  - (c) Suitable access for all types of vehicles likely to utilise a parking area is provided in a way that does not compromise the safety and efficiency of the surrounding road network;
  - (d) Premises are adequately serviced to meet the reasonable requirements of the development; and
  - (e) End of trip facilities are provided by new major developments to facilitate alternative travel modes.

#### 9.4.3.3 Criteria for assessment

**Table 9.4.3.3A—Parking and access code – For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<b>Car parking spaces</b>		
<b>PO1</b> Development provides sufficient car parking to accommodate the demand likely to be generated by the use, having regard to the: <ul style="list-style-type: none"> <li>• nature of the use;</li> <li>• location of the site;</li> <li>• proximity of the use to public transport services;</li> <li>• availability of active transport infrastructure; and</li> <li>• accessibility of the use to all members of the community.</li> </ul>	<b>AO1</b> The number of car parking spaces provided for the use is in accordance with Table 9.4.3.3B.  Note—Car parking spaces provided for persons with a disability are to be considered in determining compliance with AO1.	Refer to <b>Section 7.00</b> of the <b>Town Planning Report</b> for a response.
<b>Vehicle crossovers</b>		
<b>PO2</b> Vehicle crossovers are provided to: <ul style="list-style-type: none"> <li>• ensure safe and efficient access between the road and premises;</li> </ul>	<b>AO2.1</b> Vehicular access to/from Council roads is designed and constructed in accordance with the Standard drawings in Planning Scheme Policy 4 - FNQROC Regional Development Manual.	<b>Complies</b> – vehicle crossover will be provided in accordance with the relevant standard.

Performance outcomes	Acceptable outcomes	Response
<ul style="list-style-type: none"> <li>minimize interference with the function and operation of roads; and</li> <li>minimise pedestrian to vehicle conflict.</li> </ul>	<b>AO2.2</b> Development on a site with two or more road frontages provides vehicular access from: <ul style="list-style-type: none"> <li>the primary frontage where involving Community activities or Sport and recreation activities, unless the primary road frontage is a State-controlled road; or</li> <li>from the lowest order road in all other instances.</li> </ul>	<b>Not Applicable</b>
	<b>AO2.3</b> Vehicular access for particular uses is provided in accordance with <b>Table 9.4.3.3E.</b>	<b>Not Applicable</b>
<b>PO3</b> Access, manoeuvring and car parking areas include appropriate pavement treatments having regard to: <ul style="list-style-type: none"> <li>the intensity of anticipated vehicle movements;</li> <li>the nature of the use that they service; and</li> <li>the character of the surrounding locality.</li> </ul>	<b>AO3</b> Access, manoeuvring and car parking areas include pavements that are constructed in accordance with Table 9.4.3.3C.	<b>Complies</b> – access and manoeuvring areas will be provided in accordance with the relevant standards.
<b>For assessable development</b>		
<b>Parking area location and design</b>		
<b>PO4</b> Car parking areas are located and designed to: ensure safety and efficiency in operation; and be consistent with the character of the surrounding locality.	<b>AO4.1</b> Car parking spaces, access and circulation areas have dimensions in accordance with AS/NZS 2890.1 Off-street car parking.	<b>Complies</b> – parking will be established in accordance with relevant standards.
	<b>AO4.2</b> Disabled access and car parking spaces are located and designed in accordance with AS/NZS 2890.6 Parking facilities - Off-street parking for people with disabilities.	<b>Complies</b> – parking will be established in accordance with relevant standards.
	<b>AO4.3</b> The car parking area includes designated pedestrian routes that provide connections to building entrances.	<b>Complies</b> – parking will be established in accordance with relevant standards.



Performance outcomes	Acceptable outcomes	Response
	<p><b>AO4.4</b> Parking and any set down areas are:</p> <ul style="list-style-type: none"> <li>wholly contained within the site;</li> <li>visible from the street where involving Commercial activities, Community activities, Industrial activities or a use in the Recreation and open space zone;</li> <li>are set back behind the main building line where involving a Dual occupancy, Multiple dwelling, Residential care facility or Retirement facility; and</li> <li>provided at the side or rear of a building in all other instances.</li> </ul>	<b>Not Applicable</b>
<b>Site access and manoeuvring</b>		
<p><b>PO5</b> Access to, and manoeuvring within, the site is designed and located to:</p> <ul style="list-style-type: none"> <li>ensure the safety and efficiency of the external road network;</li> <li>ensure the safety of pedestrians;</li> <li>provide a functional and convenient layout; and</li> <li>accommodate all vehicles intended to use the site.</li> </ul>	<p><b>AO5.1</b> Access and manoeuvrability is in accordance with :</p> <ul style="list-style-type: none"> <li>AS28901 – Car Parking Facilities (Off Street Parking); and</li> <li>AS2890.2 – Parking Facilities (Off-street Parking) Commercial Vehicle Facilities.</li> </ul> <p>Note—Proposal plans should include turning circles designed in accordance with AP34/95 (Austroads 1995) Design Vehicles and Turning Path Templates.</p>	<b>Complies</b> – access will be established in accordance with relevant standards.
	<p><b>AO5.2</b> Vehicular access has a minimum sight distance in accordance with Part 5 of AUSTRROADS.</p>	<b>Complies</b> – access will be established in accordance with the relevant standards.
	<p><b>AO5.3</b> Vehicular access is located and designed so that all vehicles enter and exit the site in a forward gear.</p>	<b>Complies</b>

Performance outcomes	Acceptable outcomes	Response
	<p><b>AO5.4</b> Pedestrian and cyclist access to the site:</p> <ul style="list-style-type: none"> <li>• is clearly defined;</li> <li>• easily identifiable; and</li> <li>• provides a connection between the site frontage and the entrance to buildings and end of trip facilities (where provided).</li> </ul>	<b>Not Applicable</b>
<p><b>PO6</b> Development that involves an internal road network ensures that it's design:</p> <ul style="list-style-type: none"> <li>• ensure safety and efficiency in operation;</li> <li>• does not impact on the amenity of residential uses on the site and on adjoining sites, having regard to matters of:</li> <li>• hours of operation;</li> <li>• noise</li> <li>• light; and</li> <li>• odour;</li> <li>• accommodates the nature and volume of vehicle movements anticipated to be generated by the use;</li> <li>• allows for convenient access to key on-site features by pedestrians, cyclists and motor vehicles; and</li> <li>• in the Rural zone, avoids environmental degradation.</li> </ul>	<p><b>AO6.1</b> Internal roads for a Tourist park have a minimum width of:</p> <ul style="list-style-type: none"> <li>• 4 metres if one way; or</li> <li>• 6 metres if two way.</li> </ul>	<b>Not Applicable</b>
	<p><b>AO6.2</b> For a Tourist park, internal road design avoids the use of cul-de-sacs in favour of circulating roads, where unavoidable, cul-de-sacs provide a full turning circle for vehicles towing caravans having:</p> <ul style="list-style-type: none"> <li>• a minimum approach and departure curve radius of 12 metres; and</li> <li>• a minimum turning circle radius of 8 metres.</li> </ul>	<b>Not Applicable</b>
	<p><b>AO6.3</b> Internal roads are imperviously sealed and drained, apart from those for an Energy and infrastructure activity or Rural activity.</p>	<b>Complies</b> – internal access will be provided in accordance with relevant standards.
	<p><b>AO6.4</b> Speed control devices are installed along all internal roads, apart from those for an Energy and infrastructure activity or Rural activity, in accordance with Complete Streets.</p>	<b>Not Applicable</b>
	<p><b>AO6.5</b> Internal roads, apart from those for an Energy and infrastructure activity or Rural activity, are illuminated in accordance with AS 4282 (as amended) - Control of Obtrusive effects of outdoor lighting.</p>	<b>Not Applicable</b>

Performance outcomes	Acceptable outcomes	Response
	<p><b>AO6.6</b> Where involving an accommodation activity, internal roads facilitate unobstructed access to every dwelling, accommodation unit, accommodation site and building by emergency services vehicles.</p>	<b>Not Applicable</b>
	<p><b>AO6.7</b> For an Energy and infrastructure activity or Rural activity, internal road gradients: are no steeper than 1:5; or are steeper than 1:5 and are sealed.</p>	<b>Complies</b>
<b>Servicing</b>		
<p><b>PO7</b> Development provides access, maneuvering and servicing areas on site that:</p> <ul style="list-style-type: none"> <li>• accommodate a service vehicle commensurate with the likely demand generated by the use;</li> <li>• do not impact on the safety or efficiency of internal car parking or maneuvering areas;</li> <li>• do not adversely impact on the safety or efficiency of the road network;</li> <li>• provide for all servicing functions associated with the use; and</li> <li>• are located and designed to minimise their impacts on adjoining sensitive land uses and streetscape quality.</li> </ul>	<p><b>AO7.1</b> All unloading, loading, service and waste disposal areas are located:</p> <ul style="list-style-type: none"> <li>• on the site;</li> <li>• to the side or rear of the building, behind the main building line;</li> <li>• not adjacent to a site boundary where the adjoining property is used for a sensitive use.</li> </ul>	<b>Complies</b> – suitably located unloading / loading service and waste disposal areas will be provided.
	<p><b>AO7.2</b> Unloading, loading, service and waste disposal areas allow service vehicles to enter and exit the site in a forward gear.</p>	<b>Complies</b>
	<p><b>AO7.3</b> Development provides a servicing area, site access and maneuvering areas to accommodate the applicable minimum servicing vehicle specified in Table 9.4.3.3B.</p>	<b>Complies</b>
<b>Maintenance</b>		
<p><b>PO8</b> Parking areas are used and maintained for their intended purpose.</p>	<p><b>AO8.1</b> Parking areas are kept and used exclusively for parking and are maintained in a suitable condition for parking and circulation of vehicles.</p>	<b>Complies</b> – the parking area will be maintained to accord with the relevant standards.



Performance outcomes	Acceptable outcomes	Response
	<p><b>AO8.2</b> All parking areas will be compacted, sealed, drained, line marked and maintained until such time as the development ceases.</p>	<p><b>Complies</b> – the parking area will be constructed and maintained to accord with the relevant standards.</p>
<b>End of trip facilities</b>		
<p><b>PO9</b> Development within the Centre zone; Industry zone or Emerging community zone provides facilities for active transport users that:</p> <ul style="list-style-type: none"> <li>• meet the anticipated demand generated from the use;</li> <li>• comprise secure and convenient bicycle parking and storage; and</li> <li>• provide end of trip facilities for all active transport users.</li> </ul>	<p><b>AO9.1</b> The number of bicycle parking spaces provided for the use is in accordance with Table 9.4.3.3D.</p>	<p><b>Not Applicable</b></p>
	<p><b>AO9.2</b> End of trip facilities are provided in accordance with Table 9.4.3.3D.</p>	<p><b>Not Applicable</b></p>
<b>If for Educational establishment or Child care centre where involving more than 100 vehicle movements per day or Renewable energy facility, Sport and recreation activities or Tourist park</b>		
<p><b>PO10</b> The level of traffic generated by the development on the surrounding local road network must not result in unacceptable impacts on adjacent land and local road users.</p>	<p><b>AO10</b> A traffic impact report is prepared by a suitably qualified person that identifies:</p> <ul style="list-style-type: none"> <li>• the expected traffic movements to be generated by the facility;</li> <li>• any associated impacts on the road network; and</li> <li>• any works that will be required to address the identified impacts.</li> </ul>	<p><b>Not Applicable</b></p>
<b>If for Educational establishment or Child care centre where involving more than 100 vehicle movements per day or Renewable energy facility, Sport and recreation activities or Tourist park</b>		
<p><b>PO11</b> The level of traffic generated by the development on the surrounding local road network must not result in unacceptable impacts on adjacent land and local road users.</p>	<p><b>AO11</b> A traffic impact report is prepared by a suitably qualified person that identifies:</p> <ul style="list-style-type: none"> <li>• the expected traffic movements to be generated by the facility;</li> <li>• any associated impacts on the road network; and</li> <li>• any works that will be required to address the identified impacts.</li> </ul>	<p><b>Not Applicable</b></p>

**Table 9.4.3.3B—Vehicle Parking and Service Vehicle Space Requirements**

Definition	Minimum number of Car parking spaces	Minimum Service Vehicle Space Provision
Adult store	<p>Inside the Centre zone:</p> <ul style="list-style-type: none"> <li>One space per 50m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per 20m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</li> </ul> <p>Outside the Centre zone:</p> <ul style="list-style-type: none"> <li>One space per 25m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per 10m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</li> </ul>	One SRV space.
Agricultural supplies store	<p>Inside the Centre zone:</p> <ul style="list-style-type: none"> <li>One space per 50m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per 15m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</li> </ul> <p>Outside the Centre zone:</p> <ul style="list-style-type: none"> <li>One space per 30m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per 10m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</li> </ul> <p>Queuing for 3 vehicles should be supplied where a GFA is greater than 600m<sup>2</sup>.</p>	One HRV space.
Air services	<p>If accepted development subject to requirements development: One space per 90m<sup>2</sup> or part thereof of net lettable area; or</p> <p>If Assessable development: As determined by Council.</p>	<p>If accepted development subject to requirements: One space per 200m<sup>2</sup> or part thereof of net lettable area.</p> <p>If assessable development: As determined by Council.</p>
Animal husbandry	<p>If accepted development subject to requirements : One space.</p> <p>If assessable development: As determined by Council.</p>	<p>If accepted development subject to requirements: Nil.</p> <p>If assessable development: As determined by Council.</p>
Animal keeping	Minimum of three spaces or one space per 200m <sup>2</sup> of use area, whichever is greater.	One SRV space.
Aquaculture	<p>If accepted development subject to requirements: In the rural or rural residential zones - two spaces; or Enclosed within a building - one space per 90m<sup>2</sup> of net lettable area.</p> <p>If assessable development: As determined by Council.</p>	<p>If accepted development subject to requirements: Nil.</p> <p>If assessable development: As determined by Council.</p>
Brothel	As determined by Council.	As determined by Council.
Bulk landscape supplies	Minimum of five spaces or one space per 250m <sup>2</sup> of use area, whichever is greater.	One AV if the site has an area of greater than 2,000m <sup>2</sup> ; or One HRV space.
Car wash	Minimum of two parking spaces plus 1 car queuing space for each car wash or service bay and parking at rates applicable to ancillary use/s.	One AV space.
Caretaker's accommodation	One space per dwelling unit.	Nil.

Definition	Minimum number of Car parking spaces	Minimum Service Vehicle Space Provision
Cemetery	As determined by Council.	As determined by Council.
Child care centre	A minimum of 3 spaces will be required to be used for setting down and picking up of children, plus one space per 10 children for staff parking.	One SRV space.
Club	Minimum of 5 spaces per use or one space per 25m <sup>2</sup> or part thereof of GFA, whichever is greater.	One SRV space; and One HRV space if greater than 500m <sup>2</sup> .
Community care centre	Minimum of 5 spaces per use or one space per 25m <sup>2</sup> or part thereof of GFA, whichever is greater.	One SRV space.
Community residence	Three spaces.	Nil.
Community use	Minimum of 5 spaces per use or one space per 50m <sup>2</sup> or part thereof of GFA, whichever is greater.	One SRV space if greater than 500m <sup>2</sup> GFA.
Crematorium	One space per 30m <sup>2</sup> GFA or part thereof.	As determined by Council.
Cropping	If accepted development subject to requirements: Two spaces.  If assessable development: As determined by Council.	If accepted development subject to requirements: Nil.  If assessable development: As determined by Council.
Detention facility	As determined by Council.	As determined by Council.
Dual occupancy	One covered space per dwelling; and One visitor space.	Nil.
Dwelling house	One covered space per dwelling house. One space per secondary dwelling.	Nil.
Dwelling unit	One covered space per dwelling unit.  A minimum of 0.25 spaces per dwelling is to remain in common property for visitor use.	Nil
Educational establishment	For all establishments: 1 space per every 10 students plus 1 space per employee, and  Provision for 3 vehicles for loading and unloading of passengers in addition to the requirements above.	For accepted development subject to requirements: One HRV space; and One SRV space; and A minimum of 3 Bus / coach parking / set down areas.  For assessable development: As determined by Council.
Emergency services	Minimum of 5 spaces per use or one space per 25m <sup>2</sup> or part thereof of GFA, whichever is greater.	As determined by Council.
Environment facility	As determined by Council.	As determined by Council.
Extractive industry	As determined by Council.	As determined by Council.



Definition	Minimum number of Car parking spaces	Minimum Service Vehicle Space Provision
Food and drink outlet	<p>Accepted in an existing building within the Centre zone.</p> <p>Inside the Centre zone: One space per 50m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA and one space per 15m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</p> <p>Outside the Centre zone: One space per 25m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA and one space per 10m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</p> <p>Drive-through: Queuing spaces for 6 passenger vehicles within the site boundaries.</p> <p>One service vehicle space per use or one service vehicle space per 1,000m<sup>2</sup> GFA, whichever is greater.</p>	One HRV space.
Function facility	One space per 30m <sup>2</sup> or part thereof of GFA.	One SRV space.
Funeral parlour	<p>Accepted in an existing building within the Centre zone.</p> <p>Inside the Centre zone: One space per 20m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per 10m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</p> <p>Outside the Centre zone: One space per 25m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per 15m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</p>	One SRV space.
Garden centre	<p>A minimum of 5 spaces for customer parking or one space per 150m<sup>2</sup> or part thereof of use area, whichever is greater.</p> <p>One service vehicle space per use or one service vehicle space per 800m<sup>2</sup> use area, whichever is greater.</p>	One AV if the site has an area of greater than 2,000m <sup>2</sup> , otherwise One HRV space.
Hardware and trade supplies	<p>Accepted in an existing building within the Centre zone.</p> <p>Inside the Centre zone: One space per 50m<sup>2</sup> or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per or part thereof of GFA above 400m<sup>2</sup>.</p> <p>Outside the Centre zone: One space per or part thereof of GFA up to 400m<sup>2</sup> GFA, and one space per 15m<sup>2</sup> or part thereof of GFA above 400m<sup>2</sup>.</p>	One AV if the site has an area of greater than 2,000m <sup>2</sup> , otherwise One HRV space.
Health care services	<p>Accepted in an existing building within the Centre zone.</p> <p>Inside the Centre zone: One space per 40m<sup>2</sup> or part thereof of net lettable area.</p> <p>Outside the Centre zone: One space per 20m<sup>2</sup> of or part thereof of net lettable area.</p>	One SRV space per 500m <sup>2</sup> GFA.
High impact industry	One space per 90m <sup>2</sup> GFA or part thereof.	One AV space if the site has an area greater than 2,000m <sup>2</sup> , otherwise One HRV.

Definition	Minimum number of Car parking spaces	Minimum Service Vehicle Space Provision
Home based business	<p>Bed and breakfasts: One space per guest room.</p> <p>Other home based business: One space for home based business and one covered space for the dwelling.</p>	Nil.
Hospital	<p>One space per 6 residential care beds. One space per 4 hostel unit beds. Visitor parking at 30% of resident parking requirements.</p>	<p>One HRV space. One SRV for every 800m<sup>2</sup> of GFA and part thereof; and One space for an emergency vehicle.</p>
Hotel	<p>One space per 10m<sup>2</sup> or part thereof of GFA per bar, beer garden and other public area. One space per 50m<sup>2</sup> or part thereof of GFA per bulk liquor sales area. One space per guest room.</p>	One HRV space.
Indoor sport and recreation	<p>If accepted development subject to requirements: One space per 25m<sup>2</sup> of net lettable area. If assessable development: As determined by Council.</p>	<p>An internal bus set down and pick up area that enables the bus to be in a forward motion at all times whilst onsite</p> <p>Internal dedicated taxi bays provided within 200 metres of the site entrance.</p>
Intensive animal industries	<p>If accepted development subject to requirements: Two spaces. If assessable development: As determined by Council.</p>	One SRV space.
Intensive horticulture	<p>If accepted development subject to requirements: Two spaces. If assessable development: As determined by Council.</p>	<p>If accepted development subject to requirements: Nil. If assessable development: As determined by Council.</p>
Landing	As determined by Council.	As determined by Council.
Low impact industry	One space per 90m <sup>2</sup> GFA or part thereof.	One AV space if the site has an area greater than 2,000m <sup>2</sup> , otherwise One HRV.
Major electricity infrastructure	As determined by Council.	As determined by Council.
Major sport, recreation and entertainment facility	As determined by Council.	As determined by Council.
Marine industry	One space per 90m <sup>2</sup> GFA or part thereof.	One HRV space if the site has an area greater than 1,000m <sup>2</sup> , otherwise One SRV space.
Market	As determined by Council.	As determined by Council.
Medium impact industry	One space per 90m <sup>2</sup> GFA or part thereof.	One AV space if the site has an area greater than 2,000m <sup>2</sup> , otherwise One HRV.
Motor sport facility	As determined by Council.	As determined by Council.
Multiple dwelling	<p>One covered space per dwelling. One dedicated vehicle wash-down bay for premises containing 5 or more dwellings. A minimum of 0.25 spaces per dwelling is to remain in common property for visitor use.</p>	Nil.

Definition	Minimum number of Car parking spaces	Minimum Service Vehicle Space Provision
Nature-based tourism	One space per dwelling; or 0.75 spaces per guest room if in dormitory or shared facilities.	As determined by Council.
Nightclub entertainment facility	One space per 60m <sup>2</sup> GFA or part thereof.	Nil.
Non-resident workforce accommodation	One space per dwelling unit.	Nil.
Office	Accepted in an existing building within the Centre zone.  Inside the Centre zone: One space per 20m <sup>2</sup> or part thereof of GFA up to 400m <sup>2</sup> GFA, and one space per 10m <sup>2</sup> or part thereof of GFA above 400m <sup>2</sup> . Outside the Centre zone: One space per 25m <sup>2</sup> or part thereof of GFA up to 400m <sup>2</sup> GFA, and one space per 15m <sup>2</sup> or part thereof of GFA above 400m <sup>2</sup> .	One SRV space.
Outdoor sales	A minimum of 5 spaces for customer parking or one space per 150m <sup>2</sup> of use area, whichever is greater.  One service vehicle space per use or one service vehicle space per 800m <sup>2</sup> , whichever is greater.	One AV if the site has an area of greater than 2,000m <sup>2</sup> , otherwise One HRV space.
Outdoor sport and recreation	Coursing, horse racing, pacing or trotting: One space per five seated spectators; plus One space per 5m <sup>2</sup> of other spectator areas. Football: 50 spaces per field. Lawn bowls: 30 spaces per green. Swimming pool: 15 spaces; plus One space per 100m <sup>2</sup> of useable site area. Tennis or other Court: Four spaces per court. Golf Course: Four spaces per tee on the course; plus One space per 50m <sup>2</sup> of net lettable area.  Any other use: As determined by council.	An internal bus set down and pick up area that enables the bus to be in a forward motion at all times whilst onsite  Internal dedicated taxi bays provided within 200 metres of the site entrance.
Park	As determined by Council.	As determined by Council.
Parking station	Not applicable	Nil.
Permanent plantation	If accepted development subject to requirements: Two spaces.  If assessable development: As determined by Council.	If accepted development subject to requirements: Nil.  If assessable development: As determined by Council.
Place of worship	Minimum of 5 spaces per use or one space per 25m <sup>2</sup> or part thereof of GFA, whichever is greater.	One SRV space.
Port services	As determined by Council.	As determined by Council.
Relocatable home park	One space for each home site plus 1 space for each 5 home sites or part thereof for visitors.	One HRV space.
Renewable energy facility	As determined by Council.	As determined by Council.
Research and technology industry	One space per 90m <sup>2</sup> GFA or part thereof.	One HRV space if the site has an area greater than 1,000m <sup>2</sup> , otherwise One SRV space.



Definition	Minimum number of Car parking spaces	Minimum Service Vehicle Space Provision
Residential care facility	One space per 4 hostel unit beds. Visitor parking at 30% of resident parking requirements.	One SRV space; and One space for an emergency vehicle.
Resort complex	As determined by Council.	As determined by Council.
Retirement facility	One covered space per unit and 0.5 spaces for visitors parking.	One SRV space; and One space for an emergency vehicle.
Roadside stall	One space per stall.	Nil.
Rooming accommodation	Inside the Centre zone: One space per 15 beds. Outside the Centre zone: One space per 8 beds.	One SRV space. One space for a 20 seater bus.
Rural industry	One space per 90m2 GFA or part thereof.	One AV space.
Rural workers' accommodation	If accepted development subject to requirements: Nil  If Assessable development: As determined by Council.	If accepted development subject to requirements: Nil  If Assessable development: As determined by Council.
Sales office	One space per 25m2 GFA or part thereof.	Nil.
Service industry	Accepted where in an existing building within the Centre zone.  Inside the Centre zone: One space per 50m2 or part thereof of GFA up to 400m2 GFA, and one space per 10m2 or part thereof of GFA above 400m2. Outside the Centre zone: One space per 25m2 or part thereof of GFA up to 400m2 GFA, and one space per 15m2 or part thereof of GFA above 400m2.	One HRV space if the site is greater than 2,000m2, otherwise One SRV space.
Service station	Minimum of four spaces plus car parking at rates applicable to ancillary use/s.	One AV space.
Shop	Accepted where in an existing building within the Centre zone.  Inside the Centre zone: One space per 50m2 or part thereof of GFA up to 400m2 GFA, and one space per 10m2 or part thereof of GFA above 400m2. Outside the Centre zone: One space per 25m2 or part thereof of GFA up to 400m2 GFA, and one space per 15m2 or part thereof of GFA above 400m2.	One HRV space if the site is greater than 2,000m2, otherwise One SRV space.
Shopping centre	Inside the Centre zone: One space per 50m2 or part thereof of GFA up to 400m2 GFA and one space per 25m2 or part thereof of GFA above 400m2. Outside the Centre zone: One space per 25m2 or part thereof of GFA up to 400m2 GFA and one space per 15m2 or part thereof of GFA above 400m2.	One AV space per 1,000m2; and One SRV space per 500m2; or One SRV space per every 2 specialty uses, whichever the greater.
Short-term accommodation	One space per unit.	One HRV space if involves the serving of food or beverage; otherwise One SRV space.

Definition	Minimum number of Car parking spaces	Minimum Service Vehicle Space Provision
Showroom	Accepted in an existing building within the Centre zone.  Inside the Centre zone: One space per 25m <sup>2</sup> or part thereof of GFA up to 400m <sup>2</sup> GFA, and one space per 10m <sup>2</sup> or part thereof of GFA above 400m <sup>2</sup> . Outside the Centre zone: One space per 50m <sup>2</sup> or part thereof of GFA up to 400m <sup>2</sup> GFA, and one space per 15m <sup>2</sup> or part thereof of GFA above 400m <sup>2</sup> .	One AV space and One SRV space if the site is greater than 2,000m <sup>2</sup> ; or One HRV space; and One SRV Space.
Special industry	One space per 90m <sup>2</sup> GFA or part thereof.	One AV space if the site has an area greater than 2,000m <sup>2</sup> , otherwise One HRV.
Substation	If assessable development: As determined by Council.	As determined by Council.
Telecommunications facility	If accepted development subject to requirements: Nil.  If assessable development: As determined by Council.	If accepted development subject to requirements: Nil.  If assessable development: As determined by Council.
Theatre	One space per 15m <sup>2</sup> or part thereof of net lettable area, or one space per 5 seated spectators whichever is the greater.	One SRV space.
Tourist attraction	As determined by Council.	As determined by Council.
Tourist park	One space within each accommodation site plus 1 additional visitor space per 10 accommodation sites.  Queuing for 2 vehicles towing caravans and 1 holding bay for a vehicle towing a caravan plus additional queuing for 1 vehicle towing a caravan per 40 accommodation sites.	One HRV space.
Transport depot	One space per 125m <sup>2</sup> GFA or part thereof.	One AV space if the site has an area greater than 2,000m <sup>2</sup> , otherwise One HRV.
Utility installation	If accepted development subject to requirements: Nil.  If assessable development: As determined by Council.	If accepted development subject to requirements: Nil.  If assessable development: As determined by Council.
Veterinary services	Accepted in an existing building within the Centre zone.  Inside Centre zone: One space per 40m <sup>2</sup> or part thereof of net lettable area. Outside Centre zone: One space per 20m <sup>2</sup> or part thereof of net lettable area.	One HRV space if greater than 500m <sup>2</sup> GFA; and One SRV space per 500m <sup>2</sup> GFA.
Warehouse	One space per 90m <sup>2</sup> GFA or part thereof.	One AV space if the site has an area greater than 2,000m <sup>2</sup> , otherwise One HRV.
Wholesale nursery	As determined by Council.	As determined by Council.
Winery	As determined by Council.	As determined by Council.

Note—Any use not herein defined - as determined by Council.

Table 9.4.3.3C—Pavement Standards for Access, Manoeuvring and Car Parking areas

Zone	Compacted Gravel Base (minimum thickness)	Surfacing Options
All development other than dwelling house		
All zones other than the Conservation zone or the Rural zone	75mm	Reinforced concrete with a minimum thickness of: 100mm for parking areas; and 150mm for access ways.
	150mm	Asphalt with a minimum thickness of 25mm
	150mm	Two coat sprayed bitumen seal
	150mm	Concrete pavers
Conservation zone or Rural zone	Not applicable	Minimum 150mm thickness compacted gravel suitable for all weather and dust free
Dwelling house		
All zones	75mm	Reinforced concrete with a minimum thickness of: 100mm for parking areas; and 150mm for access ways.
	150mm	Asphalt with a minimum thickness of 25mm
	150mm	Two coat sprayed bitumen seal
	150mm	Concrete pavers
	Not applicable	Minimum 150mm thickness compacted gravel suitable for all weather and dust free

Note—Where more than one surfacing option is listed, any one of the treatments listed may be provided.



**Table 9.4.3.3D—Bicycle Parking and End of Trip Facility Requirements**

Definition	Minimum number of bicycle parking spaces	Minimum end of trip facilities
Commercial activities	<p>New or redeveloped commercial activities buildings (other than a shopping centre), provide:                      For employees - secure bicycle storage for 8% of building staff (based on one person per 60m<sup>2</sup> Gross leasable area). Secure bicycle parking involves a bicycle locker or bicycle rail in a locked compound/cage; and visitor facilities:</p> <ul style="list-style-type: none"> <li>- one bicycle rack space per 750m<sup>2</sup> NLA or part thereof; and</li> <li>- bicycle parking, signposted; and adjacent to a major public entrance to the building.</li> </ul>	<p>New or redeveloped commercial activities buildings (other than a shopping centre), provide the following employee facilities, which are continually accessible to employees:</p> <ul style="list-style-type: none"> <li>accessible showers at the rate of one shower per 10 bicycle spaces provided or part thereof;</li> <li>changing facilities adjacent to showers; and</li> <li>secure lockers in the changing facilities for 20% of building staff (based on one person per 60m<sup>2</sup> GLA to cater for walkers, cyclists and other active users.</li> </ul>
Community use	Four spaces per 1,500m <sup>2</sup> GFA.	As determined by Council.
Educational establishment	<p>New or redeveloped education facilities, provide:                      For employees - secure bicycle storage for 8% of building staff (based on one person per 75m<sup>2</sup> GLA). Secure bicycle parking involves a bicycle locker or bicycle rail in a locked compound/cage; and                      For students:</p> <ul style="list-style-type: none"> <li>- minimum of 8% of the peak number of students using the building at any one time (with 75% occupancy); and</li> <li>- bicycle storage within 100m of the building front entrance(s); or added to the campus central bicycle storage area.</li> </ul>	<p>New or redeveloped education facilities, provide the following employee facilities, which are continually accessible to employees:</p> <ul style="list-style-type: none"> <li>accessible showers at the rate of one per 10 bicycle spaces provided or part thereof;</li> <li>changing facilities adjacent to showers; and</li> <li>secure lockers in changing facilities for 20% of building staff (based on one person per 75m<sup>2</sup> GLA) to cater for cyclists, walkers and other active users.</li> </ul>
Food & drink outlet	One space per 100m <sup>2</sup> GFA.	As determined by Council.
Function facility	One space per 300m <sup>2</sup> GFA.	As determined by Council.

Definition	Minimum number of bicycle parking spaces	Minimum end of trip facilities
Health care services	<p>New or redeveloped healthcare facilities, provide the following facilities:</p> <p>For employees - secure bicycle storage for 5% of building staff (based on one person per 75m<sup>2</sup> GLA). Secure bicycle parking involves a bicycle locker or bicycle rail in a locked compound/cage; and</p> <p>For visitors:</p> <ul style="list-style-type: none"> <li>- facilities with in-patient accommodation provide one space per each 30 beds;</li> <li>- facilities without in-patient accommodation provide one space per each 4 practitioners;</li> <li>- aged care facilities provide one space per each 60 beds;</li> <li>- In every instance above, provide a minimum of 5 bicycle parking spaces; and</li> <li>- bicycle parking provided: in an accessible location, signposted and within 10m a major public entrance to the building.</li> </ul>	<p>New or redeveloped healthcare facilities, provide the following employee facilities, which are continually accessible to employees:</p> <p>accessible showers at the rate of one per 10 bicycle spaces provided or part thereof;</p> <p>changing facilities adjacent to showers; and</p> <p>secure lockers in changing facilities for 20% of building staff (based on one person per 75m<sup>2</sup> GLA) to cater for cyclists, walkers and other active users.</p>
Hospital	As determined by Council.	As determined by Council.
Indoor sport and recreation	One space per employee plus 1 space per 200m <sup>2</sup> GFA	As determined by Council.
Park	As determined by Council.	As determined by Council.
Rooming accommodation	One space per 4 letting rooms.	As determined by Council.
Short term accommodation	One space per 4 letting rooms.	As determined by Council.
Shop or Shopping centre	<p>New or redeveloped shopping centres, provide:</p> <p>For employees - secure bicycle storage for 8% of building staff (based on one person per 60m<sup>2</sup> Gross leasable area). Secure bicycle parking involves a bicycle locker or bicycle rail in a locked compound/cage; and</p> <p>visitor facilities:</p> <ul style="list-style-type: none"> <li>- one space per 500m<sup>2</sup> GLA or part thereof for centres under 30,000m<sup>2</sup>; or</li> <li>- one space per 750m<sup>2</sup> GLA or part thereof for centres between 30,000m<sup>2</sup> and 50,000m<sup>2</sup>; and</li> <li>- bicycle parking is signposted and within 10m of a major public entrance to the building.</li> </ul>	<p>New or redeveloped shopping centres, provide the following employee facilities, which are continually accessible to employees:</p> <p>accessible showers at the rate of one shower per 10 bicycle spaces provided or part thereof;</p> <p>changing facilities adjacent to showers; and</p> <p>secure lockers in the changing facilities for 20% of building staff (based on one person per 60m<sup>2</sup> GLA to cater for walkers, cyclists and other active users.</p>
Theatre	One space per 100m <sup>2</sup> GFA.	As determined by Council.

**Table 9.4.3.3E—Vehicular Access for Specific Uses**

Use	Design
Dwelling house	A secondary dwelling shares a vehicle crossover with the Dwelling house.
Car wash	Site access involves: a maximum width of 9 metres of any vehicle crossover across a footpath; a minimum separation of 12 metres between any vehicle crossover and a road intersection; a separate entrance and exit; and a minimum separation between vehicle crossovers of 14 metres.
Service station	
Industrial activities	Each lot is provided with no more than one access point every 15 metres.
Roadside stall	A single vehicular access point is provided to the site.
Tourist park	a single vehicular access point is provided to the site; and no accommodation site has individual vehicular access.



## 9.4.5 Works, services and infrastructure code

### 9.4.5.1 Application

- (1) This code applies to assessing development where it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

### 9.4.5.2 Purpose

- (1) The purpose of the Works, services and infrastructure code is to ensure that all development is appropriately serviced by physical infrastructure, public utilities and services and that work associated with development is carried out in a manner that does not adversely impact on the surrounding area.
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) Development provides an adequate, safe and reliable supply of potable, fire-fighting and general use water in accordance with relevant standards;
  - (b) Development provides for the treatment and disposal of wastewater and ensures there are no adverse impacts on water quality, public health, local amenity or ecological processes;
  - (c) Development provides for the disposal of stormwater and ensures that there are no adverse impacts on water quality or ecological processes;
  - (d) Development connects to the road network and any adjoining public transport, pedestrian and cycle networks while ensuring no adverse impacts on the safe, convenient and efficient operation of these networks;
  - (e) Development provides electricity and telecommunications services that meet its desired requirements;
  - (f) Development is connected to a nearby electricity network with adequate capacity without significant environment, social or amenity impact;
  - (g) Development does not affect the efficient functioning of public utility mains, services or installations;
  - (h) Infrastructure dedicated to Council is cost effective over its life cycle;
  - (i) Work associated with development does not cause adverse impacts on the surrounding area; and
  - (j) Development prevents the spread of weeds, seeds or other pests.

### 9.4.5.3 Criteria for assessment

**Table 9.4.5.3 - Works, services and infrastructure code – For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Response
<b>For accepted development subject to requirements and assessable development</b>		
<b>Water supply</b>		
<p><b>PO1</b> Each lot has an adequate volume and supply of water that:</p> <ul style="list-style-type: none"> <li>(a) meets the needs of users;</li> <li>(b) is adequate for fire-fighting purposes;</li> <li>(c) ensures the health, safety and convenience of the community; and</li> <li>(d) minimises adverse impacts on the receiving environment.</li> </ul>	<p><b>AO1.1</b> Development is connected to a reticulated water supply system in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual other than where located:</p> <ul style="list-style-type: none"> <li>(a) in the Conservation zone, Rural zone or Rural residential zone; and</li> <li>(b) outside a reticulated water supply service area.</li> </ul>	<b>Not Applicable</b>
	<p><b>AO1.2</b> Development, where located outside a reticulated water supply service area and in the Conservation zone, Rural zone or Rural residential zone is provided with:</p> <ul style="list-style-type: none"> <li>(a) a bore or bores are provided in accordance with the Design Guidelines set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual; or</li> <li>(b) on-site water storage tank/s: <ul style="list-style-type: none"> <li>(i) with a minimum capacity of 90,000L;</li> <li>(ii) fitted with a 50mm ball valve with a camlock fitting; and</li> <li>(iii) which are installed and connected prior to the occupation or use of the development.</li> </ul> </li> </ul>	<b>Complies – existing water supply arrangements will be retained.</b>

Performance outcomes	Acceptable outcomes	Response
<b>Wastewater disposal</b>		
<p><b>PO2</b> Each lot provides for the treatment and disposal of effluent and other waste water that:</p> <ul style="list-style-type: none"> <li>(a) meets the needs of users;</li> <li>(b) is adequate for fire-fighting purposes;</li> <li>(c) ensures the health, safety and convenience of the community; and</li> <li>(d) minimises adverse impacts on the receiving environment.</li> </ul>	<p><b>AO2.1</b> Development is connected to a reticulated sewerage system in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual other than where located:</p> <ul style="list-style-type: none"> <li>(a) in the Conservation zone, Rural zone or Rural residential zone; and</li> <li>(b) outside a reticulated sewerage service area.</li> </ul>	<b>Not Applicable</b>
	<p><b>AO2.2</b> An effluent disposal system is provided in accordance with ASNZ 1547 On-Site Domestic Wastewater Management (as amended) where development is located:</p> <ul style="list-style-type: none"> <li>(a) in the Conservation zone, Rural zone or Rural residential zone; and</li> <li>(b) outside a reticulated sewerage service area.</li> </ul>	<b>Complies –</b> existing disposal system will be retained.
<b>Stormwater infrastructure</b>		
<p><b>PO3</b> Stormwater infrastructure is designed and constructed to collect and convey the design storm event to a lawful point of discharge in a manner that mitigates impacts on life and property.</p>	<p><b>AO3.1</b> Where located within a Priority infrastructure area or where stormwater infrastructure is available, development is connected to Council's stormwater network in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual.</p>	<b>Not Applicable</b>
	<p><b>AO3.2</b> On-site drainage systems are constructed:</p> <ul style="list-style-type: none"> <li>(a) to convey stormwater from the premises to a lawful point of discharge; and</li> <li>(b) in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual.</li> </ul>	<b>Complies –</b> existing stormwater arrangements will be retained and drainage for driveway access and parking area will be provided in accordance with the relevant standards.



Performance outcomes	Acceptable outcomes	Response
<b>Electricity supply</b>		
<p><b>PO4</b> Each lot is provided with an adequate supply of electricity</p>	<p><b>AO4</b> The premises: (a) is connected to the electricity supply network; or (b) has arranged a connection to the transmission grid; or (c) where not connected to the network, an independent energy system with sufficient capacity to service the development (at near average energy demands associated with the use) may be provided as an alternative to reticulated electricity where: (i) it is approved by the relevant regulatory authority; and (ii) it can be demonstrated that no air or noise emissions; and (iii) it can be demonstrated that no adverse impact on visual amenity will occur.</p>	<p><b>Complies</b> – existing electricity supply will be retained.</p>
<b>Telecommunications infrastructure</b>		
<p><b>PO5</b> Each lot is provided with an adequate supply of telecommunication infrastructure</p>	<p><b>AO5</b> Development is provided with a connection to the national broadband network or telecommunication services.</p>	<p><b>Not Applicable</b></p>
<b>Existing public utility services</b>		
<p><b>PO6</b> Development and associated works do not affect the efficient functioning of public utility mains, services or installations.</p>	<p><b>AO6</b> Public utility mains, services are relocated, altered or repaired in association with the works so that they continue to function and satisfy the relevant Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual.</p>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
<b>Excavation or filling</b>		
<b>PO7</b> Excavation or filling must not have an adverse impact on the: (a) streetscape; (b) scenic amenity; (c) environmental values; (d) slope stability; (e) accessibility; or (f) privacy of adjoining premises.	<b>A07.1</b> Excavation or filling does not occur within 1.5 metres of any site boundary.	<b>Not Applicable</b>
	<b>A07.2</b> Excavation or filling at any point on a lot is to be no greater than 1.5 metres above or below natural ground level.	<b>Not Applicable</b>
	<b>A07.3</b> Earthworks batters: (a) are no greater than 1.5 metres in height; (b) are stepped with a minimum width 2 metre berm; (c) do not exceed a maximum of two batters and two berms (not greater than 3.6 metres in total height) on any one lot; (d) have a slope no greater than 1 in 4; and (e) are retained.	<b>Not Applicable</b>
	<b>A07.4</b> Soil used for filling or spoil from excavation is not stockpiled in locations that can be viewed from: (a) adjoining premises; or (b) a road frontage, for a period exceeding 1 month from the commencement of the filling or excavation.	<b>Not Applicable</b>
	<b>A07.5</b> All batters and berms to be constructed in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual.	<b>Not Applicable</b>
	<b>A07.6</b> Retaining walls have a maximum height of 1.5 metres and are designed and constructed in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development manual.	<b>Not Applicable</b>

Performance outcomes	Acceptable outcomes	Response
	<p><b>AO7.7</b> Excavation or filling at any point on a lot is to include measures that protect trees at the foot or top of cut or fill batters by the use of appropriate retaining methods and sensitive earth removal or placement and in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development manual.</p>	<b>Not Applicable</b>
<b>For assessable development</b>		
<b>Transport network</b>		
<p><b>PO8</b> The development has access to a transport network of adequate standard to provide for the safe and efficient movement of vehicles, pedestrians and cyclists.</p>	<p><b>AO8.1</b> Vehicle access, crossovers, road geometry, pavement, utilities and landscaping to the frontage/s of the site are designed and constructed in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development manual.</p>	<b>Complies</b> – vehicle access and crossover will be provided in accordance with the relevant standards
	<p><b>AO8.2</b> Development provides footpath pavement treatments in accordance with Planning Scheme Policy 9 – Footpath Paving.</p>	<b>Not Applicable</b>
<b>Public infrastructure</b>		
<p><b>PO9</b> The design, construction and provision of any infrastructure that is to be dedicated to Council is cost effective over its life cycle and incorporates provisions to minimise adverse impacts.</p>	<p><b>AO9</b> Development is in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual.</p>	<b>Not Applicable</b>



Performance outcomes	Acceptable outcomes	Response
<b>Stormwater quality</b>		
<p><b>PO10</b> Development has a non-worsening effect on the site and surrounding land and is designed to:</p> <ul style="list-style-type: none"> <li>(a) optimise the interception, retention and removal of waterborne pollutants, prior to the discharge to receiving waters;</li> <li>(b) protect the environmental values of waterbodies affected by the development, including upstream, on-site and downstream waterbodies;</li> <li>(c) achieve specified water quality objectives;</li> <li>(d) minimise flooding;</li> <li>(e) maximise the use of natural channel design principles;</li> <li>(f) maximise community benefit; and</li> <li>(g) minimise risk to public safety.</li> </ul>	<p><b>AO10.1</b> The following reporting is prepared for all Material change of use or Reconfiguring a lot proposals:</p> <ul style="list-style-type: none"> <li>(a) a Stormwater Management Plan and Report that meets or exceeds the standards of design and construction set out in the Queensland Urban Drainage Manual (QUDM) and the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development Manual; and</li> <li>(b) an Erosion and Sediment Control Plan that meets or exceeds the Soil Erosion and Sedimentation Control Guidelines (Institute of Engineers Australia), including: <ul style="list-style-type: none"> <li>(i) drainage control;</li> <li>(ii) erosion control;</li> <li>(iii) sediment control; and</li> <li>(iv) water quality outcomes.</li> </ul> </li> </ul>	<p><b>Complies</b> – development will be established in accordance with the relevant standards.</p>

Performance outcomes	Acceptable outcomes	Response
	<p><b>AO10.2</b> For development on land greater than 2,500m<sup>2</sup> or that result in more than 5 lots or more than 5 dwellings or accommodation units, a Stormwater Quality Management Plan and Report prepared and certified by a suitably qualified design engineer (RPEQ) is prepared that demonstrates that the development:</p> <ul style="list-style-type: none"> <li>(a) meets or exceeds the standards of design and construction set out in the Urban Stormwater Quality Planning Guideline and the Queensland Water Quality Guideline;</li> <li>(b) is consistent with any local area stormwater water management planning;</li> <li>(c) accounts for development type, construction phase, local climatic conditions and design objectives; and</li> <li>(d) provides for stormwater quality treatment measures reflecting land use constraints, such as soil type, landscape features (including landform), nutrient hazardous areas, acid sulfate soil and rainfall erosivity.</li> </ul>	<p><b>Complies</b> - development will be established in accordance with the relevant standards.</p>
<p><b>PO11</b> Storage areas for stormwater detention and retention:</p> <ul style="list-style-type: none"> <li>(a) protect or enhance the environmental values of receiving waters;</li> <li>(b) achieve specified water quality objectives;</li> <li>(c) where possible, provide for recreational use;</li> <li>(d) maximise community benefit; and</li> <li>(e) minimise risk to public safety.</li> </ul>	<p><b>AO11</b> No acceptable outcome is provided.</p>	<p><b>Not Applicable</b></p>
<b>Excavation or filling</b>		
<p><b>PO12</b> Traffic generated by filling or excavation does not impact on the amenity of the surrounding area.</p>	<p><b>AO12.1</b> Haul routes used for transportation of fill to or from the site only use major roads and avoid residential areas.</p>	<p><b>Not Applicable</b></p>

Performance outcomes	Acceptable outcomes	Response
	<p><b>AO12.2</b>  Transportation of fill to or from the site does not occur:</p> <ul style="list-style-type: none"> <li>(a) within peak traffic times; and</li> <li>(b) before 7am or after 6pm Monday to Friday;</li> <li>(c) before 7am or after 1pm Saturdays; and</li> <li>(d) on Sundays or Public Holidays.</li> </ul>	<p><b>Not Applicable</b></p>



Performance outcomes	Acceptable outcomes	Response
<p><b>PO13</b> Air pollutants, dust and sediment particles from excavation or filling, do not cause significant environmental harm or nuisance impacts.</p>	<p><b>AO13.1</b> Dust emissions do not extend beyond the boundary of the site.</p>	Refer to <b>Appendix G – Environmental Authority Application – Supporting Information</b> for a response.
	<p><b>AO13.2</b> No other air pollutants, including odours, are detectable at the boundary of the site.</p>	Refer to <b>Appendix G – Environmental Authority Application – Supporting Information</b> for a response.
	<p><b>AO13.3</b> A management plan for control of dust and air pollutants is prepared and implemented.</p>	Refer to <b>Appendix G – Environmental Authority Application – Supporting Information</b> for a response.
<p><b>PO14</b> Access to the premises (including driveways and paths) does not have an adverse impact on: (a) safety; (b) drainage; (c) visual amenity; and (d) privacy of adjoining premises.</p>	<p><b>AO14</b> Access to the premises (including all works associated with the access): (a) must follow as close as possible to the existing contours; (b) be contained within the premises and not the road reserve, and (c) are designed and constructed in accordance with the Design Guidelines and Specifications set out in the Planning Scheme Policy 4 – FNQROC Regional Development manual.</p>	<b>Complies</b> – the alignment of the existing driveway will be used and upgraded.
<b>Weed and pest management</b>		
<p><b>PO15</b> Development prevents the spread of weeds, seeds or other pests into clean areas or away from infested areas.</p>	<p><b>AO15</b> No acceptable outcome is provided.</p>	<b>Not Applicable</b>
<b>Contaminated land</b>		

Performance outcomes	Acceptable outcomes	Response
<p><b>PO16</b> Development is located and designed to ensure that users and nearby sensitive land uses are not exposed to unacceptable levels of contaminants</p>	<p><b>AO16</b> Development is located where: (a) soils are not contaminated by pollutants which represent a health or safety risk to users; or (b) contaminated soils are remediated prior to plan sealing, operational works permit, or issuing of building works permit.</p>	<p><b>Not Applicable</b></p>
<b>Fire services in developments accessed by common private title</b>		
<p><b>PO17</b> Fire hydrants are located in positions that will enable fire services to access water safely, effectively and efficiently.</p>	<p><b>AO17.1</b> Fire hydrants are located in accessways or private roads held in common private title at a maximum spacing of: (a) 120 metres for residential development; and (b) 90 metres for any other development.</p>	<p><b>Not Applicable</b></p>
	<p><b>AO17.2</b> Fire hydrants are located at all intersections of accessways or private roads held in common private title.</p>	<p><b>Not Applicable</b></p>

# **APPENDIX G**



*Environmental Approval & Compliance Solutions*

**Environmental Authority  
Application for Environmentally  
Relevant Activity 7 (4a)  
Chemical Manufacturing**

**Supporting Information**

Agri Technovation Pty Ltd





# Document Control Summary

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**Appendix G: Strategic Cropping Land Trigger Map**

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# 1. Introduction

Agri Technovation Pty Ltd (AgriTech) is applying to the Queensland Department of Environment and Science (DES) for an Environmental Authority (EA) for prescribed (concurrency) Environmentally Relevant Activity (ERA) 7(4a)<sup>1</sup> ‘*Chemical manufacturing (4) manufacturing in a year, the following quantities of fertiliser (a) 200 tonnes to 5,000 tonnes*’ to be undertaken at Lot 1 SP173508, 203 Leafgold Weir Road, Dimbulah. This document provides supporting information for an application for an EA.

## 1.1 Background

AgriTech is an international agriculture business with a footprint in the USA, Africa and Australia. AgriTech proposes to establish a liquid fertiliser mixing facility in an existing storage shed/warehouse (hereafter ‘the site’) in Dimbulah on Lot 1 SP173508 (GPS coordinates 17°09'45.8"S, 145°03'27.5"E) (hereafter ‘the Lot’) (**Figure 1**). The intent is for the product to be distributed locally within the existing agricultural area (in which the site is centrally located), extending from Mutchilba to west beyond Dimbulah on either side of the Walsh River. In addition to the provision of liquid fertiliser, specialised advice will be provided to individual farmers on nutrition programs, soil classification and soil analysis. The proposed activity is consistent with the surrounding rural uses and provides for the specialised needs of the farming community in this area.

A development application for a material change of use is required by Mareeba Shire Council (MSC). Concurrent assessment of this proposal by the State Government is required for a material change of use and an EA application. MSC will be the assessment manager for the application, with referral to the State Government for assessment of the EA application. A pre-lodgement meeting was undertaken on 22 April 2021 with representatives from the following organisations in attendance<sup>2</sup>:

- AgriTech
- NRA Environmental Consultants (NRA)
- Victor G Feros Town Planning Consultants (VGF)
- MSC
- Queensland Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) State Assessment and Referral Agency (SARA)
- DES.

Following the meeting, pre-lodgement advice was received from SARA, DES and MSC (**Appendix A**). In discussions with DES during the pre-lodgement meeting it was not certain if an EA would be required for this proposal; however, it was decided that the development application would trigger a referral for an EA application (for prescribed ERA 7(4a)).

---

<sup>1</sup> As defined in Schedule 2 of the Queensland *Environmental Protection Regulation* 2019.

<sup>2</sup> Documentation was submitted on behalf of AgriTech with the pre-lodgement meeting request (dated 9 April 2021), including:

- powerpoint presentation prepared by VGF describing the project
- project report prepared by AgriTech
- pre-lodgement advice dated 9 April 2021 prepared by NRA.

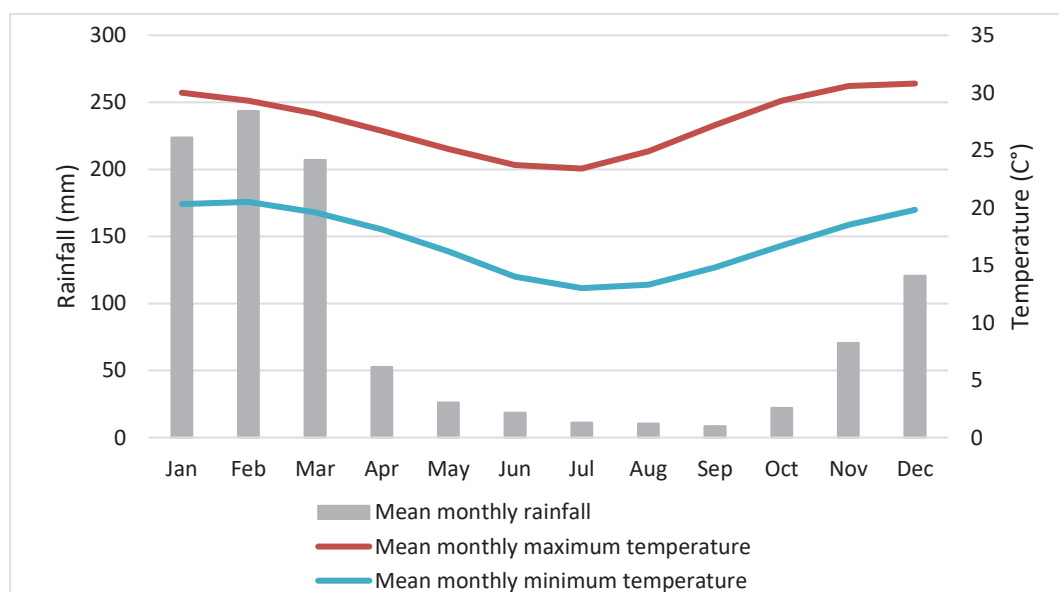
Assessing impacts, and offering management measures to reduce impacts to the ‘Air’ and ‘Land’ receiving environment, was identified in the pre-lodgement advice. Particular attention was drawn to the unsealed access track into the site, hours of operation and proposed truck movements at the site, and risks to the environment in the event of a spill. These items are addressed in this report.

## 1.2 Site location and topography

The site is in a rural, primarily agricultural, area approximately 6 km south-west of Dimbulah and 43 km south-west of Mareeba. The Lot is approximately 12.9 ha. Topography within the Lot varies from 460 m AHD (Australian Height Datum) in the east of the Lot, to almost 480 m AHD in the west. No remnant vegetation is present in the Lot. Agricultural crop species (lime trees) are planted in the Lot. The site is in the centre of the Lot (**Figure 2**).

## 1.3 Regional climate

Data collected at the Walkamin Research Station (31108) approximately 40 km east of the site is shown on **Graph 1** and is likely to be representative of the weather conditions at the site. This area typically experiences high rainfall and high temperatures during the wet season (nominally November–April) and less rainfall and lower temperatures during the dry season (nominally May–October) (BOM 2021a).



Source: BoM (2021a).

**Graph 1: Mean monthly rainfall and temperatures at Walkamin Research Station (31108) 1965–2021**

## 1.4 Description

AgriTech proposes to prepare liquid fertiliser (by mixing) in an existing storage shed in Dimbulah. NRA and VGF undertook a site visit on 16 February 2021. Photographs taken of the site (including the existing infrastructure) are provided in **Appendix B**.

Further details regarding the proposed activity are provided in AgriTech’s project description document (Appendix E of VGF (2021)), with the following being a summation.

- The proposed site layout is provided on **Plate 1**.
  - Within the storage shed, there will be three areas: a liquid production/storage area, a dry bulk storage area, and a loading area. The storage shed has a total floor space of

535 m<sup>2</sup>. The storage shed is covered by a roof. The entire floor space will be concreted.

- Adjacent to the storage shed is a parking area (**Figure 2**). This will be converted to approximately 457 m<sup>2</sup> of hardstand (compacted gravel).
- A concrete loading and unloading bay (approximately 105 m<sup>2</sup>) will also be provided.
- The existing access track between the storage shed and Leafgold Weir Road (**Figure 2**) will be upgraded (in part) to concrete.
- The plant will receive raw materials that are mixed to form a fertiliser product. Raw materials (solid and liquid form) will be stored in designated areas within the site, including in 22,730 L storage tanks, 25 kg bags and 1 t bags.
- The fertiliser will be produced by dissolving non-hazardous raw materials in water within 13,750 L mixing tanks. The contents will be mixed with an agitator and pump. After the raw materials have dissolved, the liquid product will be stored in 22,730 L storage tank(s). Liquid storage and mixing tanks will be located in bunded areas.
- The liquid fertiliser produced by AgriTech is not a dangerous good, and it is understood that no dangerous goods will be used in production of the product.
- An above ground fuel storage tank with a capacity of 1,000 L will be stored adjacent to the storage shed. This will be used for forklift and delivery truck refuelling. The tank will be bunded to contain fuel spills. Hydrocarbon fuels (*ie* petrol, diesel) are Class 3 dangerous goods (flammable liquids).
- It is anticipated that 800 t per annum will be produced in the first year of operation. The production season is typically 8 months, with a peak production of 200 t per month. During peak production, product dispatches are anticipated to occur once per day, and deliveries of raw materials are expected to occur twice per month.
- Production will increase each year to approximately 3,000 t in the fifth year of operation (with the potential to increase to 5,000 t, the upper threshold of ERA 7(4a)).
- No by-products will be generated as a result of the fertiliser production process. Waste generated by the activities will be mostly restricted to empty plastic fertiliser container bags and slings.
- Water required for the proposed activity will be drawn from the irrigation channel to the west of the Lot, and from covered water tanks. The current landowners have a 57 ML water allocation for the Lot, and a further 190 ML allocated to other land nearby. Anticipated water usage for the proposed activity is as follows.
  - 0.6–0.7 ML in year 1.
  - 2.2–2.6 ML in year 5.

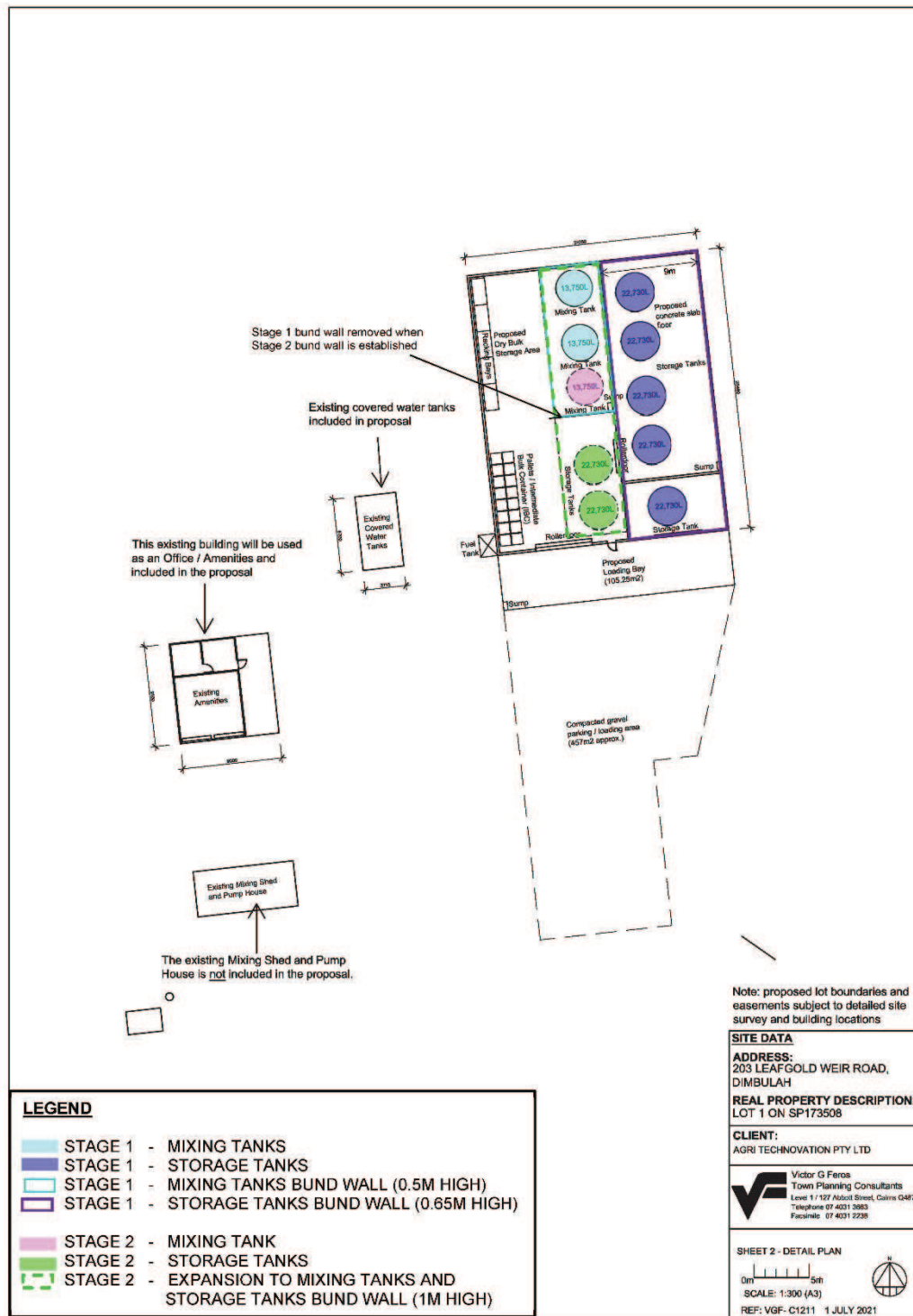


Plate 1: Proposed site layout



**Figure 1:** Site location

Project: EA Application for ERA 7(4a)  
Chemical Manufacturing - Supporting  
Information

★ Lot 1 SP173508

— Major drainage

— Major roads

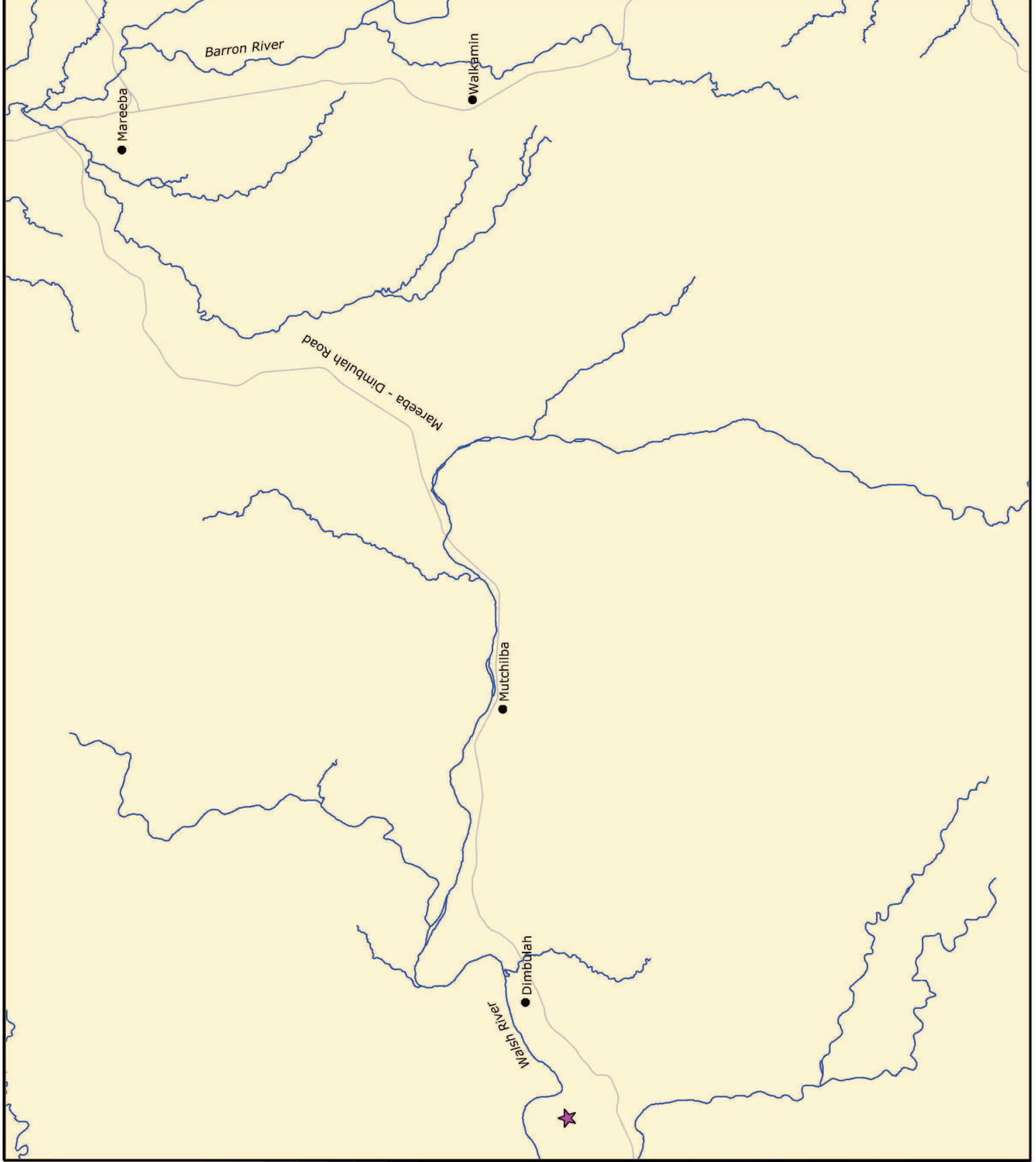


kilometres

Source: © State of Queensland (Department of Natural Resources, Mines and Energy) 2017, 2019, 2020, 2021.  
Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/>.

NRA Ref: 472000.02

Date: July 2021





**Figure 2:** Site infrastructure

Project: EA Application for ERA 7(4a)  
Chemical Manufacturing - Supporting  
Information



Source: © State of Queensland (Department of Natural Resources, Mines and Energy) 2020, (Department of Environment and Science) 2020. Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/> Google Earth.

NRA Ref: 472000.02  
Date: July 2021





## 2. Environmental Offsets and Prescribed Environmental Matters

According to the Queensland *Environmental Offsets Act* 2014, a prescribed environmental matter includes matters of national, state and local environmental significance; these are described below.

### 2.1 Matters of National Environmental Significance

A search of potential Matters of National Environmental Significance (MNES)<sup>3</sup> identified the following.

- Listed threatened species.
  - Nineteen listed threatened species may occur within the search area, including 14 fauna species and 5 flora species (**Appendix C**).
- Listed migratory species.
  - Fifteen listed migratory species may occur within the search area (**Appendix C**).

A significant residual impact to MNES is considered unlikely for the following reasons.

- No remnant vegetation is present within the Lot and no vegetation clearing is proposed for the operation.
- It is unlikely that threatened or migratory species occur at the site because it is a modified, agricultural environment.

### 2.2 Matters of State Environmental Significance

The following Matter of State Environmental Significance is mapped by the Queensland Government (DES 2020a, **Appendix D**) within the Lot, intersecting the current access track (**Figure 3**):

- regulated vegetation – defined watercourse (two mapped features).

These matters are discussed further in **Section 4.2**.

A review of the aerial imagery was undertaken followed by an investigation of the mapped features during the site visit on 16 February 2021. A significant residual impact to MSES is considered unlikely for the following reasons.

- No vegetation clearing is proposed.
- No regulated vegetation was present, and no perceptible channels were present for any of the aforementioned mapped features within the Lot.
- The release of water to watercourses is not planned.

### 2.3 Matters of Local Environmental Significance

The MSC Planning Scheme (MSC 2016) does not nominate Matters of Local Environmental Significance.

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<sup>3</sup> A Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) Protected Matters Report was generated on 31 May 2021 using a 5 km radius on -17.16338, 145.05762.



**Figure 3:** Matters of State Environmental Significance

Project: EA Application for ERA 7(4a)  
Chemical Manufacturing - Supporting Information

Lot 1 SP173508

Road

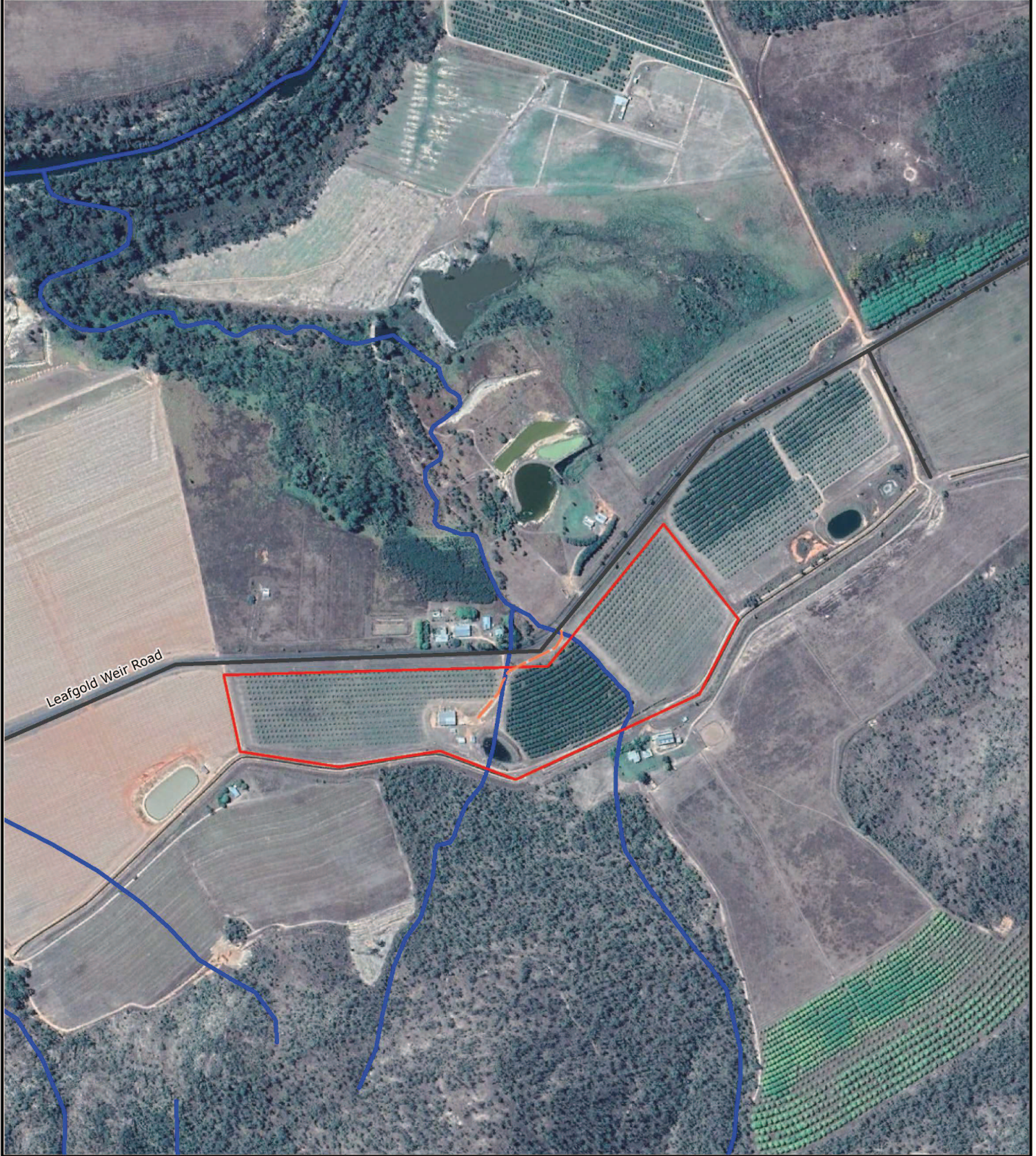
Current access track

Matters of State Environmental Significance  
Regulated vegetation  
defined watercourse



Source: © State of Queensland (Department of Natural Resources, Mines and Energy), 2020; (Department of Environment and Science) 2020. Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/google-earth>.

NRA Ref: 472000.02  
Date: July 2021





### 3. Notifiable Activities

During the pre-lodgement meeting it was discussed whether the following notifiable activity (as defined in Schedule 3 of the Queensland *Environmental Protection Act 1994* (EP Act)) is applicable to the proposed project:

*16 Fertiliser manufacture—manufacturing agriculture fertiliser (other than the blending, formulation or mixing of fertiliser).*

As the activities carried out on-site will be restricted to the mixing of fertiliser compounds with water, they do not meet this definition of a notifiable activity. It is concluded that notice to DES on commencement of a notifiable activity will not be required for the proposed activity.

## 4. Environmental Values, Potential Impacts and Proposed Management Measures

Environmental values (EVs) are defined under the EP Act and subordinate legislation (*ie* Environmental Protection Policies). It is possible the operation will have impacts relevant to: air, noise, water, waste, and land.

Information about these EVs, possible impacts on these EVs, and proposed management measures are provided in the following sections.

### 4.1 Air and noise

#### 4.1.1 Environmental values

The area surrounding the site is rural and used for agricultural (primarily grazing, horticultural and cropping) and residential purposes. It comprises natural vegetation and cleared land. Leafgold Weir Road runs along the western boundary of the Lot, and the Burke Developmental Road is approximately 1.7 km south.

EVs for the air environment, applicable to this project, are listed in the *Environmental Protection (Air) Policy 2019* as follows.

- The qualities of the air environment conducive to protecting the health and biodiversity of ecosystems.
- The qualities of the air environment conducive to human health and wellbeing.
- The qualities of the air environment conducive to protecting the aesthetics of the environment, including the appearance of buildings, structures and other property.
- The qualities of the air environment conducive to protecting agricultural use of the environment.

EVs for the acoustic environment, applicable to this project, are listed in the *Environmental Protection (Noise) Policy 2019* as follows.

- The qualities of the acoustic environment conducive to protecting the health and biodiversity of ecosystems.
- The qualities of the acoustic environment conducive to human health and wellbeing, including by ensuring a suitable acoustic environment for individuals to do any of the following:
  - sleep
  - study or learn
  - be involved in recreation, including relaxation and conversation.
- The qualities of the acoustic environment conducive to protecting the amenity of the community.

#### Existing air quality

Existing air quality pollutants in the receiving environment are primarily particulate emissions (*ie* dust), fumes and odours. Potential sources of emissions from the surrounding environment comprise natural wind erosion (which may be exacerbated by disturbance from grazing and cropping activities), vehicles (including heavy machinery) on sealed and unsealed roads/tracks and agricultural activities (*ie* spreading fertiliser or pesticides). Ambient dust, odour and vehicle emissions are expected to be commensurate to a rural environment.

## Background noise levels

The existing acoustic environment is commensurate to a rural landscape. Background noise is generated from road traffic (*ie* Leafgold Weir Road) and activities on nearby agricultural and residential properties.

## Sensitive receptors

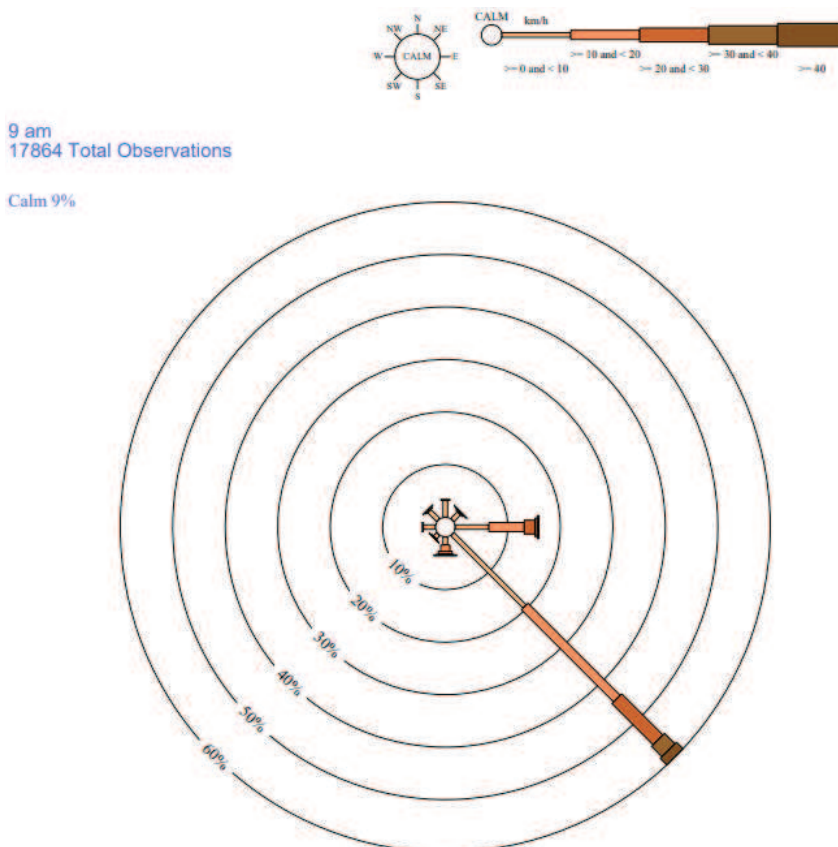
Within a 1.5 km radius of the site, there are a number of sensitive receptors<sup>4</sup>; these are presented on **Figure 4**. Sensitive receptors for the air and acoustic environment include:

- residences
- farm buildings
- packing facilities.

The closest sensitive receptor is a farm residence (with associated farm buildings) approximately 100 m west of the site. Five sensitive receptors are within 500 m of the site.

## Topography and wind characteristics

Topography in the Lot varies from 460 m AHD in the east to almost 480 m AHD in the west. No local wind data for Dimbulah is publicly available. Weather data from the Walkamin Research Station (approximately 40 km east of the site) is likely to be representative of the site conditions. Prevailing wind direction at this station is south-east (BOM 2021a) (**Plate 2**).



Source: BOM (2021a).

**Plate 2: Rose of wind direction versus wind speed (km/h) at Walkamin Research Station (31108) 1970–2020**

<sup>4</sup> Referred to as sensitive places in the *Environmental Protection (Air) Policy* 2019.

### 4.1.2 Potential impacts

The proposed activity produces noise and emissions that have the potential to impact the air and acoustic environment. The activities carried out on-site (*ie* mixing of fertiliser products with water) are already undertaken, on a smaller scale, on a number of farms throughout the area. The increase in air and/or noise impacts to the sensitive receptors due to the proposed activity will be negligible, particularly with implementation of the recommended management measures.

#### Air emissions

The potential types of air emissions that may occur as a result of the proposed activities include:

- fumes and odours – chemical stores, mixing tanks and fuel storage
- particulate emissions (*ie* dust) – vehicle use.

A summary of potential impacts on air EVs is provided in **Table 1**. The products to be used and the mechanism for production are provided in Appendix E of VGF (2021). No emissions that may cause adverse effect are expected. Diffuse particulate emissions from vehicle use of the access track may occur. Particulate emission levels are likely to vary throughout the year due to seasonal weather (*ie* rainfall, described in **Section 1.3**).

The prevailing wind direction at the site is likely to be south-east; therefore, any particulate emissions from vehicle use of the access track are unlikely to travel towards four of the five closest sensitive receptors (within 500 m of the site) (**Figure 4**). One residence is approximately 330 m north-west of the site. This sensitive receptor is unlikely to be affected by particulate emissions as it is separated from the access track by the storage shed, a lime tree crop, natural vegetation and other agricultural fields. The measures outlined in **Section 4.1.3** will address any potential impacts to sensitive receptors.

**Table 1: Potential impacts of the proposed activity on air EVs**

Air EV	Potential impact from the activity
Health and biodiversity of ecosystems	Particulate emissions ( <i>ie</i> dust) from vehicle use of the access track are unlikely to be generated in sufficient quantities to impact on the health of the surrounding vegetation ( <i>eg</i> by inhibiting physiological processes such as photosynthesis and transpiration).
Human health and wellbeing	Fumes and odours generated by chemical stores, mixing tanks and fuel storage are unlikely to have an adverse impact on human health and wellbeing. Most raw materials to be used are odourless; the exceptions are Easy N (a mild acidic smell) and Urea (a slight urea smell). Processes will be undertaken within an enclosed building and are consistent with the surrounding rural land uses. Particulate emissions ( <i>ie</i> dust) from vehicle use of the access track are unlikely to be generated in sufficient quantities to impact on human health and wellbeing. The management measures provided in <b>Section 4.1.3</b> address this potential issue.
Agricultural use of the environment	The surrounding area is used for agricultural and residential purposes. Particulate emissions generated by the proposed activity are not likely to be generated in sufficient quantities to impact on these land uses.
Aesthetics of the environment	Emissions generated by the proposed activity are unlikely to impact on the aesthetics of the environment for the reasons described above.



## Noise

The following activities conducted as part of the operation have the potential to have noise impacts:

- vehicle use (*ie* light and heavy vehicles)
- mobile plant (*eg* forklifts)
- electrical agitators and pumps
- warning alarms and other auditory signals.

The noise currently generated by activities on-site is tonal (contains a distinguishable, discrete, continuous note) and impulsive (includes distinct impulses) as defined by the DES guideline *Application requirements for activities with noise impacts* (DES 2020b). Operational activities that produce tonal noises include traffic, agitators, and pumps. Activities that produce impulsive noises include warning alarms and other auditory signals (safety signal noise from reversing vehicles is exempt under the EP Act (Schedule 1, Part 1, 1c)).

Operational activities at site will occur 6 days per week (Monday to Saturday), restricted to daylight hours (from 8 am to 5 pm). The traffic volume generated by the proposed activity will be low. Maximum proposed truck movements during peak (June to January) and off-peak (February to May) production months are as follows.

- Year 1 (800 t of product):
  - delivery of dry bulk materials twice per month during peak production months, and once per month during off-peak production months
  - product dispatches once per day during peak production months, and once per week during off-peak production months.
- Year 5 (3,000 t of product):
  - delivery of dry bulk materials twice per week during peak production months, and twice per month during off-peak production months
  - product dispatches twice per day during peak production months, and twice per week during off-peak production months.

In addition, three staff will be employed on-site, generating approximately 30-40 vehicle movements per week. The general public will not be required to visit the site as a product delivery service will be provided.

The proposed activity is unlikely to cause adverse impacts to acoustic EVs and sensitive receptors as processes will be undertaken within an enclosed building and are consistent with the surrounding rural land uses. The measures outlined in **Section 4.1.3** will address any potential impacts to sensitive receptors.

### 4.1.3 Proposed management measures

The following management measures will be implemented to reduce impacts to air and acoustic EVs.

- The access track will be upgraded as follows:
  - a concrete driveway crossover from the edge of Leafgold Weir Road will be constructed in accordance with the FNQROC Development Manual, Standard Drawing S1015 (FNQROC 2019)
  - the driveway crossover will be 2.7 m wide (and wider on any bends) and 20 m long.

- A hardstand area (compacted gravel) of approximately 457 m<sup>2</sup> will be created adjacent to the shed for parking. A concrete loading and unloading bay (approximately 105 m<sup>2</sup>) will also be provided.
- Traffic movements will be limited to that described in **Section 4.1.2**.
- Operations will be scheduled (where practicable) for times when they will have the least impact, *ie* 8 am to 5 pm.
- Chemicals and products will be stored and banded in accordance with relevant Australian Standards (see **Section 4.2.3**).
- Noise generating activities will be conducted inside the shed (which will act as an acoustic barrier) where practicable.
- All vehicles, machinery and plant will be serviced according to manufacturer specifications.
- Noise reducing devices (*eg* mufflers) will be fitted and maintained on equipment and plant where practicable.
- General waste will be stored in designated areas.
- Dust suppression (*eg* dampening gravel hardstands with water) will be implemented as necessary.

## 4.2 Water

### 4.2.1 Environmental values

Queensland waters are managed under the Queensland *Environmental Protection (Water and Wetland Biodiversity) Policy 2019*, which groups waters into river basins for water quality management activities. The *Mitchell River Basin (part) and Walsh River sub-basin Environmental Values and Water Quality Objectives* report (DES 2020c) lists the EVs applicable to surface waters within part of the Mitchell River Basin and the Walsh River sub-basin. No EVs are provided for groundwater in DES (2020c).

The Lot is identified as upland freshwater in the Upper Walsh River (DES 2020c). The following EVs are associated with surface waters of the Upper Walsh River (outlined in Table 1 of DES (2020c)):

- aquatic ecosystems
- irrigation
- farm supply/use
- stock water
- aquaculture
- human consumer
- recreation (primary, secondary and visual)
- drinking water
- industrial use
- cultural, spiritual and ceremonial values.

Of the EVs identified for the surface waters of the Upper Walsh River, irrigation and farm supply/use occur within the Lot.

### Surface water

Two drainage features are mapped to occur within the Lot (**Figure 3**) (DoR 2021a). One waterway for waterway barrier works (low impact (green) waterway) is also mapped by the

Queensland Government (DAF 2016) within the Lot. During the site visit, no water and no perceptible channels were present for any of the mapped features (**Plate 3**).

A farm dam is present in the Lot (water storage on **Figure 2**; see also **Appendix B**). This dam and the associated mixing shed and pump house are used for agricultural purposes. An irrigation channel is also present adjacent to the western boundary of the Lot (outside of the Lot boundary).



**Plate 3:** Photographs of mapped drainage features intersecting the access track in the Lot

### Groundwater

The nature of the groundwater within the Lot is unknown. No instances of expression of groundwater at the land surface were observed during the site visit. The closest bore to the site with publicly available groundwater information (Queensland Department of Resources (DoR) bore RN 183415) is approximately 2.2 km north-east of the site (DNRME 2021). At this bore, groundwater is 7 m below the current natural surface<sup>5</sup> (State of Queensland 2021a).

No groundwater dependent ecosystems (GDEs) are mapped as present within the Lot by DES (2018) or BOM (2021b). The closest GDEs are mapped to occur along the Walsh River, approximately 630 m from the Lot boundary.

### Wetlands

No wetlands are mapped to occur within or near the Lot on the map of Queensland wetland environmental values (DES 2020d) (as defined in Schedule 2 of the Queensland *Environmental Protection (Water and Wetland Biodiversity) Policy* 2019). The closest wetland areas are mapped to occur along the Walsh River, approximately 630 m from the Lot boundary.

### Flooding potential

The Lot is approximately 630 m west of the Walsh River. The Lot is between 460 m AHD and 480 m AHD, which is at a higher elevation than the Walsh River—approximately 440 m AHD. Interim floodplain assessment mapping by the Queensland Government (DERM 2012) identifies areas within drainage sub-basins in Queensland that are potentially threatened by flood inundation. The Lot is outside of the mapped potential flood inundation area (DERM 2012).

<sup>5</sup> The current natural surface level at DoR bore RN 183415 is approximately 460 m AHD.

## 4.2.2 Potential impacts

No water is planned to be released to surface waters or groundwaters. However, potential water contaminants are stored on-site, and the potential for unplanned releases/spills to occur exists. Water contaminants (listed below) have the potential to enter waters through run-off via unplanned releases of waters that contain contaminants.

The release of contaminants in waters has the potential to impact water EVs.

### Potential water contaminants

Potential contaminants to water include:

- chemicals (eg raw materials to be mixed, fertiliser products)
- fuel and other machinery oils and greases
- sediments and sediment laden water
- various wastes identified in **Section 4.3.2**.

### Unplanned releases of water

The following locations have the potential to be sources of unplanned releases of water:

- liquid storage tanks and mixing tanks (*ie* chemicals and fuel)
- stormwater drainage structures.

## 4.2.3 Proposed management measures

The following measures will be implemented to reduce the risk of contaminants impacting on surface waters and groundwaters.

- Chemicals and products will be stored in accordance with relevant Australian Standards to reduce the likelihood of contamination to water.
- Chemicals that are water contaminants will be bunded. An appropriately qualified person will design and construct the bunding in accordance with relevant Australian Standards and provide certification. Further detail on bunding specifications and calculations are provided in Appendix E of VGF (2021).
- The facility will be operated and maintained in accordance with the Australian Standard 1940 ‘*The Storage and Handling of flammable and combustible liquids*’.
- Spill kits will be conveniently located across the work area and routinely maintained and restocked. Staff will be trained in their use.
- Hazardous materials information (including SDSs) will be stored in a clearly defined location in the site office.
- Stormwater will be managed via the existing drainage system(s) within/on the enclosed storage shed. To prevent water contaminants coming into contact with stormwater, any spills (eg hydrocarbons) will be remediated via spill kits kept on-site.

## 4.3 Waste

### 4.3.1 Environmental values

Waste itself has no intrinsic ‘value’. Waste management is an activity designed to minimise adverse effects on all EVs (air, noise, water, land). The storage and handling of waste have relevance to the integrity of surrounding values.



### 4.3.2 Potential impacts

Waste types generated by the proposed activity include:

- packaging waste (eg from raw materials used) including:
  - plastic 25 kg container bags and 1 t bulk bags
- putrescible wastes (eg food scraps)
- general office wastes (eg paper, plastic, glass)
- redundant machinery and parts that are no longer operational
- construction related waste (eg concrete, plastic).

Once collected on-site, wastes are transported off-site and disposed of to landfill.

No regulated waste is generated on-site.

Potential environmental impacts associated with improper waste management include:

- water contamination
- land contamination
- harm to flora and fauna.

### 4.3.3 Proposed management measures

The following measures will be implemented to reduce the risk of waste impacts.

- Materials will be purchased in bulk, where practicable, to minimise packaging.
- Waste will be collected and stored in appropriately labelled receptacles within the storage shed in allocated areas that are wind, rain and vermin proof.
- The site will be kept tidy.
- Recyclable wastes will be segregated from non-recyclable wastes.
- Waste will be managed and disposed of in accordance with the Queensland *Waste Reduction and Recycling Act 2011*.
- Waste will be regularly removed from site to appropriate disposal sites (eg landfill, recycling).
- Waste will not be burned.

## 4.4 Land

### 4.4.1 Environmental values

#### Vegetation

No clearing of vegetation is necessary, nor is it proposed, for the activity. No remnant vegetation is present within the Lot (**Figure 5**). Lime tree crops are planted in the Lot.

The closest area of remnant vegetation is approximately 40 m west of the Lot; Regional Ecosystem (RE) 9.12.7 is mapped (**Figure 5**) to occur (DoR 2021b).

- RE 9.12.7 has a status of ‘Least Concern’ under the *Vegetation Management Act 1999* (VM Act) and a DES Biodiversity Status (BD Status) of ‘No Concern at Present’.
- RE 9.12.7 is described as ‘*Eucalyptus cullenii* +/- *Corymbia leichhardtii* +/- *C. erythrophloia* woodland on igneous rocks’ (DES 2021a).

DES (2021b) RE mapping shows a small mixed polygon of remnant RE 9.5.9a/9.3.3 mapped 40 m west of the Lot boundary, which is 120 m north-west of the site.

- Both REs have a ‘Least Concern’ VM Act status.
- RE 9.5.9a has a BD status of ‘No Concern at Present’.
- RE 9.3.3 has a BD status of ‘Of Concern’.

The REs are described by DES (2021a) as follows:

- RE 9.5.9a: ‘*Corymbia clarksoniana* and/or *Eucalyptus leptophleba* and/or *E. platyphylla* woodland on plains’
- RE 9.3.3: ‘*Corymbia* spp. and *Eucalyptus* spp. dominated mixed woodland on alluvial flats, levees and plains’.

None of the REs present adjacent to the Lot are listed as Threatened Ecological Communities under the EPBC Act.

### Flora and fauna

A desk-based search was undertaken to identify Threatened, Near Threatened (T&NT), Special Least Concern and Migratory<sup>6</sup> flora and fauna species with the potential to occur in the Lot<sup>7</sup>. The database search results are provided in **Appendices C** and **E**. Species identified by the desk-based searches are presented in **Appendix F**. Seven T&NT flora species, and 27 T&NT, Special Least Concern and/or Migratory fauna species were identified by the desk-based review. These species are unlikely to occur on a regular or predictable basis within the Lot as it is a modified, agricultural environment; therefore, the proposed activity is unlikely to adversely impact T&NT, Special Least Concern and/or Migratory species.

The desk-based search also identified 31 non-native plant species (*ie* weeds) and seven non-native fauna species (*ie* pests) (**Appendices C** and **E**).

### Areas of regional interest

The Lot contains areas mapped as strategic cropping land (SCL) (**Appendix G**), including parts of the site. There are no areas mapped as priority agricultural areas, priority living areas or strategic environmental areas.

### Soil

Soils in the area are mapped by DES (2020e)<sup>8</sup> at a 1:25,000 scale. The majority of the Lot is mapped as Dimbulah (Db), with an area of Colledge (Cl) in the north of the Lot (**Figure 6**). Soil types are described in **Table 2** (Enderlin 1997).

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<sup>6</sup> T&NT species are listed under the Queensland *Nature Conservation Act* 1992 and/or Commonwealth EPBC Act as Critically Endangered, Endangered, Vulnerable or Near Threatened. Species of interest also include those listed under the NC Act as Special Least Concern, and the EPBC Act as Migratory.

<sup>7</sup> The desk-based search comprised: a Wildlife Online Database search, using a 10 km search area from a central point (-17.1633, 145.0576) (DES 2021c); and a Protected Matters Search Tool search, using a 5 km search area from a central point (-17.16338, 145.05762) (DAWE 2021).

<sup>8</sup> Based on original soils survey and mapping by C. Van Wijk *et al.* (unpubl.).

**Table 2: Soil types within the Lot**

Soil type	Description	Landform and geology
Dimbulah (Db)	Red Chromosol. Deep soils with thick coarse sandy loams to sandy clay loams overlying red apedal sandy clay loams to sandy clays; neutral (pH 6.8–7.5), gravelly throughout.	Formed on gently inclined upper to mid-slopes of fans on undulating hills, low hills and rises. Colluvial and residual soils derived from granitic rock.
Colledge (Cl)	Red Chromosol. Deep soils with very thick brown to pale coarse sandy loams overlying red apedal coarse sandy clay loams to sandy clays; neutral (pH 6.0–7.0); gravelly.	Upper slopes of gently to moderately inclined fans on the footslopes of low hills. Colluvial soils derived from granitic rock.

Source: Enderlin (1997).

### Land suitability

Land suitability reports are publicly available for the soil types present on the Lot (**Appendix H**). These reports identify that the site has suitable land for a variety of crops, including some crops that have a Suitability Class<sup>9</sup> of 2.

### Acid sulfate soils

Acid sulfate soils are unlikely to occur on the Lot for the following reasons.

- The Lot is not in a coastal area (approximately 80 km from the coast).
- The Lot is at an elevation above 5 m AHD, with the site occurring at approximately 470 m AHD.

### Cultural values

It is understood that no surveys for indigenous or historical cultural heritage have been conducted on the site. The Lot was first disturbed (*ie* extensively cleared) between 1961 and 1965<sup>10</sup> and has been maintained as a cleared area since. It is unlikely that items of cultural heritage significance remain within the Lot. The Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) Duty of Care Guidelines (DATSIP 2004) considers areas subject to significant ground disturbance or activities that involve no additional surface disturbance as ‘generally unlikely’ to harm Aboriginal cultural heritage.

#### 4.4.2 Potential impacts

Potential impacts to land environmental values include the following.

- Land contamination through:
  - spills of chemicals (*eg* raw materials to be mixed, and fertiliser products)
  - spills of fuel and other machinery oils and greases
  - improper waste handling.
- Soil erosion (*ie* through use of unsealed roads).
- Introduction, or spread, of weed/pest species causing degradation to land condition.

<sup>9</sup> Land Suitability Classes include: 1 – suitable land with negligible limitations; 2 – suitable land with minor limitations; 3 – suitable land with moderate limitations; 4 – marginal land which is presently unsuitable due to severe limitations; 5 – unsuitable land with extreme limitations.

<sup>10</sup> Historical aerial imagery (State of Queensland 2021b) dated 2 August 1961 (film number QAP1164, frame 20) shows the Lot mostly covered with vegetation. Historical aerial imagery (State of Queensland 2021b) dated 18 July 1964 (film number QAP1530, frame 30) shows the Lot devoid of any vegetation. No imagery is available between these dates.

#### 4.4.3 Proposed management measures

The following measures will be implemented to reduce the potential impacts to land.

- Chemicals and products will be stored and banded in accordance with relevant Australian Standards (see **Section 4.2.3**).
- Spill kits will be conveniently located across the work area and routinely maintained and restocked. Staff will be trained in their use.
- Hazardous materials information (including SDSs) will be stored in a clearly defined location in the site office.
- Waste will be stored and disposed of in line with recommendations in **Section 4.3.3**.
- The access track and parking area will be upgraded as described in **Section 4.1.3**.
- The site will be subject to restricted vehicle access, *ie* it will not be open to the public, and access is limited to the access track and hardstand area, to minimise the risk of weed/pest species introduction/spread.
- Activities on the site will be undertaken in accordance with the DATSIP Duty of Care Guidelines (DATSIP 2004). Staff will be educated about cultural heritage values and notify management of any cultural heritage items that are discovered on-site.

#### Rehabilitation

The proposed post-ERA land use is agriculture. This is consistent with the identification of the site as SCL and the surrounding land use. At decommissioning, infrastructure that is not agreed to be retained by the landholder will be removed and the land reprofiled as necessary<sup>11</sup>. The proposed activity is not a notifiable activity (defined under Schedule 3 of the EP Act). In the event of unplanned land contamination, an investigation will be undertaken by a suitably qualified person in accordance with the relevant regulatory requirements. Identified areas of land contamination will be remediated or removed.

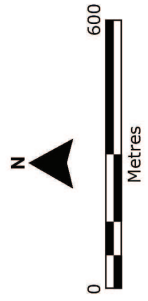
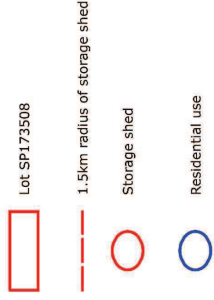
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<sup>11</sup> The post-ERA landholder may wish to keep infrastructure (*eg* hardstand areas). Any infrastructure agreed to be retained by the landholder will be agreed upon in writing.

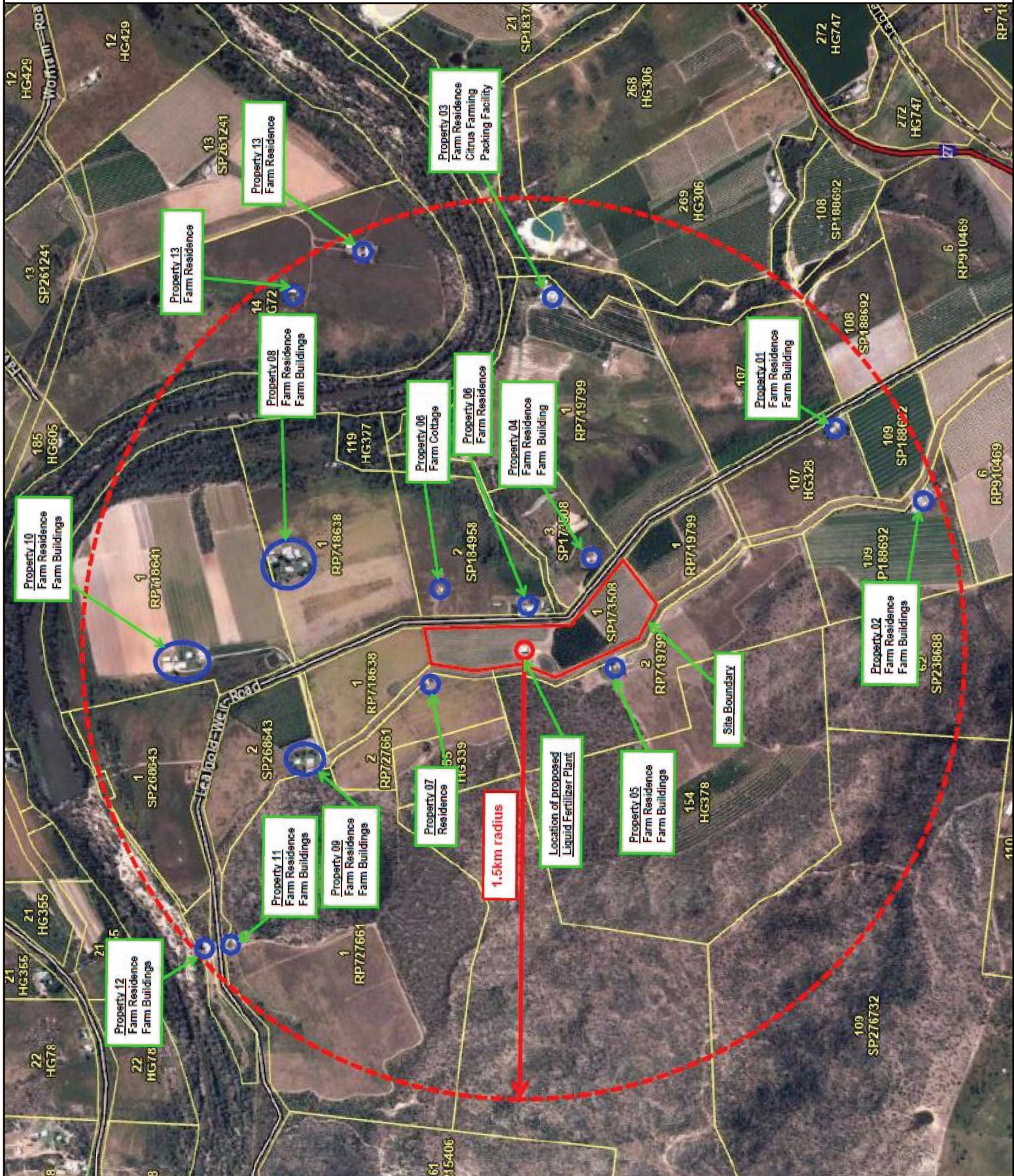


**Figure 4:** Sensitive receptors within 1.5 km of the site

Project: EA Application for ERA 7(4a)  
 Chemical Manufacturing - Supporting Information



Source: Victor G Feros  
 NRA Ref: 472000.02  
 Date: July 2021





**Figure 5:** Regional ecosystems mapped by the Queensland Government

Project: EA Application for ERA(4a)  
Chemical Manufacturing - Supporting Information

Lot 1 SP173508

Road

Walsh river

Storage shed

Vegetation management regional ecosystem DOR v. 11

9.12.7

9.3.13

9.3.13/9.3.12

9.3.3

9.3.3/9.5.16

9.5.8/9.5.9

non-remnant

Vegetation management regulated vegetation DOR v. 4.12

Category B- remant vegetation

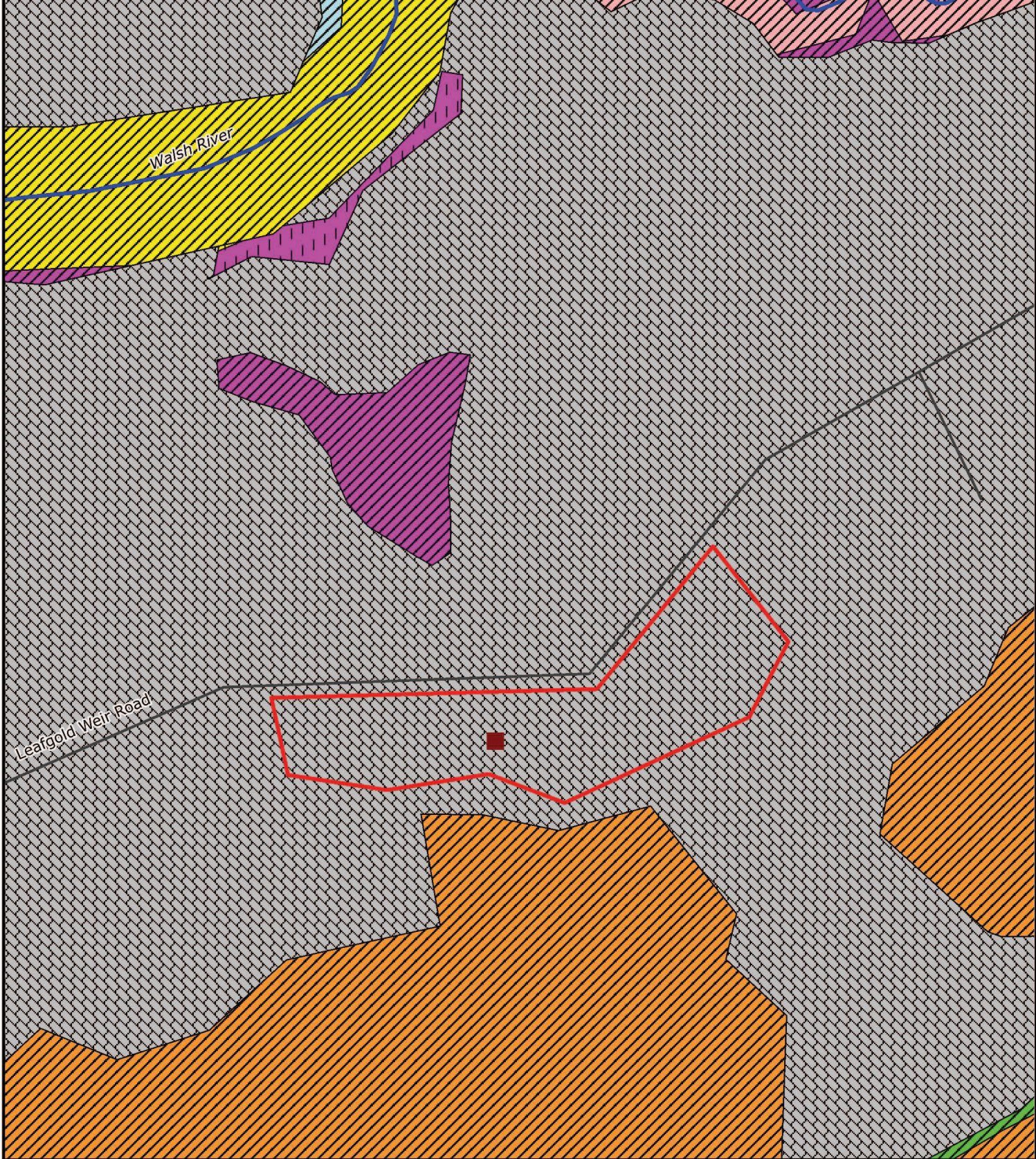
Category C- High value regrowth

Category X- non-remnant



Source: © State of Queensland (Department of Natural Resources, Mines and Energy) 2020, (Department of Environment and Science) 2020, (Department of Resources) 2021. Updated data available at: <http://didsportal.information.qld.gov.au/catalogue/> / Google Earth...

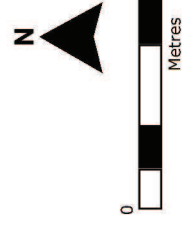
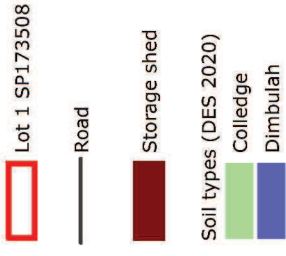
NRA Ref: 472000.02  
Date: July 2021





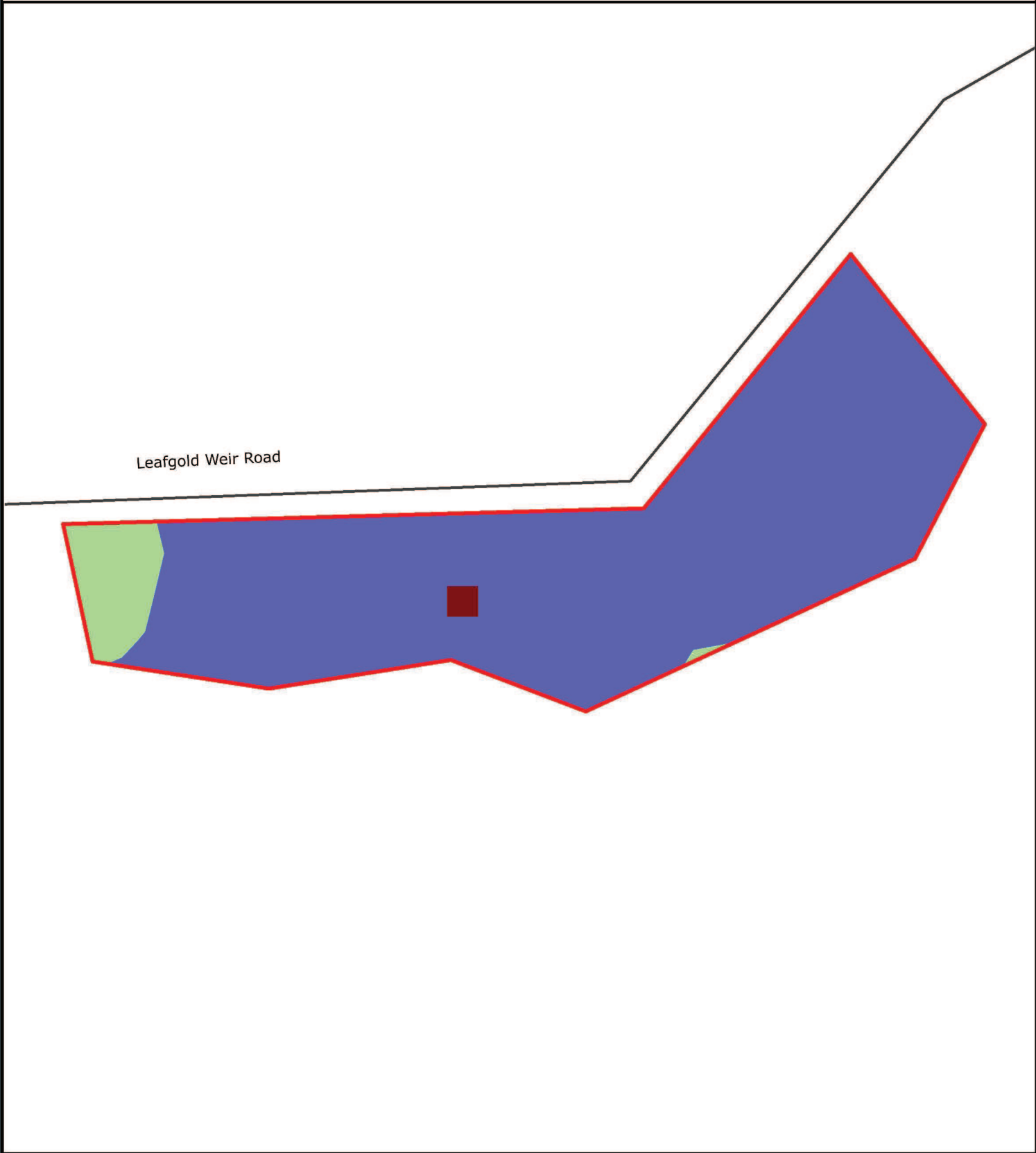
**Figure 6:** Soil types mapped by the Queensland Government in the Lot

Project: EA Application for ERA 7(4a)  
Chemical Manufacturing - Supporting Information



Source: © State of Queensland (Department of Natural Resources, Mines and Energy) 2020, (Department of Environment and Science) 2020. Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/> Google Earth.

NRA Ref: 472000.02  
Date: July 2021



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# Appendix A: Pre-lodgement Advice



SARA reference: 2104-21980 SPL  
Applicant reference: VGF-C1211

6 May 2021

Agri Technovation Pty Ltd  
C/- Victor G Feros Town Planning Consultants  
PO Box 1256  
CAIRNS QLD 4870  
cairns@ferosplanning.com.au

Attention: Nick Hardy

Dear Sir/Madam

## **SARA Pre-lodgement advice - 203 Leafgold Weir Road, Dimbulah**

I refer to the pre-lodgement meeting held on 22 April 2021 in which you sought advice from the State Assessment and Referral Agency (SARA) regarding the proposed development at the above address. This notice provides advice on aspects of the proposal that are of relevance to SARA.

### **SARA's understanding of the project**

This pre-lodgement request seeks advice for a proposed material change of use for special industry (liquid fertiliser plant) and an environmentally relevant activity: ERA 7 - chemical manufacturing, over Lot 1 on SP173508.

The development proposal seeks to produce liquid fertiliser by dissolving raw materials with water and nitrogen within mixing tanks.

The dry raw materials will be procured in 1 ton and 25 kg bulk bags and will include ammonium sulphate, boric acid powder, calcium nitrate prills, magnesium nitrate, mono ammonium phosphate (technical grade), potassium carbonate powder, potassium chloride powder, potassium sulphate, urea granules, urea phosphate and zinc sulphate monohydrate.

Dry raw materials will be mixed with 'Easy N', an Australian source of Nitrogen for fertiliser manufacturing.

It is anticipated that 800 tons per year of liquid fertiliser will be produced during the first year. Volumes will increase to approximately 3,000 tons per year in year five of operation.

## Supporting information

The advice in this letter is based on the following documentation that was submitted with the pre-lodgement request or tabled at the pre-lodgement meeting.

Drawing/report title	Prepared by	Date
Environmental Approval – Liquid Fertiliser Plant Dimbulah Australia	Agri Technovation Pty Ltd	April 2021
Pre-lodgement meeting supporting information	Agri Technovation Pty Ltd	April 2021

## Pre-lodgement meeting record

Meeting date	22 April 2021
Meeting location	Online Teams meeting
Meeting chair	Sue Lockwood
Meeting attendees	Refer to <b>Attachment 1</b>

Meeting discussion points	
	<p><b>Overview</b></p> <ul style="list-style-type: none"> <li>• Agri Technovation Pty Ltd is an agricultural company based in South Africa with offices located in California, Western Australia and Queensland.</li> <li>• This project proposal is to provide a liquid fertiliser mixing facility.</li> <li>• The pre-mix products are purchased offsite and are mixed with water (no production of product onsite).</li> <li>• The proposal comprises two mixing tanks to produce the following quantities: <ul style="list-style-type: none"> <li>o 800 tonnes in year one (over six to nine months)</li> <li>o 3,000 tonnes in year three</li> <li>o 5,000 tonnes in year five</li> </ul> </li> <li>• Raw materials will be purchased locally where possible.</li> <li>• Mixing reagents will create some temperature change, however no emissions will be created.</li> <li>• No diesel storage on site. This is to be purchased from the landlord.</li> </ul> <p><b>ERA 7</b></p> <ul style="list-style-type: none"> <li>• Department of Environment and Science (DES) confirmed the proposal will trigger referral for an ERA7, 4(a).</li> <li>• The development application will need to address odour, ventilation, wind direction, noise (number of truck movements), environmental and social impacts.</li> <li>• Mapped watercourses on the site do not trigger for referral as there is no proposed discharge with the proposal.</li> <li>• DES to advise if the proposal will require to be on the contaminated land register.</li> <li>• The development application will need to address how spill(s) will be contained, i.e. within a bunding system. Bund walls have to be a height that will withhold the amount of liquid stored.</li> <li>• Double-skinned tanks would be sufficient.</li> <li>• The development application will need to address the State Development Assessment Provisions, State code 22: Environmentally relevant activities.</li> <li>• The state agencies confirmed in-principle support for the project.</li> </ul>



	<p><b>Mareeba Shire Council advice</b></p> <ul style="list-style-type: none"> <li>• Mareeba Shire Council (the council) to confirm road access and sealing requirements and infrastructure charges in their pre-lodgement advice.</li> <li>• The council confirmed its in-principle support for the project.</li> </ul>
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## Pre-lodgement advice

The following advice outlines the aspects of the proposal that are of relevance to SARA.

<b>Environmentally relevant activity (ERA)</b>	
1.	<p>Based on the supporting information provided by Agri Technovation and the material presented on 22 April 2021, the proposed development application will trigger referral for prescribed (concurrence) ERA 7(4)(a) - Chemical manufacturing (4) manufacturing in a year, the following quantities of fertiliser (a) 200t to 5,000t.</p> <p>DES's <a href="#">Information sheet - Environmentally relevant activities</a> provides information on all ERA thresholds, and whether an ERA is a concurrence ERA.</p> <p>Where an ERA is a concurrence ERA, development approval is required, and the development application is also taken to be an application for an Environmental Authority (EA).</p>
<b>SARA's jurisdiction and fees</b>	
2.	<p>The application will require referral to SARA under the following provisions of the Planning Regulation 2017:</p> <ul style="list-style-type: none"> <li>• Schedule 10, Part 5, Division 4, Table 2, Item 1 – Environmentally relevant activities This will require a fee of \$3,373 to be paid in accordance with Schedule 10, Part 5, Division 4, Table 2, Item 8 (b)(ii), as the ERA has an aggregate environmental score of 33.</li> </ul> <p>SARA would be a referral agency for the proposed application.</p>
<b>Environmentally relevant activities – general information</b>	
3.	<p><b>Registered suitable operator (RSO)</b></p> <p>To undertake an environmentally relevant activity (ERA) in Queensland you must be a registered suitable operator (RSO).</p> <p>If you are not an RSO, you may apply to become one before or at the same time as applying for your environmental authority (EA). There is no fee associated with applying to be an RSO.</p> <p>The Department of Environment and Science (DES) keeps an online <a href="#">register</a> of all suitable operators. For further information including the application form to become an RSO, please see the Queensland Business <a href="#">website</a>.</p> <p><b>Environmental authority (EA)</b></p> <p>Information about applying for an EA can be found at: <a href="#">Applying for an environmental authority</a> (note: run through the indented tabs on the left-hand side of the screen).</p> <p>The first annual fee is payable within 20 business days of the effective date of an EA. Current annual fees for ERAs can be found in the <a href="#">Information sheet, Environmentally relevant activities</a>.</p>

<b>Environmental Authority conditions</b>	
4.	<p>Potential EA holders can have common conditions apply to an EA when a site-specific application is made.</p> <p>The common conditions are separated into the interests of general, air, noise, water, waste and land. If your EA is identified as having a potential impact on an interest, the relevant common conditions may apply.</p> <p>Common conditions do not cover all conditions that may be imposed to regulate your activity. Additional conditions may be applied to your EA to address environmental risks specific to your operation or site.</p> <p>DES's common conditions can be viewed at: <a href="#">Common conditions - prescribed environmentally relevant activities</a>.</p>
<b>Application material</b>	
5.	<p>The development application demonstrate should demonstrate compliance with the relevant provisions of <a href="#">SDAP</a> State code 22: Environmentally relevant activities, Table 22.2.2: Material change of use. In particular, performance outcomes PO1 to PO6.</p> <p>As outlined in section 125 of the <i>Environmental Protection Act 1994</i>, the development application will also need to include:</p> <ul style="list-style-type: none"> <li>• a description of the environmental values (both onsite and offsite) likely to be affected by the proposed activity</li> <li>• details of any emissions or releases likely to be generated by the proposed activity</li> <li>• a description of the risk and likely magnitude of impacts on the environmental values</li> <li>• details of the management practices proposed to be implemented to prevent or minimise adverse impacts</li> <li>• details of how the land the subject of the application will be rehabilitated after the relevant activity</li> <li>• a description of the proposed measures for minimising and managing waste generated by the relevant activity</li> <li>• details of any site management plan (i.e. associated with contaminated land) that relates to the land that is the subject of the application.</li> </ul>
<b>Technical Guidelines</b>	
6.	<p><a href="#">Technical information requirements for an environmental authority application</a> have been developed to outline what information to include in an application where impacts related to air (including dust and noise), land (including bunding and/or interceptor systems, sumps), noise, water or waste (including process for approved disposal) have been identified.</p> <p>As part of the development application, you must assess all risks to the receiving environment and offer mitigating measures to minimise and reduce the impacts to the receiving environment. Your response should include, but not be limited to, the following:</p> <p><u>Air</u></p> <p>Transport corridors into and around the site are currently not sealed. If they are to remain unsealed, please provide mitigation options to ensure there will be no sediment runoff from site and dust from caused by wind and truck movements will not be an issue for neighbouring properties. Outline estimated noise impacts, hours of operation and maximum proposed truck movements, ensuring proposed activities will not be a nuisance.</p>

	<p><u>Land</u></p> <p>Risks and impacts to land in the event of a spill need to be outlined. Mitigation measures such as bunding and/or interceptor systems and spill kits need to be considered.</p> <p>It is also suggested that a map showing the extent of operation be supplied for inclusion on the Environmental Authority (EA).</p>
<b>Notifiable Activity</b>	
	<p>Land may be listed on the Environmental Management Register (EMR) and the Contaminated Land Register (CLR), public registers which contain information about contaminated land in Queensland.</p> <p>Land is listed if certain activities, known as notifiable activities, have been or are being carried out on the land. Notifiable activities are outlined under schedule 3 of the <i>Environmental Protection Act 1994</i> (EP Act).</p> <p>Fertiliser manufacture is listed as notifiable activity 16 under the EP Act and is defined as –</p> <ul style="list-style-type: none"> <li>• manufacturing agriculture fertiliser (other than the blending, formulation or mixing of fertiliser).</li> </ul> <p>More information about the land registers can be found here <a href="http://www.qld.gov.au">About the land registers   Environment, land and water   Queensland Government (www.qld.gov.au)</a></p>
<b>Lodgement material</b>	
	<p>It is recommended that the following information is submitted when referring the application to SARA:</p> <ul style="list-style-type: none"> <li>• DA form 1 and Application form for an <a href="#">Environmental Authority</a>.</li> <li>• Development application supporting information and any technical reports.</li> <li>• A full response to the relevant sections of SDAP Code 22: Environmentally relevant activities and information discussed in section 125 of the <i>Environmental Protection Act 1994</i>.</li> <li>• Landowner's consent (if required).</li> <li>• Relevant plans as per the <a href="#">DA Forms guide</a>.</li> </ul>

This advice outlines aspects of the proposed development that are relevant to SARA's jurisdiction. This advice is provided in good faith and is:

- based on the material and information provided to SARA
- current at the time of issue
- not applicable if the proposal is changed from that which formed the basis of this advice.

The advice in this letter does not constitute an approval or an endorsement that SARA supports the development proposal. Additional information may be required to allow SARA to properly assess the development proposal after a formal application has been lodged.

For further information please contact Sue Lockwood, Senior Planning Officer, on 40373222 or via email CairnsSARA@dsgmp.qld.gov.au who will be pleased to assist.

Yours sincerely



Joanne Manson  
A/Manager (Planning)

enc Attachment 1 – Pre-lodgement meeting attendance record

Development details	
Proposal:	Material change of use for special industry (liquid fertiliser plant)
Street address:	203 Leafgold Weir Road, Dimbulah
Real property description:	Lot 1 on SP173508
SARA role:	Referral agency
Assessment Manager:	Mareeba Shire Council
Assessment criteria:	State Development Assessment Provisions (SDAP): State code 22: Environmentally relevant activities
Existing use:	Agriculture (Orchard, limes)
Relevant site history:	n/a



## Attachment 1 — Pre-lodgement meeting attendance record

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Meeting attendees:

<b>Name</b>	<b>Position</b>	<b>Organisation</b>
Rudi Kriese	Director, Procurement and Bulk Liquids	Agri Technovation Pty Ltd
Nick Hardy	Associate and Office Manager	Victor Feros Town Planning Consultants
Tim Anderson	Consultant	NRA Environmental Consultants
Brain Millard	Senior Planner	Mareeba Shire Council
Carl		Mareeba Shire Council
Stacey McLennon	Principal Environmental Officer	Department of Environment and Science
Sue Lockwood	Senior Planning Officer	Department of State Development, Infrastructure, Local Government and Planning

28 April 2021

Council Ref: Preenq/21/0003

Our Ref: BM:CE:nj

Your Ref: VGF - C1211

## PRE-LODGEMENT ADVICE

**TO:** Agri Technovation Pty Ltd  
C/- Victor G Feros Town Planning Consultants & NRA Environmental  
Consultants  
PO Box 1256  
CAIRNS QLD 4870

**EMAIL ADDRESS:** [cairns@ferosplanning.com.au](mailto:cairns@ferosplanning.com.au)

**PROPOSED DEVELOPMENT:** Material Change of Use - Special Industry (Liquid Fertiliser Plant)

**SUBJECT SITE:** Lot 1 on SP173508  
Situated at 203 Leafgold Weir Road, Dimbulah

**MEETING DATE:** 22 April 2021

**MEETING LOCATION:** Teleconference

**PLANNING SCHEME:** Mareeba Shire Council Planning Scheme 2016

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**PROPOSAL:**

Refer to **Attachment 1**.

**TYPE OF APPLICATION REQUIRED:**

Application for a development permit for Material Change of Use - Special Industry (Liquid Fertiliser Plant)

**SUPPORTING INFORMATION PROVIDED BY APPLICANT:**

- **Attachment 1** - Request for Pre-lodgement Advice prepared by Victor G Feros Town Planning Consultants and supporting material prepared by NRA Environmental Consultants.

**RELEVANT SITE HISTORY:**

Nil

**APPLICABLE PLANNING INSTRUMENTS, APPLICATION PROCESS AND FEES:**

FNQ2031 Regional Plan:	Appropriately reflected with the Mareeba Shire Council Planning Scheme 2016
Relevant State Planning Policies:	Appropriately reflected with the Mareeba Shire Council Planning Scheme 2016
Planning Scheme:	Mareeba Shire Council Planning Scheme 2016 <a href="https://msc.qld.gov.au/building-planning/planning/">https://msc.qld.gov.au/building-planning/planning/</a>
Strategic Framework:	<b>Land Use Category</b> - Rural area (Rural agricultural area)
Zone:	Rural zone
Local Plan:	Nil
Applicable Overlays:	Agricultural land overlay Bushfire hazard overlay Environmental significance overlay Transport infrastructure overlay
Other Relevant Mapping:	State Assessment and Referral Agency mapping <a href="https://planning.dsdmip.qld.gov.au/">https://planning.dsdmip.qld.gov.au/</a>
Applicable Planning Scheme Policies:	Policy 4 - FNQROC Regional Development Manual
Planning Scheme Land Use definition:	Special Industry
Level of Assessment:	An aspect of the proposed development will require <b>Impact Assessment</b> .
Applicable Planning Scheme Codes:	Rural zone code Agricultural land overlay code Bushfire hazard overlay code Environmental significance overlay code Transport Infrastructure Overlay Code Industrial activities code Landscaping code Parking and access code Works, services and infrastructure code
Minimum Public Notification Period:	15 business days
Referral Agencies:	The Applicant is responsible for ensuring that the correct referral agencies are identified upon lodgement of the development application.



	<p>A review of the <i>Planning Regulation 2017</i> referral agency triggers has identified the following referral trigger for the development:</p> <ul style="list-style-type: none"> <li>• <i>Schedule 10, Part 5, Division 4, Table 2 - Non-devolved environmentally relevant activities</i> (ERA 7).</li> </ul>
Infrastructure Charges:	<p>Adopted Infrastructure Charges Resolution (No. 1) of 2020 identifies an infrastructure charge rate of \$48.20 per m<sup>2</sup> of gross floor area (GFA) for "Special Industry" uses. This charge rate is derived from the Shires 4 infrastructure networks (water, sewer, parks &amp; roads).</p> <p>In this instance, only 1 of the 4 infrastructure networks would service the development (roads), therefore the applicable infrastructure charge rate (per m<sup>2</sup> of GFA) will be as follows:</p> <p><math>\\$48.20 / 4 = \underline{\\$12.05 \text{ per m}^2}</math></p> <p>The final infrastructure charge will be calculated using this rate and based on the GFA of the development as submitted with the application.</p>
Application Forms	<p>DA Form 1</p> <p>Application forms and general information about the planning application system can be downloaded from the Department of State Development, Manufacturing, Infrastructure and Planning's website:</p> <p><a href="https://planning.dsdmip.qld.gov.au/planning/resources?query=DA%20form">https://planning.dsdmip.qld.gov.au/planning/resources?query=DA%20form</a></p>
Council application fee:	<p>2020/2021 financial year:</p> <p>Special Industry - Price on Application (POA)</p> <p>Fee will be based on High Impact Industry (&gt;500m<sup>2</sup>) = <b>\$6,460.00</b></p>

**ISSUES IDENTIFIED BY THE APPLICANT FOR DISCUSSION:**

The following general and specific responses are sought from Council in relation to the proposed development of the site:

- a) *Confirm the Use Description for the proposal and the level of assessment;*

Advice

Refer to table above.

- b) *Applicable Planning Scheme Codes;*

Advice

Refer to table above.

- c) *The referral agencies and likely referral triggers for the proposal;*

Advice

Refer to table above.



- d) *The supporting investigations required to address PO1 in the Industrial Activities Code in relation to surrounding sensitive land uses;*

Advice

As discussed during the pre-lodgement meeting, the material being prepared by NRA Environmental Consultants to address the States requirements for the ERA 7 referral should be adequate to address the Performance Outcome PO1 of the Industrial Activities Code.

In addition to this, advice should be sought and included on the explosive potential or lack thereof for the proposed development given it involves fertiliser storage in proximity to neighbouring dwellings.

- e) *External road works required for the development;*

Advice

As discussed during the pre-lodgement meeting, given the scale of development proposed, it is unlikely that Council would require any external roadworks along Leafgold Weir Road.

- f) *The standard of vehicle access required within the road reserve and within the site and associated on-site car parking area.*

Advice

It is likely the following requirements will be conditioned as part of any approval:

- The driveway must be upgraded to a reinforced concrete, or asphalt sealed standard (no bitumen) from the edge of Leafgold Weir Road for a distance of at least 45 metres along the driveway (to encompass the first bend in the driveway). The driveway crossover will need to comply with FNQROC Development Manual Standards (for an industrial crossover);
- The remainder of the driveway and internal vehicle manoeuvring areas/car parking areas will need to be surface treated with compacted gravel to achieve an all-weather standard and to minimise dust. The condition will also likely include a clause that will trigger the sealing of these gravel sections of the driveway/vehicle manoeuvring areas if Council receive a substantiated dust complaint.

- g) *Setback requirements and design criteria in relation to watercourses (including the irrigation channel) within or adjoining the site;*

Advice

Council officers have no issues with the proposed location of any buildings on-site as shown on the submitted plans. We do not consider the irrigation channel to be a natural watercourse. As discussed at the pre-lodgement meeting, no other actual watercourses exist on the property.

- h) *Applicable infrastructure charges;*

Advice

Refer to table above.

i) *Council's application fee for the proposal;*

Advice

Refer to table above.

j) *Any other matter Council considers relevant to the assessment of the proposal;*

Advice

Nil.

k) Overall, for Council to advise the level of support-in-principle for the development as proposed.

Advice

Council officers have no real town planning concerns with the proposed development, provided the amenity aspects outline in PO1 of the Industrial Activities Code are addressed. It is likely that the development will be able to comply or be conditioned to comply with the relevant development codes of the Mareeba Shire Council Planning Scheme 2016.

Should you require any further information, please contact Council's Planning Officer, Carl Ewin on the above telephone number.

Yours faithfully



**BRIAN MILLARD**  
**SENIOR PLANNER**

**DISCLAIMER:**

*This advice and information is provided on a 'without prejudice' basis. The pre-lodgement advice provided during and subsequent to pre-lodgement meetings should NOT be taken as a commitment as to whether an application would be approved with conditions or refused by council. The pre-lodgement process cannot override council's duty of care and legislative responsibilities in the assessment of development applications, including the consideration of matters raised by possible submitters and referral agencies during the detailed assessment process.*

*The proponent should seek their own independent professional advice on this pre-lodgement advice.*

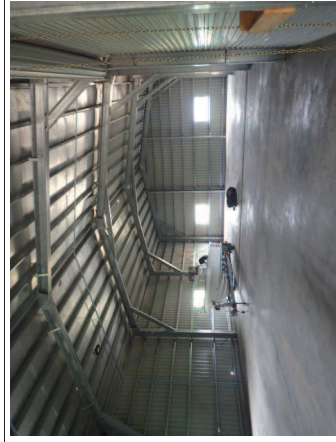
## Appendix B: Site Photographs



Storage shed (taken from south)



Storage shed (taken from north-west)



Storage shed (taken from inside)



Amenities (taken from north-east)



Storage shed (taken from east)



Site infrastructure – (taken from east) from left to right: water storage, mixing shed and pump house, amenities, water tanks and storage shed



Water tanks (taken from north-east)



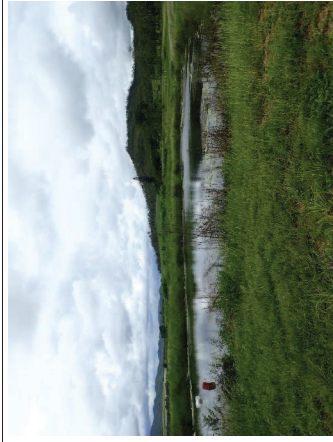
Access track (taken south of warehouse, looking south)



Access track (taken adjacent to Leafgold Weir Road, looking north-west towards warehouse)



Access track (taken adjacent to Leafgold Weir Road, looking south-east)



Water storage (taken from north)



Mixing shed and pump house (taken from east)



Appendix C:  
Protected Matters Search Tool  
Report



# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 31/05/21 09:45:16

## [Summary](#)

### [Details](#)

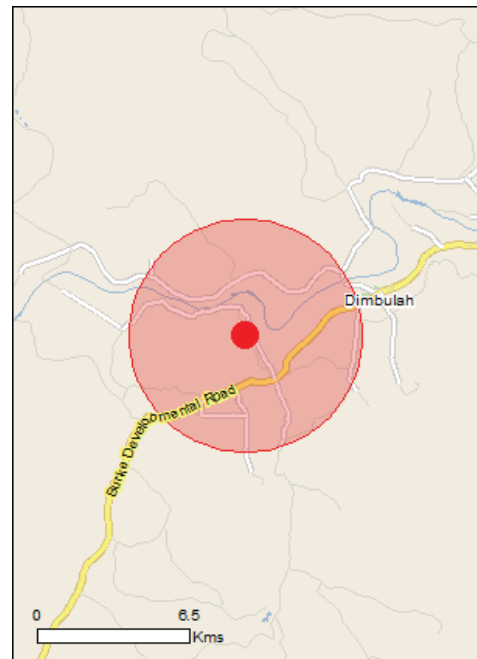
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

### [Caveat](#)

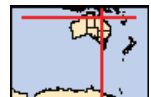
### [Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2015

[Coordinates](#)

Buffer: 5.0Km



# Summary

## Matters of National Environmental Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	None
<a href="#">Listed Threatened Species:</a>	19
<a href="#">Listed Migratory Species:</a>	15

## Other Matters Protected by the EPBC Act

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

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

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

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	21
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None

## Extra Information

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

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	25
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None

# Details

## Matters of National Environmental Significance

Listed Threatened Species		[ Resource Information ]
Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Erythroriorchis radiatus</a> Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Erythrura gouldiae</a> Gouldian Finch [413]	Endangered	Species or species habitat likely to occur within area
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<a href="#">Tyto novaehollandiae kimberli</a> Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area
<b>Mammals</b>		
<a href="#">Dasyurus hallucatus</a> Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area
<a href="#">Hipposideros semoni</a> Semon's Leaf-nosed Bat, Greater Wart-nosed Horseshoe-bat [180]	Vulnerable	Species or species habitat may occur within area
<a href="#">Macroderma gigas</a> Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Mesembriomys gouldii rattoides</a> Black-footed Tree-rat (north Queensland), Shaggy Rabbit-rat [87620]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</a> Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat likely to occur within area



Name	Status	Type of Presence
<a href="#">Rhinolophus robertsi</a> Large-eared Horseshoe Bat, Greater Large-eared Horseshoe Bat [87639]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Saccolaimus saccolaimus nudicluniatus</a> Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat may occur within area

#### Plants

<a href="#">Cycas platyphylla</a> a cycad [55796]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Dichanthium setosum</a> bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Macropteranthes montana</a> [9003]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Prostanthera clotteniana</a> [76165]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Vappodes lithocola</a> Dwarf Butterfly Orchid, Cooktown Orchid [78893]	Endangered	Species or species habitat may occur within area

#### Listed Migratory Species

[ [Resource Information](#) ]

\* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area

#### Migratory Terrestrial Species

<a href="#">Cuculus optatus</a> Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat may occur within area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat may occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat may occur within area

#### Migratory Wetlands Species

<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat likely to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

## Other Matters Protected by the EPBC Act

Listed Marine Species	[ Resource Information ]	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Birds</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Anseranas semipalmata</a> Magpie Goose [978]		Species or species habitat may occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Chrysococcyx osculans</a> Black-eared Cuckoo [705]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat may occur within area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat likely to occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat may occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat may occur within area
<b>Reptiles</b>		
<a href="#">Crocodylus johnstoni</a> Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area

## Extra Information

### Invasive Species [ [Resource Information](#) ]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
------	--------	------------------

Name	Status	Type of Presence
<b>Birds</b>		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
<b>Frogs</b>		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
<b>Mammals</b>		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
<b>Plants</b>		
Acacia nilotica subsp. indica Prickly Acacia [6196]		Species or species habitat may occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area



Name	Status	Type of Presence
Cryptostegia grandiflora Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large- leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
<b>Reptiles</b>		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Lepidodactylus lugubris Mourning Gecko [1712]		Species or species habitat likely to occur within area

# Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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

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

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

## Coordinates

-17.16338 145.05762

# Acknowledgements

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

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

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

Please feel free to provide feedback via the [Contact Us](#) page.

Appendix D:  
Matters of State Environmental  
Significance Report





**Queensland** Government

Department of Environment and Science

Environmental Reports

# **Matters of State Environmental Significance**

For the selected area of interest  
Lot: 1 Plan: SP173508

## Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Please direct queries about these reports to: [Planning.Support@des.qld.gov.au](mailto:Planning.Support@des.qld.gov.au)

### Disclaimer

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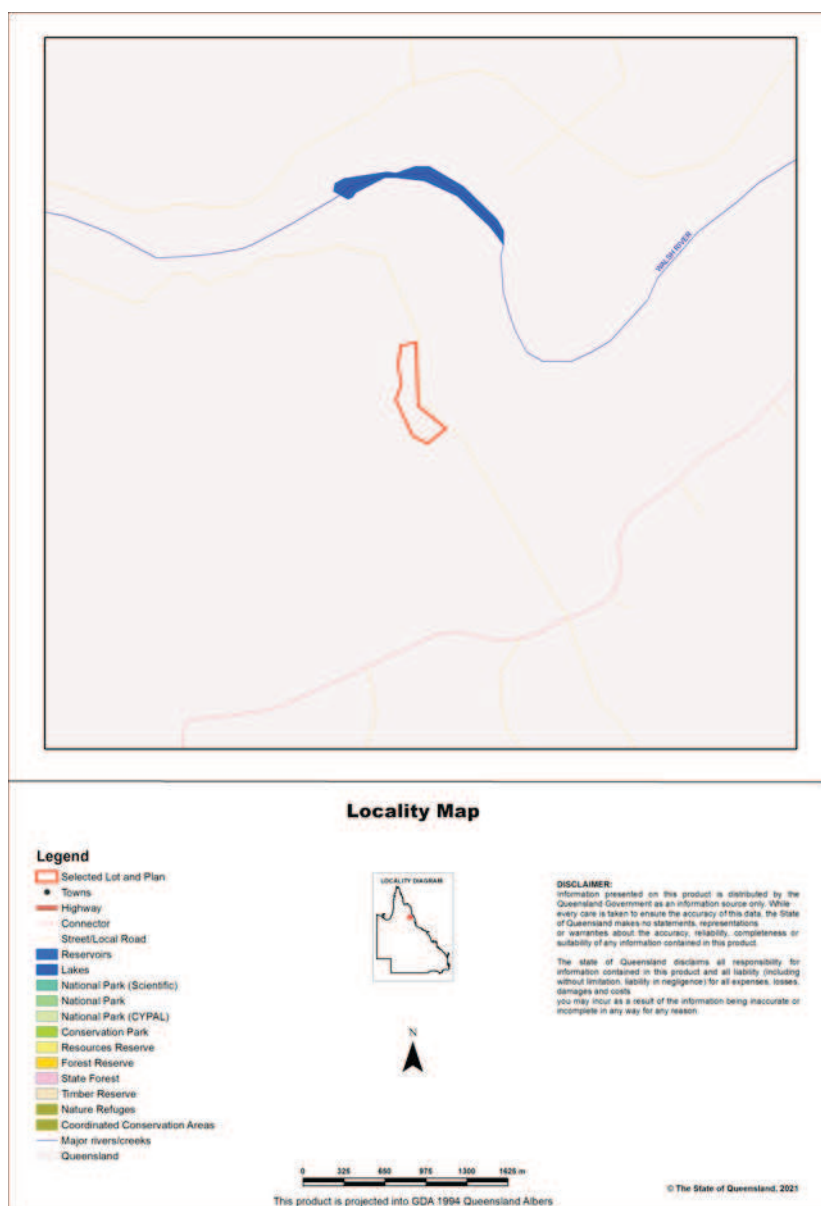
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## Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

**Table 1: Summary table, details for AOI Lot: 1 Plan: SP173508**

Size (ha)	12.94
Local Government(s)	Mareeba Shire
Bioregion(s)	Einasleigh Uplands
Subregion(s)	Hodgkinson Basin
Catchment(s)	Mitchell





## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	0.0 ha	0.0 %
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	0.0 ha	0.0 %
6a High Ecological Value (HEV) wetlands	0.0 ha	0.0 %
6b High Ecological Value (HEV) waterways **	0.0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	0.0 ha	0.0 %
7b Special least concern animals	0.0 ha	0.0 %
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	0.0 ha	0.0 %
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0.0 ha	0.0 %
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0.0 ha	0.0 %
8d Regulated Vegetation - Essential habitat	0.0 ha	0.0 %
8e Regulated Vegetation - intersecting a watercourse **	0.3 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0.0 ha	0.0 %
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

---

## **Additional Information with Respect to MSES Values Present**

### **MSES - State Conservation Areas**

#### **1a. Protected Areas - estates**

(no results)

#### **1b. Protected Areas - nature refuges**

(no results)

#### **1c. Protected Areas - special wildlife reserves**

(no results)

#### **2. State Marine Parks - highly protected zones**

(no results)

#### **3. Fish habitat areas (A and B areas)**

(no results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

### **MSES - Wetlands and Waterways**

#### **4. Strategic Environmental Areas (SEA)**

(no results)

#### **5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values**

(no results)

#### **6a. Wetlands in High Ecological Value (HEV) waters**

(no results)

#### **6b. Waterways in High Ecological Value (HEV) waters**

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

### **MSES - Species**

#### **7a. Threatened (endangered or vulnerable) wildlife**

Not applicable

**7b. Special least concern animals**

Not applicable

**7c i. Koala habitat area - core (SEQ)**

Not applicable

**7c ii. Koala habitat area - locally refined (SEQ)**

Not applicable

**Threatened (endangered or vulnerable) wildlife habitat suitability models**

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathami</i>	Glossy black cockatoo	V	None
<i>Casuarus casuarus johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	V	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

**Threatened (endangered or vulnerable) wildlife species records**

(no results)

**Special least concern animal species records**

(no results)

\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL).  
Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** for an overview of the relevant MSES.



## MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Not applicable

### 8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

### 8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Not applicable

### 8d. Regulated Vegetation - Essential habitat

Not applicable

### 8e. Regulated Vegetation - intersecting a watercourse\*\*

A vegetation management watercourse is mapped as present

### 8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Not applicable

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

## MSES - Offsets

### 9a. Legally secured offset areas - offset register areas

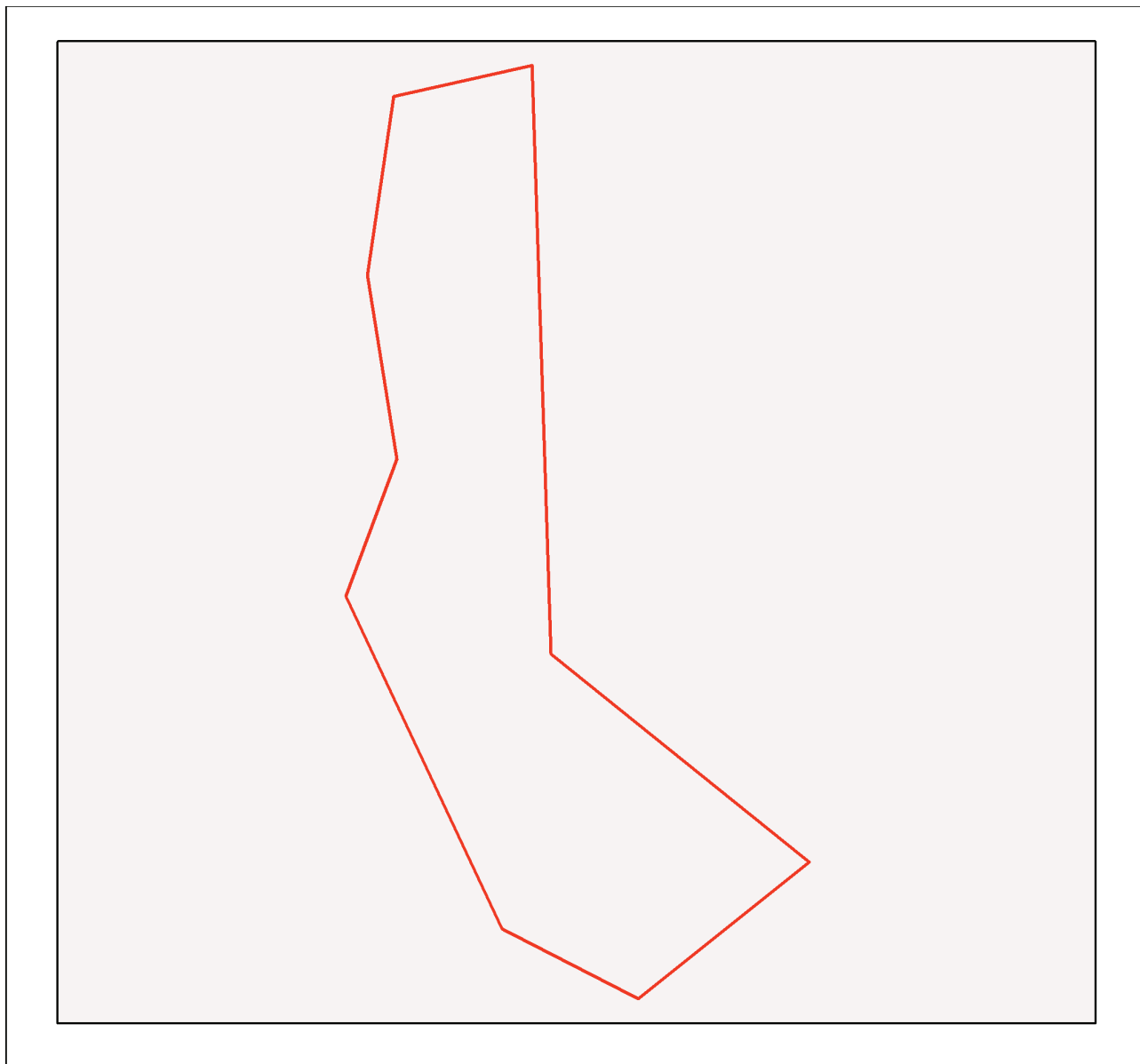
(no results)

### 9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

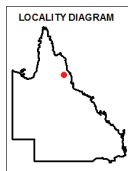
# Map 1 - MSES - State Conservation Areas



## MSES - State Conservation Areas

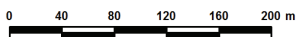
### Area of Interest

- Selected Lot and Plan
- Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Protected area (estates, nature refuges, special wildlife reserves)
- Declared fish habitat area (A and B areas)
- Marine park (highly protected)



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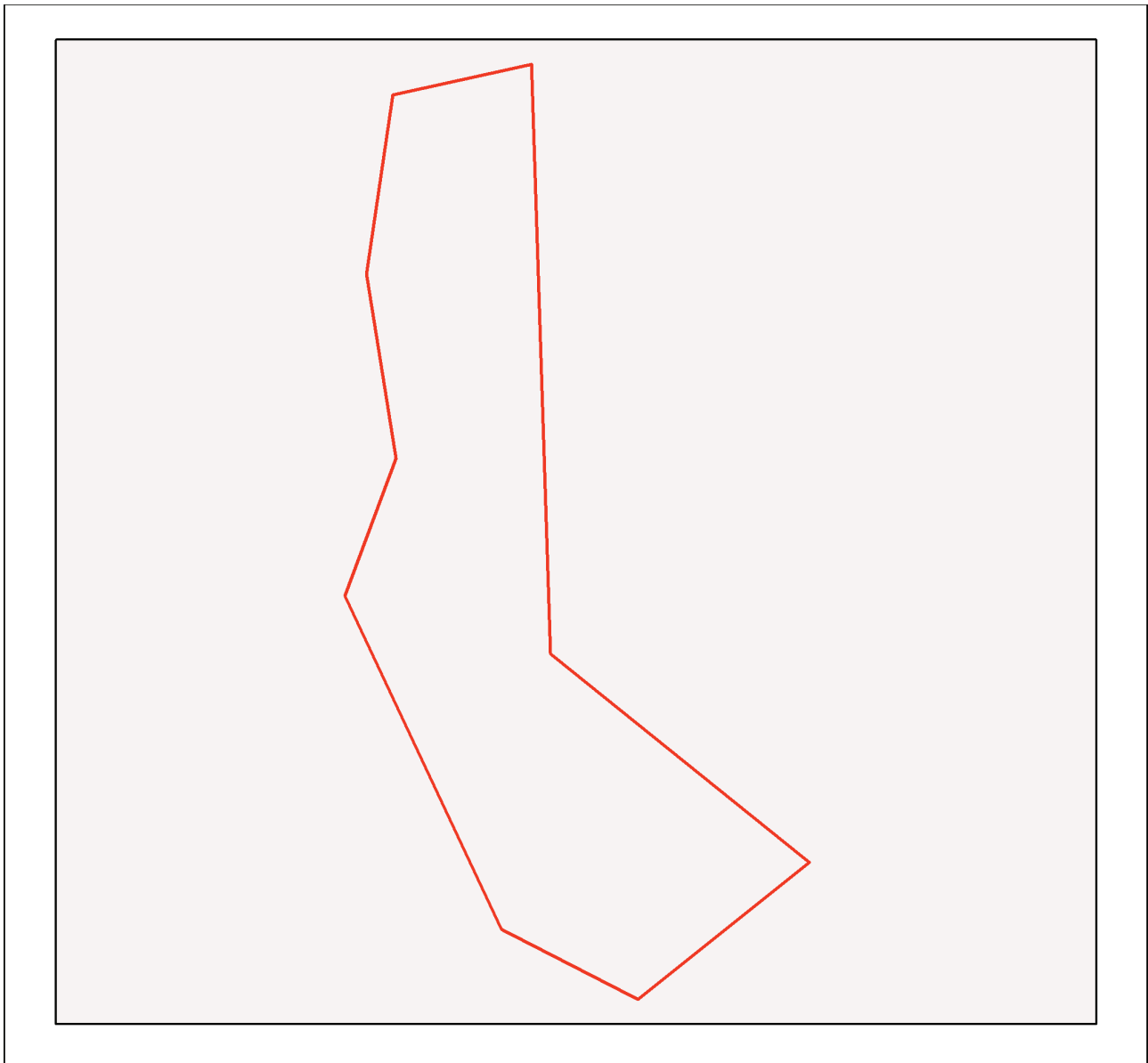
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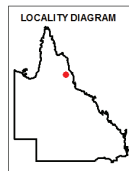
## Map 2 - MSES - Wetlands and Waterways



### MSES - Wetlands and Waterways

#### Area of Interest

-  Selected Lot and Plan
-  Towns
-  Freeways/Highways
-  Secondary roads
-  Major rivers/creeks
-  Declared high ecological value waters (watercourse)
-  Strategic environmental area (designated precinct)
-  Declared high ecological value waters (wetland)
-  High ecological significance wetlands



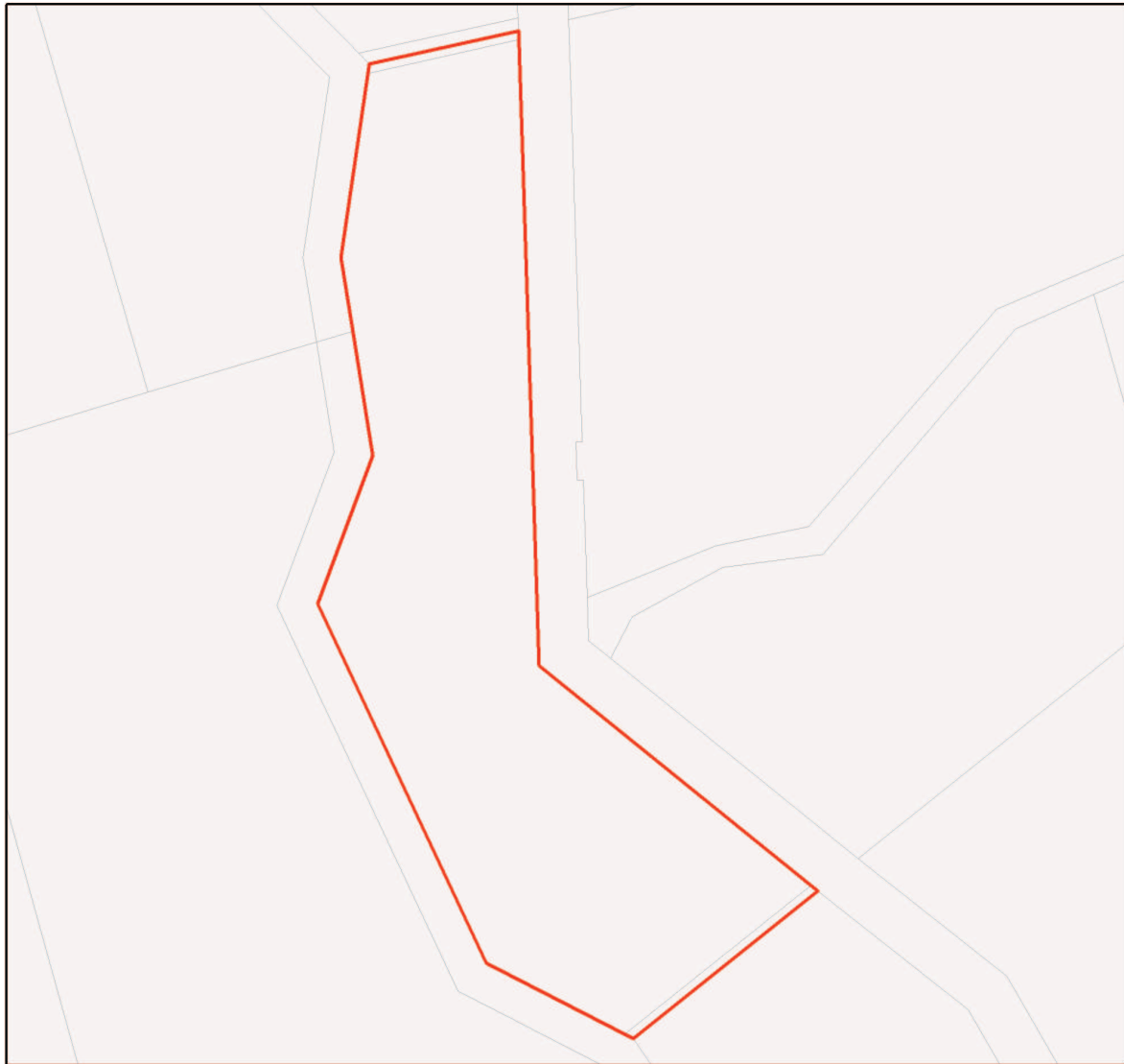
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### Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



#### MSES - Species Threatened (endangered or vulnerable) wildlife and special least concern animals

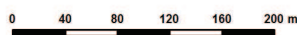
**Area of Interest**

- Selected Lot and Plan
- Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Wildlife habitat (special least concern)
- Wildlife habitat (endangered or vulnerable)



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### Map 3b - MSES - Species - Koala habitat area (SEQ)



#### MSES - Species Koala habitat area (SEQ)

**Area of Interest**

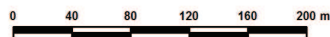
- Selected Lot and Plan
- Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Koala habitat area (core)
- Koala habitat area (locally refined)



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The represented layers for SEQ 'koala habitat area-core' and 'koala habitat area- locally refined' in MSES are sourced directly from the regulatory mapping under the Nature Conservation (Koala) Conservation Plan 2017. Whilst every effort is made to ensure the information remains current, there may be delays between updating versions. Please refer to the original mapping for the most recent version. See <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

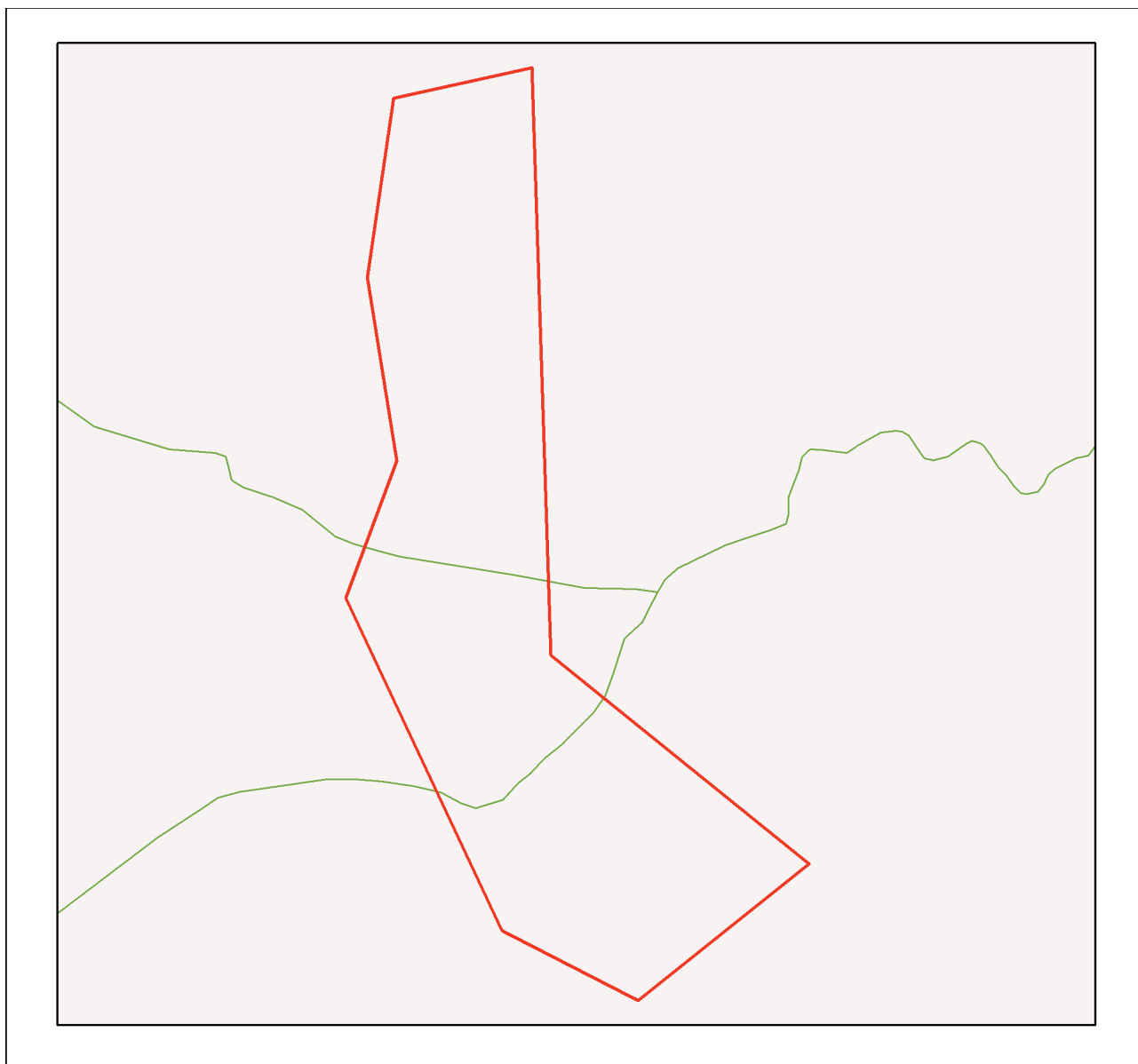
The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.



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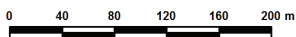
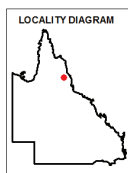
### Map 4 - MSES - Regulated Vegetation



#### MSES - Regulated Vegetation

**Area of Interest**

- Selected Lot and Plan
- Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Regulated vegetation (intersecting a watercourse)
- Regulated vegetation (100m from wetland)
- Regulated vegetation (category B - endangered or of concern)
- Regulated vegetation (category C - endangered or of concern)
- Regulated vegetation (category R - GBR riverine)
- Regulated vegetation (essential habitat)



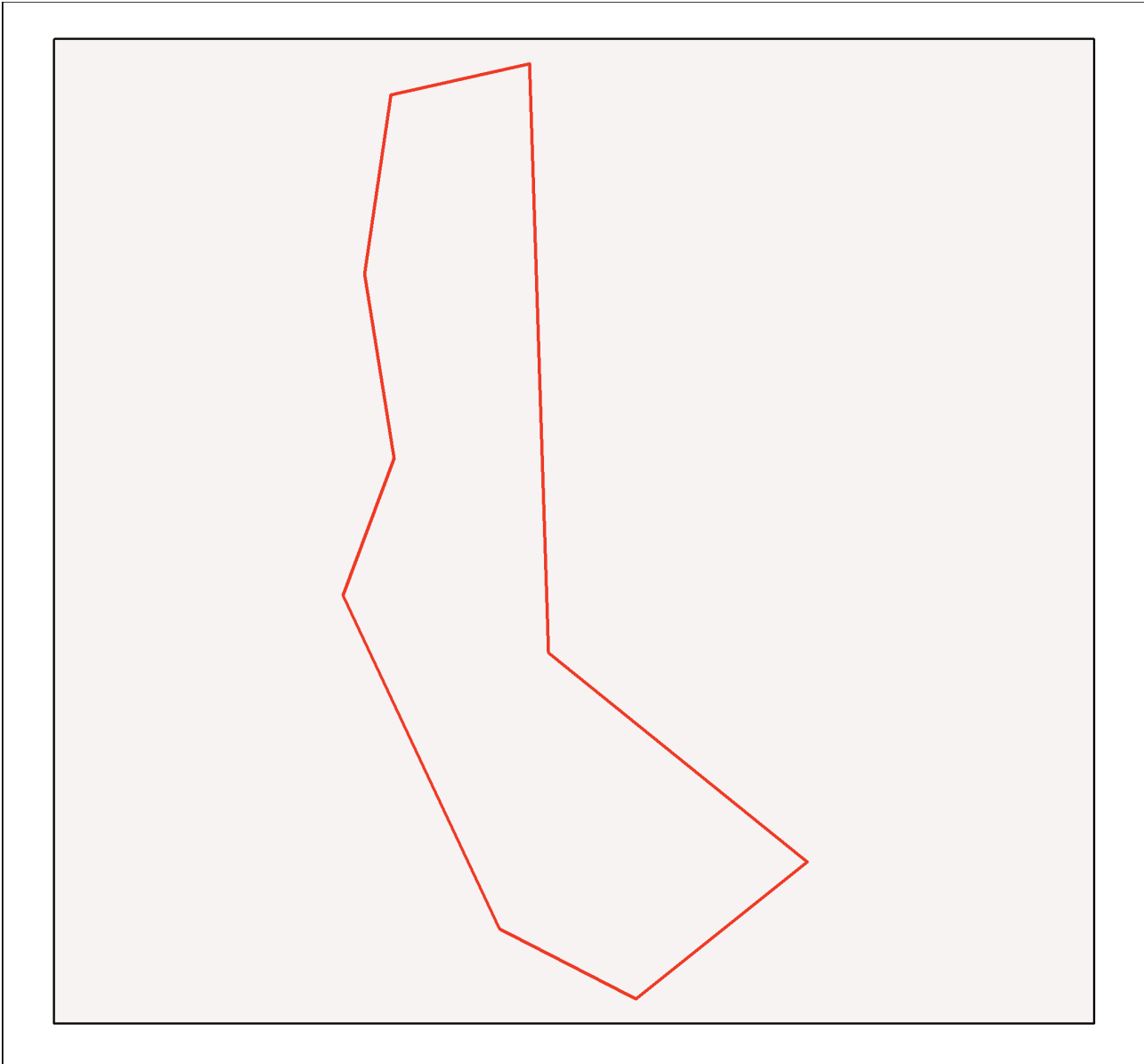
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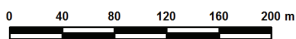
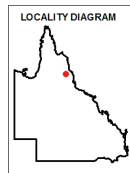
### Map 5 - MSES - Offset Areas



#### MSES - Offsets

**Area of Interest**

-  Selected Lot and Plan
-  Towns
-  Freeways/Highways
-  Secondary roads
-  Major rivers/creeks
-  Legally secured offset area (offset register)
-  Legally secured offset area (vegetation offsets)



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## Appendices

### Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The Queensland Government's "Method for mapping - matters of state environmental significance for use in land use planning and development assessment" can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .



## Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

<b>MSES layers</b>	<b>current QSpatial data (<a href="http://qspatial.information.qld.gov.au">http://qspatial.information.qld.gov.au</a>)</b>
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

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## Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
EP Act	- <i>Environmental Protection Act 1994</i>
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>

Appendix E:  
Wildlife Online Search Results



# Queensland Government

## Wildlife Online Extract

Search Criteria: Species List for a Specified Point

Species: All

Type: All

Status: All

Records: All

Date: All

Latitude: -17.1633

Longitude: 145.0576

Distance: 10

Email: rhiannon@natres.com.au

Date submitted: Monday 31 May 2021 11:58:52

Date extracted: Monday 31 May 2021 12:00:02

The number of records retrieved = 355

### **Disclaimer**

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.



Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	<i>Rhinella marina</i>	cane toad	Y			1
animals	amphibians	<i>Litoria rothii</i>	northern laughing treefrog		C		1
animals	amphibians	<i>Litoria latopal mata</i>	broad palmed rocketfrog		C		1
animals	amphibians	<i>Litoria rubella</i>	ruddy treefrog		C		1
animals	amphibians	<i>Litoria inermis</i>	bumpy rocketfrog		C		1
animals	amphibians	<i>Litoria bicolor</i>	northern sedgefrog		C		2/1
animals	amphibians	<i>Uperoleia brevirostris</i>	mimicking gungan		C		1/1
animals	birds	<i>Smicromis olivacea</i>	weebill		C		1
animals	birds	<i>Gerygone olivacea</i>	white-throated gerygone		C		1
animals	birds	<i>Haliastur spheonurus</i>	whistling kite		C		1
animals	birds	<i>Pandion cristatus</i>	eastern osprey	SL			1
animals	birds	<i>Elanus axillaris</i>	black-shouldered kite		C		1
animals	birds	<i>Circus assimilis</i>	spotted harrier		C		1
animals	birds	<i>Milvus migrans</i>	black kite		C		4
animals	birds	<i>Aquila audax</i>	wedge-tailed eagle		C		1
animals	birds	<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle		C		2
animals	birds	<i>Mirafra javanica</i>	Horsfield's bushlark		C		1
animals	birds	<i>Ceyx azureus</i>	azure kingfisher		C		1
animals	birds	<i>Dendrocygna arcuata</i>	wandering whistling-duck		C		1
animals	birds	<i>Anas superciliosa</i>	Pacific black duck		C		2
animals	birds	<i>Nettapus coromandelianus</i>	cotton pygmy-goose		C		1
animals	birds	<i>Cygnus atratus</i>	black swan		C		1
animals	birds	<i>Aythya australis</i>	hardhead		C		1
animals	birds	<i>Anhinga novaeollandiae</i>	Australasian darter		C		2
animals	birds	<i>Ardea intermedia</i>	intermediate egret		C		2
animals	birds	<i>Egretta novaeollandiae</i>	white-faced heron		C		2
animals	birds	<i>Gymnorhina tibicen</i>	Australian magpie		C		4
animals	birds	<i>Strepera graculina</i>	pieb currawong		C		2
animals	birds	<i>Cracticus nigrogularis</i>	pieb butcherbird		C		2
animals	birds	<i>Burhinus grallarius</i>	bush stone-curlew		C		2
animals	birds	<i>Calyptorhynchus banksii</i>	red-tailed black-cockatoo		C		3
animals	birds	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		2
animals	birds	<i>Eolophus roseicapilla</i>	galah		C		1
animals	birds	<i>Lalage tricolor</i>	white-winged triller		C		1
animals	birds	<i>Coracina papuensis</i>	white-bellied cuckoo-shrike		C		2
animals	birds	<i>Coracina novaeollandiae</i>	black-faced cuckoo-shrike		C		2
animals	birds	<i>Vanellus miles</i>	masked lapwing		C		2
animals	birds	<i>Ephippiorhynchus asiaticus</i>	black-necked stork		C		1
animals	birds	<i>Cisticola exilis</i>	golden-headed cisticola		C		2
animals	birds	<i>Geopelia humeralis</i>	bar-shouldered dove		C		1
animals	birds	<i>Ocyphaps lophotes</i>	crested pigeon		C		1
animals	birds	<i>Geopelia striata</i>	peaceful dove		C		3
animals	birds	<i>Geophaps scripta</i>	squatter pigeon		C		47/45
animals	birds	<i>Eurystomus orientalis</i>	dollarbird		C		1
animals	birds	<i>Corvus orru</i>	Torresian crow		C		4
animals	birds	<i>Scythrops novaeollandiae</i>	channel-billed cuckoo		C		1

Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal		C		1
animals	Cuculidae	<i>Cacomantis variolosus</i>	brush cuckoo		C		1
animals	Cuculidae	<i>Eudynamys orientalis</i>	eastern koel		C		1
animals	Cuculidae	<i>Chalcites osculans</i>	black-eared cuckoo		C		1
animals	Cuculidae	<i>Chalcites basalis</i>	Horsfield's bronze-cuckoo		C		1
animals	Dicruridae	<i>Dicrurus bracteatus</i>	spangled drongo		C		1
animals	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barréd finch		C		2
animals	Estrildidae	<i>Poephila cincta</i>	black-throated finch		C		1
animals	Estrildidae	<i>Erythrura gouldiae</i>	Gouldian finch		E	E	1
animals	Falconidae	<i>Falco cenchroides</i>	nankeen kestrel		C		3
animals	Gruidae	<i>Antigone rubicunda</i>	brolga		C		1
animals	Halcyonidae	<i>Todiramphus pyrrhopygius</i>	red-backed kingfisher		C		1
animals	Halcyonidae	<i>Todiramphus sanctus</i>	sacred kingfisher		C		1
animals	Halcyonidae	<i>Dacelo leachii</i>	blue-winged kookaburra		C		2
animals	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		2
animals	Hirundinidae	<i>Petrochelidon nigricans</i>	tree martin		C		1
animals	Jacaniidae	<i>Irediparra gallinacea</i>	comb-crested jacana		C		1
animals	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren		C		2
animals	Meliphagidae	<i>Stomiopera flava</i>	yellow honeyeater		C		4
animals	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		3
animals	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		2
animals	Meliphagidae	<i>Ptilotula flavescens</i>	yellow-tinted honeyeater		C		1
animals	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		2
animals	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		3
animals	Meliphagidae	<i>Ramsayornis fasciatus</i>	bar-breasted honeyeater		C		2
animals	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		2
animals	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		4
animals	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		2
animals	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		3
animals	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		2
animals	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		2
animals	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		1
animals	Otididae	<i>Sphecotheres vieloti</i>	Australasian figbird		C		1
animals	Otididae	<i>Ardeotis australis</i>	Australian bustard		C		3
animals	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		1
animals	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		3
animals	Passeridae	<i>Passer domesticus</i>	house sparrow	Y			1
animals	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican		C		1
animals	Petroicidae	<i>Microeca fascinans</i>	jacky winter		C		1
animals	Petroicidae	<i>Microeca flavigaster</i>	lemon-bellied flycatcher		C		1
animals	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		2
animals	Phasianidae	<i>Coturnix pectoralis</i>	stubble quail		C		1
animals	Phasianidae	<i>Coturnix ypsilophora</i>	brown quail		C		2
animals	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		1/1
animals	Psittacidae	<i>Aprosmictus erythropterus</i>	red-winged parrot		C		3
animals	Psittacidae	<i>Trichoglossus haematodus moluccanus</i>	rainbow lorikeet		C		4

Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		4
animals	Ptilonorhynchidae	<i>Ptilonorhynchus nuchalis</i>	great bowerbird		C		1
animals	Rallidae	<i>Porphyrio melanotus</i>	purple swamphen		C		2
animals	Rallidae	<i>Fulica atra</i>	Eurasian coot		C		1
animals	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		2
animals	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		2
animals	Scolopacidae	<i>Gallinago hardwickii</i>	Latham's snipe		SL		1
animals	Strigidae	<i>Ninox boobook</i>	southern boobook		C		1
animals	Sturnidae	<i>Acridotheres tristis</i>	common myna	Y			1
animals	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		4
animals	Threskiornithidae	<i>Platalea regia</i>	royal spoonbill		C		1
animals	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		3
animals	Turnicidae	<i>Turnix maculosus</i>	red-backed button-quail		C		1
animals	malacostracans	<i>Cherax quadricarinatus</i>	redclaw				6
animals	Parastacidae	<i>Cherax quadricarinatus</i>	agile wallaby		C		2
animals	Macropodidae	<i>Notamacropus agilis</i>	eastern bent-wing bat		C		1/1
animals	Miniopteridae	<i>Miniopterus schreibersii oceanensis</i>	common brushtail possum		C		3/1
animals	Phalangeridae	<i>Trichosurus vulpecula</i>	little red flying-fox		C		2
animals	Pteropodidae	<i>Pteropus scapulatus</i>					6
animals	Ambassidae	<i>Ambassis sp.</i>					25
animals	Ambassidae	<i>Ambassis macleayi</i>	Macleay's glassfish				37
animals	Apogonidae	<i>Glossamia aprion</i>	mouth almighty				1
animals	Ariidae	<i>Neoarius graeffei</i>	blue catfish				3
animals	Atherinidae	<i>Craterocephalus stercusmuscarum</i>	flyspecked hardyhead				1
animals	Belontiidae	<i>Strongylura krefftii</i>	freshwater longtom				1
animals	Centropomidae	<i>Lates calcarifer</i>	barramundi				1
animals	Cichlidae	<i>Tilapia mariae</i>	spotted tilapia	Y			32
animals	Clupeidae	<i>Nematalosa erebi</i>	bony bream				48
animals	Eleotridae	<i>Oxyeleotris selheimi</i>	blackbanded gudgeon				1
animals	Eleotridae	<i>Oxyeleotris lineolata</i>	sleepy cod				37
animals	Eleotridae	<i>Mogurnda mogurnda</i>	northern purplespotted gudgeon				10
animals	Melanotaeniidae	<i>Melanotaenia splendida inornata</i>	checkered rainbowfish				127/1
animals	Plotosidae	<i>Neosilurus hyrtlii</i>	Hyrtl's catfish				10
animals	Plotosidae	<i>Neosilurus ater</i>	black catfish				22
animals	Poeciliidae	<i>Poecilia reticulata</i>	guppy	Y			2
animals	Terapontidae	<i>Hephaestus carbo</i>	coal grunter				7
animals	Terapontidae	<i>Leiopotherapon unicolor</i>	spangled perch				54
animals	Terapontidae	<i>Hephaestus fuliginosus</i>	sooty grunter				36
animals	Terapontidae	<i>Amniataba percoides</i>	barred grunter				49
animals	Toxotidae	<i>Toxotes chatareus</i>	sevenspot archerfish				4
animals	Crocodylidae	<i>Crocodylus johnstoni</i>	Australian freshwater crocodile		C		1
animals	Diplodactylidae	<i>Oedura coggeri</i>	northern spotted velvet gecko		C		1/1
animals	Diplodactylidae	<i>Lucasium steindachneri</i>	Steindachner's gecko		C		1
animals	Elapidae	<i>Pseudonaja nuchalis sensu lato</i>	western brown snake		C		1
animals	Pygopodidae	<i>Lialis burtonis</i>	Burton's legless lizard		C		1/1
plants	Acanthaceae	<i>Rostellularia adscendens var. hispida</i>			C		1/1
plants	Acanthaceae	<i>Asystasia sp. (Newcastle Bay L.J.Brass 18671)</i>			C		3/3

Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Acanthaceae	<i>Rostellularia adscendens</i>			C		1/1
plants	Acanthaceae	<i>Nelsonia campestris</i>			C		1/1
plants	Acanthaceae	<i>Brunoniella acaulis</i>			C		1/1
plants	Acanthaceae	<i>Rostellularia</i>					1/1
plants	Acanthaceae	<i>Rostellularia adscendens subsp. glaucoviolacea</i>			C		1/1
plants	Amaranthaceae	<i>Ptilotus psilorhachis</i>			C		2/2
plants	Annonaceae	<i>Huberantha nitidissima</i>			C		1/1
plants	Apiaceae	<i>Platysace valida</i>			C		1/1
plants	Apocynaceae	<i>Wrightia saligna</i>			C		1/1
plants	Apocynaceae	<i>Parsonsia velutina</i>	hairy silkpod		C		1/1
plants	Apocynaceae	<i>Cynanchum leptolepis</i>			C		1/1
plants	Apocynaceae	<i>Calotropis procera</i>		Y			2/1
plants	Araliaceae	<i>Trachymene bivesita var. bivesita</i>			C		1/1
plants	Araliaceae	<i>Hydrocotyle peduncularis</i>			C		1/1
plants	Arecaceae	<i>Oraniopsis appendiculata</i>			C		2/2
plants	Aristolochiaceae	<i>Aristolochia pubera var. aromatica</i>			C		4/4
plants	Aristolochiaceae	<i>Aristolochia holtzei</i>			C		1/1
plants	Asteraceae	<i>Glossocardia bidens</i>	native cobbler's pegs		C		1/1
plants	Asteraceae	<i>Cosmos sulphureus</i>		Y			1/1
plants	Asteraceae	<i>Acmella grandiflora var. brachyglossa</i>			C		2/2
plants	Asteraceae	<i>Cyanthillium cinereum</i>			C		1/1
plants	Asteraceae	<i>Praxelis clematidea</i>		Y			3/3
plants	Blechnaceae	<i>Blechnum patersonii subsp. queenslandicum</i>			C		1/1
plants	Boraginaceae	<i>Heliotropium ovalifolium</i>			C		2/2
plants	Boraginaceae	<i>Heliotropium collinum</i>			C		4/4
plants	Caesalpinaceae	<i>Chamaecrista absus var. absus</i>			C		1/1
plants	Caesalpinaceae	<i>Erythrophleum chlorostachys</i>			C		2/2
plants	Caesalpinaceae	<i>Chamaecrista longipes</i>			C		1/1
plants	Campanulaceae	<i>Wahlenbergia caryophylloides</i>			C		1/1
plants	Caryophyllaceae	<i>Polycarpaea spirostylis subsp. spirostylis</i>			C		1/1
plants	Celastraceae	<i>Elaeodendron melanocarpum</i>			C		2/2
plants	Celastraceae	<i>Denhamia oleaster</i>			C		1/1
plants	Combretaceae	<i>Terminalia subacroptera</i>			C		1/1
plants	Combretaceae	<i>Terminalia platyptera</i>			C		1/1
plants	Combretaceae	<i>Terminalia aridicola subsp. chillagoensis</i>			C		1/1
plants	Commelinaceae	<i>Commelina diffusa</i>	wandering jew		C		1/1
plants	Commelinaceae	<i>Murdannia graminea</i>	murdannia		C		1/1
plants	Commelinaceae	<i>Anellema siliculosum</i>			C		1/1
plants	Convolvulaceae	<i>Evolvulus alsinoides</i>			C		1/1
plants	Convolvulaceae	<i>Ipomoea hederifolia</i>		Y			1/1
plants	Convolvulaceae	<i>Distimake dissectus</i>		Y			1/1
plants	Convolvulaceae	<i>Ipomoea polymorpha</i>			C		2/2
plants	Convolvulaceae	<i>Distimake quinquefolius</i>		Y			1/1
plants	Convolvulaceae	<i>Ipomoea plebeia</i>	bellvine		C		1/1
plants	Convolvulaceae	<i>Bonamia media</i>			C		3/3
plants	Convolvulaceae	<i>Polymeria lanata</i>			C		1/1



Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Cupressaceae	<i>Callitris intratropica</i>	coast cypress pine		C		1/1
plants	Cyperaceae	<i>Cyperus holoschoenus</i>			C		1/1
plants	Cyperaceae	<i>Scleria mackaviensis</i>			C		1/1
plants	Cyperaceae	<i>Fimbristylis dichotoma</i>	common fringe-rush		C		3/3
plants	Cyperaceae	<i>Fimbristylis macrantha</i>			C		1/1
plants	Cyperaceae	<i>Fimbristylis schoenoides</i>			C		1/1
plants	Cyperaceae	<i>Schoenoplectiella mucronata</i>			C		1/1
plants	Cyperaceae	<i>Cyperus conicus var. conicus</i>			C		1/1
plants	Cyperaceae	<i>Cyperus haspan subsp. haspan</i>			C		1/1
plants	Cyperaceae	<i>Cyperus polystachyos var. polystachyos</i>			C		1/1
plants	Cyperaceae	<i>Cyperus microcephalus subsp. microcephalus</i>			C		1/1
plants	Cyperaceae	<i>Fimbristylis nutans</i>			C		1/1
plants	Cyperaceae	<i>Cyperus tenuiculmis</i>			C		1/1
plants	Cyperaceae	<i>Cyperus brevifolius</i>	Mullumbimby couch	Y			1/1
plants	Cyperaceae	<i>Bulbostylis barbata</i>			C		2/2
plants	Cyperaceae	<i>Fimbristylis recta</i>			C		1/1
plants	Cyperaceae	<i>Cyperus rotundus</i>	nutgrass	Y			1/1
plants	Cyperaceae	<i>Scleria brownii</i>			C		2/2
plants	Cyperaceae	<i>Cyperus triceps</i>			C		1/1
plants	Cyperaceae	<i>Cyperus scaber</i>			C		2/2
plants	Cyperaceae	<i>Cyperus pilosus</i>			C		1/1
plants	Dilleniaceae	<i>Hibbertia longifolia</i>			C		2/2
plants	Droseraceae	<i>Drosera petiolaris</i>			C		1/1
plants	Droseraceae	<i>Drosera lanata</i>			C		1/1
plants	Droseraceae	<i>Drosera serpens</i>			C		1/1
plants	Euphorbiaceae	<i>Croton minimus</i>			C		2/2
plants	Euphorbiaceae	<i>Mallotus nesophilus</i>			C		3/3
plants	Euphorbiaceae	<i>Euphorbia mitchelliana var. mitchelliana</i>			C		1/1
plants	Euphorbiaceae	<i>Euphorbia macdonaldii var. potentillina</i>			C		1/1
plants	Euphorbiaceae	<i>Euphorbia tannensis subsp. eremophila</i>			C		1/1
plants	Fabaceae	<i>Cajanus</i>			C		2/2
plants	Fabaceae	<i>Crotalaria medicaginea var. medicaginea</i>			C		1/1
plants	Fabaceae	<i>Crotalaria brevis</i>			C		1/1
plants	Fabaceae	<i>Flemingia lineata</i>			C		1/1
plants	Fabaceae	<i>Glycine cyrtoloba</i>			C		1/1
plants	Fabaceae	<i>Cajanus marmoratus</i>			C		2/2
plants	Fabaceae	<i>Phyllodium hackeri</i>			C		1/1
plants	Fabaceae	<i>Cajanus mareebensis</i>			C	E	5/5
plants	Fabaceae	<i>Desmodium filiforme</i>			C		1/1
plants	Fabaceae	<i>Tephrosia leptoclada</i>			C		1/1
plants	Fabaceae	<i>Tephrosia gaudium-solis</i>			C		1/1
plants	Fabaceae	<i>Zornia prostrata var. prostrata</i>			C		1/1
plants	Fabaceae	<i>Galactia tenuiflora var. macrantha</i>			C		1/1
plants	Fabaceae	<i>Galactia muriculata subsp. angustata</i>			C		2/2
plants	Fabaceae	<i>Zornia muelleriana subsp. muelleriana</i>			C		1/1
plants	Fabaceae	<i>Crotalaria lanceolata subsp. lanceolata</i>		Y			1/1

Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Fabaceae	<i>Tephrosia juncea</i>			C		1/1
plants	Goodeniaceae	<i>Goodenia effusa</i>			C		1/1
plants	Helicteraceae	<i>Helicteres</i> sp. (Normanby River J.R.Clarkson+ 7697)			C		1/1
plants	Hemerocallidaceae	<i>Dianella longifolia</i> var. <i>longifolia</i>			C		1/1
plants	Johnsoniaceae	<i>Tricoryne elatior</i>	yellow autumn lily		C		1/1
plants	Lamiaceae	<i>Leucas decemdentata</i>			C		1/1
plants	Lamiaceae	<i>Anisomeles macdonaldii</i>			C		1/1
plants	Loranthaceae	<i>Dendrophthoe homoplastica</i>			C		1/1
plants	Loranthaceae	<i>Decaisnina brittenii</i> subsp. <i>brittenii</i>			C		1/1
plants	Malvaceae	<i>Sida magnifica</i>			C		1/1
plants	Malvaceae	<i>Hibiscus meraukensis</i>	Merauke hibiscus		C		1/1
plants	Martyniaceae	<i>Martynia annua</i>	small-fruited devil's claw	Y			2/2
plants	Meliaceae	<i>Owenia acidula</i>	emu apple		C		1/1
plants	Meliaceae	<i>Turraea pubescens</i>	native honeysuckle		C		1/1
plants	Menispermaceae	<i>Stephania bancroftii</i>			C		1/1
plants	Menyanthaceae	<i>Nymphoides indica</i>	water snowflake		C		1/1
plants	Mimosaceae	<i>Acacia guymeri</i>		Y			1/1
plants	Mimosaceae	<i>Acacia whitei</i>			C		1/1
plants	Mimosaceae	<i>Acacia julifera</i> subsp. <i>gilbertensis</i>			C		1/1
plants	Mimosaceae	<i>Acacia wickhamii</i> subsp. <i>cassitera</i>			C		1/1
plants	Mimosaceae	<i>Neptunia dimorphantha</i>			C		1/1
plants	Mimosaceae	<i>Leucaena leucocephala</i>			C		1/1
plants	Mimosaceae	<i>Acacia umbellata</i>			C		2
plants	Mimosaceae	<i>Acacia leptocarpa</i>	north coast wattle		C		3/3
plants	Mimosaceae	<i>Acacia difficilis</i>			C		1/1
plants	Mimosaceae	<i>Acacia humifusa</i>			C		1/1
plants	Mimosaceae	<i>Acacia johannis</i>			C		2/2
plants	Mimosaceae	<i>Acacia galioides</i>			C		1/1
plants	Mimosaceae	<i>Acacia leptostachya</i>	Townsville wattle		C		2/2
plants	Myrtaceae	<i>Lithomyrtus retusa</i>			C		1/1
plants	Myrtaceae	<i>Melaleuca monantha</i>			C		1/1
plants	Myrtaceae	<i>Corymbia confertiflora</i> x <i>Corymbia tessellaris</i>			C		1/1
plants	Myrtaceae	<i>Corymbia trachyphloia</i> subsp. <i>trachyphloia</i>			C		1/1
plants	Myrtaceae	<i>Syncarpia glomulifera</i> subsp. <i>glomulifera</i>			C		1/1
plants	Myrtaceae	<i>Leptospermum neglectum</i>			C		1/1
plants	Myrtaceae	<i>Eucalyptus leptophleba</i>	Molloy red box		C		1/1
plants	Myrtaceae	<i>Corymbia ellipsoidea</i>	Gympie messmate		C		1/1
plants	Myrtaceae	<i>Eucalyptus cloeziana</i>			C		1/1
plants	Myrtaceae	<i>Melaleuca fluviatilis</i>			C		1/1
plants	Nymphaeaceae	<i>Nymphaea immutabilis</i>			C		2/2
plants	Oleaceae	<i>Jasminum didymum</i> subsp. <i>racemosum</i>			C		1/1
plants	Orchidaceae	<i>Habenaria propinqua</i>			C		2/2
plants	Orchidaceae	<i>Nervilia holochila</i>			C		1/1
plants	Pandanaceae	<i>Pandanus</i>			C		1/1
plants	Pandanaceae	<i>Pandanus cookii</i>			C		1/1
plants	Passifloraceae	<i>Passiflora foetida</i>		Y			1/1

Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Pentapetaceae	<i>Melhania brachycarpa</i>			C		1/1
plants	Phyllanthaceae	<i>Phyllanthus collinus</i>			C		1/1
plants	Phyllanthaceae	<i>Phyllanthus virgatus</i>			C		1/1
plants	Phyllanthaceae	<i>Antidesma parvifolium</i>			C		2/2
plants	Phyllanthaceae	<i>Phyllanthus carpentariae</i>			C		1/1
plants	Phyllanthaceae	<i>Margaritaria dubium-traceyi</i>			C		3/3
plants	Phyllanthaceae	<i>Phyllanthus</i>			C		2/2
plants	Phyllanthaceae	<i>Breynia cernua</i>			C		2/2
plants	Phyllanthaceae	<i>Breynia oblongifolia</i>			C		1/1
plants	Phyllanthaceae	<i>Petalostigma pubescens</i>	quinine tree		C		1/1
plants	Picrodendraceae	<i>Pseudanthus ligulatus subsp. ligulatus</i>			C		1/1
plants	Poaceae	<i>Chloris gayana</i>	rhodes grass	Y			1/1
plants	Poaceae	<i>Sarga plumosum</i>			C		3/3
plants	Poaceae	<i>Aristida spuria</i>			C		1/1
plants	Poaceae	<i>Eriachne obtusa</i>			C		1/1
plants	Poaceae	<i>Setaria surgens</i>			C		2/2
plants	Poaceae	<i>Sorghum bicolor</i>	forage sorghum	Y			1/1
plants	Poaceae	<i>Ectrosia contusa</i>			C		1/1
plants	Poaceae	<i>Eriachne ciliata</i>			C		1/1
plants	Poaceae	<i>Themeda triandra</i>	kangaroo grass		C		1/1
plants	Poaceae	<i>Ectrosia leporina</i>			C		2/2
plants	Poaceae	<i>Enneapogon virens</i>			C		1/1
plants	Poaceae	<i>Mnesithea formosa</i>			C		2/2
plants	Poaceae	<i>Paspalidium rarum</i>			C		2/2
plants	Poaceae	<i>Setaria apiculata</i>			C		1/1
plants	Poaceae	<i>Urochloa piligera</i>			C		1/1
plants	Poaceae	<i>Aristida latifolia</i>	feathertop wiregrass		C		1/1
plants	Poaceae	<i>Arundinella setosa</i>			C		1/1
plants	Poaceae	<i>Cenchrus echinatus</i>	Mossman River grass	Y			1/1
plants	Poaceae	<i>Digitaria ciliaris</i>	summer grass	Y			1/1
plants	Poaceae	<i>Echinochloa colona</i>	awnless barnyard grass	Y			1/1
plants	Poaceae	<i>Eriachne mellicacea</i>			C		1/1
plants	Poaceae	<i>Panicum trichoides</i>			C		1/1
plants	Poaceae	<i>Yakirra pauciflora</i>			C		1/1
plants	Poaceae	<i>Aristida sciuroides</i>			C		1/1
plants	Poaceae	<i>Paspalidium gracile</i>	slender panic		C		1/1
plants	Poaceae	<i>Eriachne rara</i>			C		1/1
plants	Poaceae	<i>Perotis rara</i>	comet grass		C		1/1
plants	Poaceae	<i>Eragrostis pubescens</i>			C		2/2
plants	Poaceae	<i>Aristida queenslandica var. dissimilis</i>			C		1/1
plants	Poaceae	<i>Eragrostis schultzei</i>			C		2/2
plants	Poaceae	<i>Eragrostis tenellula</i>	delicate lovegrass		C		1/1
plants	Poaceae	<i>Heterachne gulliveri</i>			C		1/1
plants	Poaceae	<i>Themeda quadrivalvis</i>	grader grass	Y			11
plants	Poaceae	<i>Triodia microstachya</i>			C		1/1
plants	Poaceae	<i>Whiteochloa airoides</i>			C		3/3

Kingdom Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Poaceae	<i>Allotropis cimicina</i>			C		2/2
plants	Poaceae	<i>Aristida hygrometrica</i>			C		2/2
plants	Poaceae	<i>Aristida superpendens</i>			C		1/1
plants	Poaceae	<i>Cymbopogon bombycinus</i>	silky oilgrass		C		1/1
plants	Poaceae	<i>Heteropogon contortus</i>	black speargrass		C		1/1
plants	Poaceae	<i>Schizachyrium fragile</i>	firegrass		C		1/1
plants	Poaceae	<i>Sporobolus natalensis</i>		Y			2/2
plants	Poaceae	<i>Brachyachne convergens</i>	common native couch		C		1/1
plants	Poaceae	<i>Enneapogon lindleyanus</i>			C		1/1
plants	Poaceae	<i>Sporobolus pyramidalis</i>		Y			1/1
plants	Poaceae	<i>Urochloa subquadriflora</i>		Y			2/2
plants	Poaceae	<i>Ancistrachne uncinulata</i>	hooky grass		C		1/1
plants	Poaceae	<i>Digitaria nematostachya</i>			C		1/1
plants	Poaceae	<i>Dactyloctenium aegyptium</i>		Y			3/3
plants	Poaceae	<i>Thaumastochloa rariflora</i>	coast button grass		C		1/1
plants	Poaceae	<i>Schizachyrium pseudeulalia</i>			C		1/1
plants	Poaceae	<i>Hyparrhenia rufa subsp. rufa</i>		Y			1/1
plants	Poaceae	<i>Aristida holathera var. holathera</i>			C		3/3
plants	Poaceae	<i>Panicum seminudum var. cairnsianum</i>			C		1/1
plants	Poaceae	<i>Bothriochloa bladhii subsp. bladhii</i>			C		1/1
plants	Proteaceae	<i>Grevillea dryandri subsp. dryandri</i>			C		1/1
plants	Pteridaceae	<i>Pteris platyzomopsis</i>			C		4/4
plants	Rubiaceae	<i>Larsenaikia ochreatea</i>			C		1/1
plants	Rutaceae	<i>Gejera salicifolia</i>	brush wilga		C		1/1
plants	Salicaceae	<i>Homalium brachybotrys</i>			C		1/1
plants	Sapindaceae	<i>Dodonaea dodecandra</i>			C		2/2
plants	Sapindaceae	<i>Dodonaea physocarpa</i>			C		4/4
plants	Sapotaceae	<i>Sersalisia sericea</i>			C		1/1
plants	Sterculiaceae	<i>Brachychiton diversifolius subsp. orientalis</i>			C		1/1
plants	Thymelaeaceae	<i>Pimelea amabilis</i>			C		1/1
plants	Violaceae	<i>Pigea enneasperma</i>			C		1/1
plants	Vitaceae	<i>Ampelocissus gardineri</i>			C		1/1
plants	Zygophyllaceae	<i>Tribulus terrestris</i>	caltrop		C		1/1

#### CODES

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

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

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

Records - The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon. This number is output as 999 if it equals or exceeds this value.



Appendix F:  
T&NT, Special Least Concern and  
Migratory Species

**Table 1: Threatened, Near Threatened, Special Least Concern and Migratory species identified in the database search**

Family	Scientific name	Common name	NC Act status <sup>1</sup>	EPBC Act status <sup>2</sup>	Wildlife online <sup>3</sup>	PMST <sup>4</sup>
<b>Flora</b>						
Combretaceae	<i>Macropterianthes montana</i>	-	V	V	-	X
Cycadaceae	<i>Cycas platyphylla</i>	Cycad	V	V	-	X
Fabaceae	<i>Cajanus mariebensis</i>	-	C	E	X	-
Lamiaceae	<i>Prostanthera clottiana</i>	-	E	CE	-	X
Mimosaceae	<i>Acacia gymneri</i>	-	V	-	X	-
Orchidaceae	<i>Dendrobium bigibbium</i>	Cooktown Orchid	V	V/E*	-	X
Poaceae	<i>Dichanthium setosum</i>	Bluegrass	C	V	-	X
<b>Fauna</b>						
<b>Birds</b>						
Accipitridae	<i>Erythrorhynchus radiatus</i>	Red Goshawk	E	V	-	X
Accipitridae	<i>Pandion cristatus</i>	Eastern Osprey	SL	M	X	X
Apodidae	<i>Apus pacificus</i>	Fork-tailed Swift	SL	M	-	X
Cuculidae	<i>Cuculus optatus</i>	Oriental Cuckoo	SL	M	-	X
Estrildidae	<i>Erythrura gouldiae</i>	Gouldian Finch	E	E	X	X
Falconidae	<i>Falco hypoleucos</i>	Grey Falcon	V	V	-	X
Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow	SL	M	-	X
Monarchidae	<i>Myiagra cyanoleuca</i>	Satin Flycatcher	SL	M	-	X
Motacillidae	<i>Motacilla cinerea</i>	Grey Wagtail	SL	M	-	X
Motacillidae	<i>Motacilla flava</i>	Yellow Wagtail	SL	M	-	X
Rhipiduridae	<i>Rhipidura rufifrons</i>	Rufous Fantail	SL	M	-	X
Rostratulidae	<i>Rostratula australis</i>	Australian Painted Snipe	E	E	-	X
Scolopacidae	<i>Actitis hypoleucos</i>	Common Sandpiper	SL	M	-	X
Scolopacidae	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	SL	M	-	X
Scolopacidae	<i>Calidris ferruginea</i>	Curlew Sandpiper	CE, M	CE, M	-	X
Scolopacidae	<i>Calidris melanotos</i>	Pectoral Sandpiper	SL	M	-	X
Scolopacidae	<i>Gallinago hardwickii</i>	Latham's Snipe	SL	M	X	X
Scolopacidae	<i>Numenius madagascariensis</i>	Eastern Curlew	E	CE, M	-	X
Scolopacidae	<i>Tringa nebularia</i>	Common Greenshank	SL	M	-	X
Tytonidae	<i>Tyto novaehollandiae kimberli</i>	Masked Owl (northern)	V	V	-	X
<b>Mammals</b>						
Dasyuridae	<i>Dasyurus hallucatus</i>	Northern Quoll	C	E	-	X
Emballonuridae	<i>Saccolaimus saccolaimus nudicollis</i>	Bare-rumped Sheath-tailed Bat	E	V	-	X
Hipposideridae	<i>Hipposideros semoni</i>	Semon's Leaf-nosed Bat	E	V	-	X
Megadermatidae	<i>Macrodarma gigas</i>	Ghost Bat	E	V	-	X
Muridae	<i>Mesembriomys gouldii rattoides</i>	Black-footed Tree-rat	C	V	-	X
Phalacrocaridae	<i>Phalacrocorax cinereus</i>	Koala	V	V	-	X
Rhinolophidae	<i>Rhinolophus philippinensis</i> syn. <i>Rhinolophus robertsi</i>	Greater Large-eared Horseshoe Bat	E	V	-	X

X = database search returned record for species.

<sup>1</sup> Queensland *Nature Conservation Act 1992*. Status categories comprise: Critically Endangered (CE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C), Special Least Concern (SL).<sup>2</sup> Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Status categories comprise: Critically Endangered (CE), Endangered (E), Vulnerable (V), Migratory (M).<sup>3</sup> Wildlife Online Database search, 10 km search area from a central point (-17.1633, 145.0576), 31 May 2021.<sup>4</sup> Protected Matters Search Tool search, search area from a central point (-17.16338, 145.05762), 31 May 2021.

- No search result / no NC Act and/or EPBC Act status.

\* The PMST recorded *Vapores lithocola* (E under the EPBC Act). The Queensland Herbarium treats this species as a synonym of *Dendrobium bigibbium* (V under the EPBC Act).

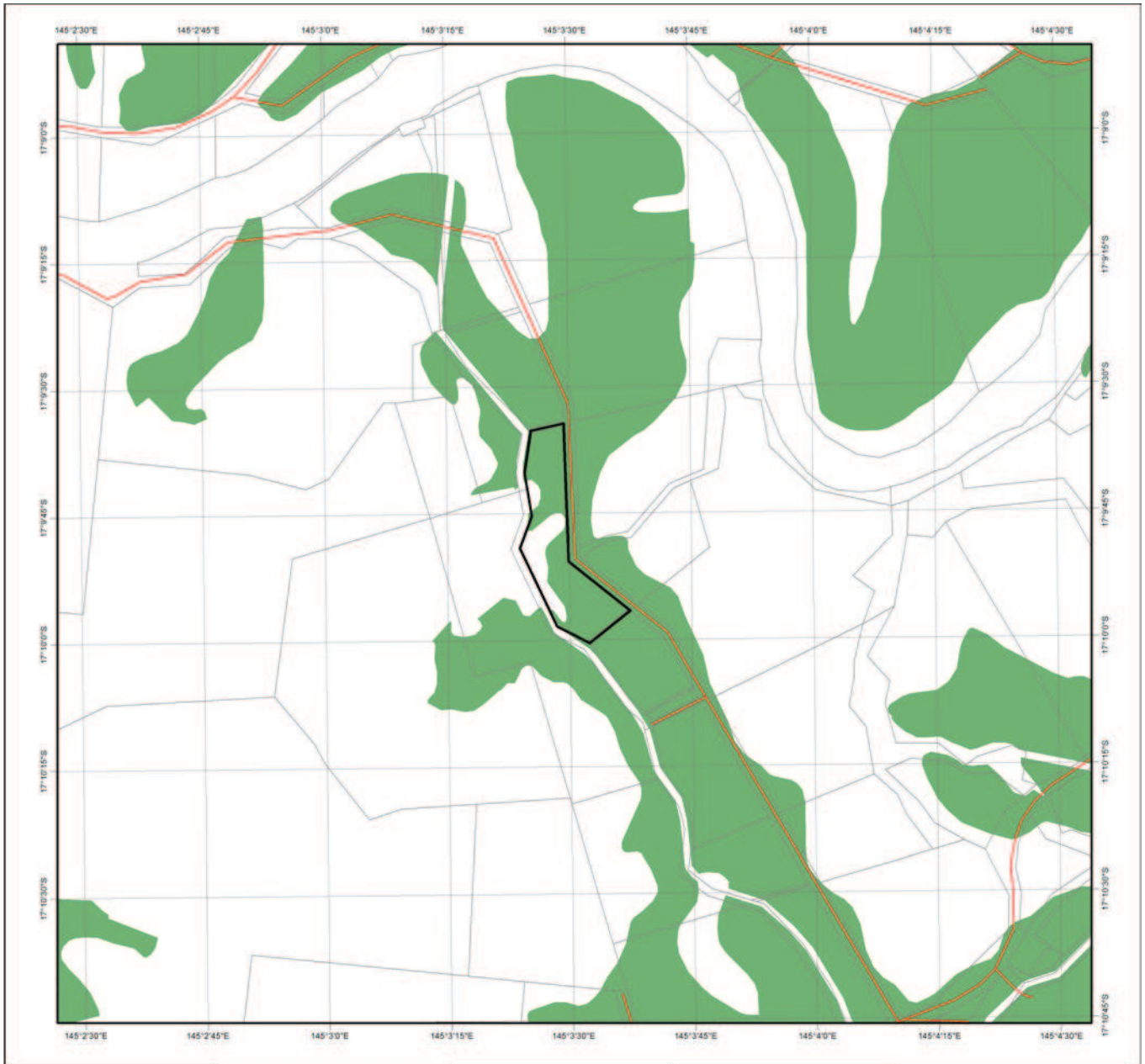
Appendix G:  
Strategic Cropping Land Trigger  
Map

This Lot on Plan is located in:









(1) ZONE:

(2) MITIGATION SUB-ZONE:

WET TROPICS



### STRATEGIC CROPPING LAND TRIGGER MAP

-  Selected Lot and Plan
-  Strategic cropping land
-  Strategic cropping land zone
-  Sub zones for strategic cropping land mitigation rates
-  Roads
-  Cadastral line
-  Lot on Plan boundaries shown are provided as a locational aid only
-  Towns



This product is projected into GDA 1994 MGA Zone 55

This map identifies areas of strategic cropping land (SCL) and is used to define the strategic cropping area, one of the four areas of regional interest under the *Regional Planning Interests Act 2014*.

This version has removed SCL validation decisions and excluded areas that may be above the slope criteria limits determined using generalised slope data from the Shuttle Radar Topography Mission (SRTM).

This map is prepared using Class A Agricultural Land and Versatile Cropping Land data and 1999 Queensland Land Use Mapping Program (QLUMP) data identified as production from agriculture or plantations.

Land is excluded as SCL where it is Category B (remnant vegetation) on the Regulated Vegetation Management Map, or is in a National Park, state forest, timber reserve or forest reserve.

- Urban areas are removed. These areas are:
- within the urban footprints in the Far North Queensland, South East Queensland, Mackay Isaac and Whitsunday, and Wide Bay Burnett regional plans or
  - within 20 metres of and including groups of 20 or more cadastral parcels with areas less than one hectare
  - mapped as residential in the QLUMP dataset

The extent of SCL is limited to those areas within the five SCL zones.

For further information on the strategic cropping area regional interest or the specific assessment requirements of land under the *Regional Planning Interests Act 2014*, go to the website: [planning.dsdmip.qld.gov.au/planning/regional-planning-interests-act](http://planning.dsdmip.qld.gov.au/planning/regional-planning-interests-act)

Digital GIS data and full metadata can be obtained from <http://qldspatial.information.qld.gov.au/catalogue/index.page>

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Appendix H:  
Land Suitability Reports

Project: Soils and Land Suitability of the Mareeba-Dimbulah Irrigation Area, North Queensland  
Polygon: 2346

### *Class 2 Suitable land with minor limitations*

---

Avocado - irrigated

Cashew nuts - irrigated

Citrus - irrigated

Custard apple - irrigated

Grapes - irrigated

Improved pasture grasses - irrigated

Longan - irrigated

Lychee - irrigated

Macadamia nuts - irrigated

Mango - irrigated

Stone fruit - irrigated

Sugarcane - irrigated, spray/trickle

Tobacco - irrigated

### *Class 3 Suitable land with moderate limitations*

---

Banana - irrigated

Coffee - irrigated

Maize - irrigated

Navy bean (pulse crops) - irrigated

Peanut - irrigated

Sorghum - irrigated

Tea tree - irrigated, spray/trickle

Tropical grasses for hay and seed - irrigated

Vegetables (intensive horticulture) - irrigated

Vegetables (extensive horticulture) - irrigated

### *Class 4 Marginal land which is presently considered unsuitable due to severe limitations*

---

Sugarcane - irrigated, furrow/row

Tea tree - irrigated, furrow/row

### *Class 5 Unsuitable land with extreme limitations*

---

Rice - irrigated, flood (border check)

Project: Soils and Land Suitability of the Mareeba-Dimbulah Irrigation Area, North Queensland  
Polygon: 2220

### Class 2 *Suitable land with minor limitations*

---

Avocado - irrigated

Cashew nuts - irrigated

Citrus - irrigated

Custard apple - irrigated

Grapes - irrigated

Improved pasture grasses - irrigated

Longan - irrigated

Lychee - irrigated

Macadamia nuts - irrigated

Mango - irrigated

Stone fruit - irrigated

### Class 3 *Suitable land with moderate limitations*

---

Banana - irrigated

Coffee - irrigated

Maize - irrigated

Navy bean (pulse crops) - irrigated

Peanut - irrigated

Sorghum - irrigated

Sugarcane - irrigated, spray/trickle

Tea tree - irrigated, spray/trickle

Tobacco - irrigated

Tropical grasses for hay and seed - irrigated

Vegetables (intensive horticulture) - irrigated

Vegetables (extensive horticulture) - irrigated

### Class 4 *Marginal land which is presently considered unsuitable due to severe limitations*

---

Rice - irrigated, flood (border check)

Sugarcane - irrigated, furrow/row

Tea tree - irrigated, furrow/row



*Environmental Approval & Compliance Solutions*

**Cairns Office:**

Level 1, 320 Sheridan Street, PO Box 5678 Cairns QLD 4870

**P: 61 7 4034 5300**

**Townsville Office:**

Suite 2A, Level 1, 41 Denham Street, PO Box 539 Townsville QLD 4810

**P: 61 7 4796 9444**

**[www.natres.com.au](http://www.natres.com.au) • [nra@natres.com.au](mailto:nra@natres.com.au)**



# Application form

*Environmental Protection Act 1994*

## ***Development application Form 1 - Application details—attachment for an application for an environmental authority***

*This form is to be attached to the Development application Form 1 - Application details when making a development application for prescribed environmentally relevant activities (ERAs). Under section 115 of the Environmental Protection Act 1994 (EP Act) the development approval (DA) application is taken to be an application for an environmental authority (EA) for the prescribed ERAs.*

It is recommended that prior to making an application for an environmentally relevant activity (ERA), you read the information on what to provide with an application. This information is located on the Business Queensland website at [www.business.qld.gov.au](http://www.business.qld.gov.au) (use the search term “Environmental licence”). This website also has a diagnostic tool called the “forms and fees finder” which will help identify any fees and supporting information you need to make an application.

### **Important notes:**

- The application can't be to dredge or extract more than 10,000 tonnes of material a year in the North Stradbroke Island region. This is prohibited development under the Planning Regulation 2017.
- All applicants must be registered as suitable operators<sup>1</sup>. A suitable operator is a person or a corporation assessed under section 318I of the EP Act as being suitable to carry out an ERA and is listed on the suitable operator register<sup>2</sup>.
- If more than one ERA is being applied for, the ERAs must be carried out as part of a single integrated operation. ERAs are carried out as a single integrated operation if:
  - the ERAs will be carried out under the day to day management of a single responsible individual (e.g. a site manager or operations manager); and
  - all of the ERAs are operationally interrelated, that is, the operation cannot function without all of the ERAs. Separate applications will need to be made for the ERAs that cannot be carried out as a single integrated operation; and
  - the ERA/s are, or will be, carried out at one or more places; and
  - the places where the ERAs will be carried out are close enough to make the integrated day to day management of the activities feasible.
- All the ERAs that will be on the EA must be prescribed ERAs. Prescribed ERAs are ERAs listed in schedule 2 of the Environmental Protection Regulation 2019.

<sup>1</sup> Your EA application must be refused if you are not a registered suitable operator when the application is decided. To become a registered suitable operator, apply through Online Services or request the form “Application to be a registered suitable operator - ESR/2015/1771” by emailing [palm@des.qld.gov.au](mailto:palm@des.qld.gov.au) or phoning 1300 130 372 (option 4).

<sup>2</sup> The register is available on the Queensland Government website at [www.qld.gov.au](http://www.qld.gov.au), using the search term “suitable operator register”.

**Application form**

*Development application Form 1 - Application details*—attachment for an application for an environmental authority

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**Privacy statement**

Where ERAs are administered by the Queensland Government:

The Department of Environment and Science and Department of Agriculture and Fisheries are collecting the information on this form to process your application for an EA. The collection is authorised under Chapter 5 of the EP Act.

Please note that the administering authority is required to keep this application on a register of documents open for inspection by members of the public under section 540 of the EP Act, and must permit a person to take extracts from the register pursuant to section 542 of the EP Act. Your personal information will not be otherwise disclosed to any other parties unless authorised or required by law. For queries about privacy matters please email [privacy@des.qld.gov.au](mailto:privacy@des.qld.gov.au) or telephone: 13 74 68.

Where ERAs are administered by a local government:

Contact the local government for their privacy information.

**Pre-lodgement meeting**

Where ERAs are administered by the Queensland Government:

You can arrange a pre-lodgement meeting through the Department of State Development, Infrastructure, Local Government and Planning prior to lodging this application if you have not already done so. For more information contact the Department of State Development, Infrastructure, Local Government and Planning (for contact details go to <https://planning.dsdmip.qld.gov.au/planning/resources/regional-contacts>).

Where ERAs are administered by a local government:

Contact the local government about pre-lodgement meetings.

**Application form**

**Development application Form 1 - Application details—attachment for an application for an environmental authority**

The fields marked with an asterisk \* are mandatory, if they are not completed then your application may be considered not properly made under the *Planning Act 2016*.

### 1. Applicant details

To nominate a site or application contact for this application please provide details at Questions 14 and 15.

Is there more than one applicant? *	<input checked="" type="checkbox"/> No—provide applicant’s details below. <input type="checkbox"/> Yes—provide the principal applicant’s details below and all other applicants’ details in Attachment 1—“ <i>Joint applicants and appointment of principal applicant</i> ”
Name - individual or contact person if applicant is a organisation*	Suitable Operator Reference Number*
Rudi Kriese	RSO004335
Organisation name, including any trading name (*if an organisation)	ABN/ACN (*if an organisation)
Agri Technovation Pty Ltd	77628259245
Residential or registered business address (not a post office box)*	Phone*
Agri Business Park, 5 Louw Street, Wellington, 7654, South Africa	001127836015663
Postal address (if same as above, write “AS ABOVE”)*	Facsimile
AS ABOVE	N/A
Email*	<input checked="" type="checkbox"/> Indicate if you want to receive correspondence via email
rudikriese@agritechnovation.co.za	

#### 1.1 Nomination of an agent for this application

I/we nominate the below agent to act on my/our behalf and to receive correspondence relating to this application.

Do you want to nominate an agent for this application?*	
<input type="checkbox"/> No → Go to <i>Question 2</i> <input checked="" type="checkbox"/> Yes → Complete the agent’s details here.	
Name of agent – individual or contact person if agent is an organisation	
Rhiannon Williams	
Organisation name, including trading name if an organisation	ABN/ACN (if an organisation)
NRA Environmental Consultants	77011073135
Postal address	Phone
1st Floor 320 Sheridan St, Cairns QLD 4870	0740345300
Email	<input type="checkbox"/> Indicate if you do not want to receive correspondence via email
rhiannon@natres.com.au	

### 2. Details of the ERA(s) that you want to operate

Please list all of the ERAs that will be undertaken on site, including:

- Any existing ERAs will continue to operate unchanged on the site (select “Existing” in the table below);
- ERAs that are proposed to be undertaken on the site as part of the application (select “New - DA” in the table below); and
- ERAs that are proposed to be undertaken on this site, that don’t form part of this application as they do not require a DA (select “New - EA” in the table below).

Listing all the ERAs that will be undertaken on site will help enable them to all be included on the one EA

**Application form**

**Development application Form 1 - Application details—attachment for an application for an environmental authority**

If the ERA has eligibility criteria and standard conditions<sup>3</sup>, identify whether you can comply with them. Select “N/A” where there are no eligibility criteria and standard conditions for that ERA. If you cannot comply with all of the applicable standard conditions, select “no” and attach details of the standard conditions you cannot comply with.

ERA number*	Threshold*	Name of ERA*	New or existing ERA(s)	I can comply with the eligibility criteria*	I can comply with all the standard conditions*
7	4(a): 200t to 5,000t	7 Chemical manufacturing - 4: manufacturing in a year, the following quantities of fertiliser - (a) 200t to 5,000t	<input checked="" type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> New - DA <input type="checkbox"/> New - EA <input type="checkbox"/> Existing	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No

- The EA number for existing ERA(s) listed above is
- If there are new ERAs and your existing EA is an amalgamated EA, the application for ERAs associated with the DA application will create a new EA for the new ERAs. An application to amalgamate the current and new EAs may then be required.
- I have attached details of the standard conditions that I cannot comply with.

**3. Will the ERAs be carried out as a single integrated operation?**

Will more than one ERA be operated at the location?\*

No    Go to *Question 4*.

<sup>3</sup> ERAs with eligibility criteria and standard conditions are listed at: [www.business.qld.gov.au](http://www.business.qld.gov.au) (use the search term “eligibility criteria”).



**Application form**

*Development application Form 1 - Application details*—attachment for an application for an environmental authority

<input type="checkbox"/> Yes	Will any of the ERAs be operated as a single integrated operation (see definition on page one)?*	
	<input type="checkbox"/> No	Go to <i>Question 4</i> .
<input type="checkbox"/> Yes	Provide details of the ERAs that are operated as a single integrated operation and supporting information showing they are a single integrated operation then go to <i>Question 4</i> .	

#### 4. Description of land where the ERAs will be carried out

Where activities will be undertaken at more than one location, provide details in Attachment 2.

Number*	Street Name*	Suburb/Town*	Postcode*
203	Leafgold Weir Road	Dimbulah	QLD 4872
Real Property Description*		Specific area within the location ie GPS or other descriptor*	
Lot 1 Plan SP173508		17°09'45.8"S, 145°03'27.5"E	
Port (*if applicable)		Project Name (*if applicable)	
N/A		N/A	

#### 5. Details of contaminated land

Is there a site management plan in effect for contaminated land that relates to the land that is the subject of this application?*		
<input checked="" type="checkbox"/> No	Go to <i>Question 6</i> .	
<input type="checkbox"/> Yes	Description of land*	
	Lot and plan number(s)	Local Government Area*
	Lot	Plan
	Lot	Plan
	Lot	Plan

#### 6. Environmental offsets

An environmental offset, under the *Environmental Offsets Act 2014*, may be required for an ERA where, despite all reasonable measures to avoid and minimise impacts on certain environmental matters, there is still likely to be significant residual impact on one or more of those matters.

You must verify the presence, whether temporary or permanent, of those environmental matters. For more information refer to the Queensland Environmental Offsets Policy and the Significant Residual Impact Guideline at the Queensland Government website at [www.qld.gov.au](http://www.qld.gov.au), using the search term "environmental offsets".

Will the ERA(s) being applied for result in a significant residual impact to a matter of State environmental significance (MSES)?*	
<input checked="" type="checkbox"/> No	Go to <i>Question 7</i> .
<input type="checkbox"/> Yes	<p>You <b>must</b> attach supporting information that:</p> <ol style="list-style-type: none"> <li>Details the magnitude and duration of the likely significant residual impact on each prescribed environmental matter (other than matters of local environmental significance) for the entire activity; and</li> <li>Demonstrates that all reasonable measures to avoid and minimise impacts on each of those matters will be undertaken.</li> </ol>

**Application form**

*Development application Form 1 - Application details*—attachment for an application for an environmental authority

**6.1 Notice of election**

Has a notice of election been submitted to the administering authority, or is being submitted as part of this application?	
<input type="checkbox"/> No	Go to <i>Question 6.2</i> .
<input type="checkbox"/> Yes	<input type="checkbox"/> You <b>must</b> attach the notice of election, if it has not been submitted to the department. Go to <i>Question 6.3</i> .

**6.2 Staged environmental offsets**

Offset delivery can be staged, however for this to occur, the condition of any approved environmental authority needs to state that both the activity and the offset may be staged. As part of your notice of election for each stage under the *Environmental Offsets Act 2014*, you are required to provide a detailed assessment of the quantum of impact of that stage and the offset obligation requirement to be delivered for that stage.

Will the proposed ERA(s) and delivery of an environmental offset be undertaken in stages?	
<input type="checkbox"/> No	Go to <i>Question 6.3</i>
<input type="checkbox"/> Yes	You <b>must</b> attach supporting information that details of how the activity/activities are proposed to be staged.

**6.3 Nature conservation environmental offset**

Has another authority issued under the <i>Nature Conservation Act 1992</i> required an environmental offset for the same, or substantially the same, impact and the same, or substantially the same, MSES?	
<input type="checkbox"/> No	Go to <i>Question 6.4</i>
<input type="checkbox"/> Yes	Provide permit number:

**6.4 Marine parks environmental offset**

Has marine park permit issued under the <i>Marine Parks Act 2004</i> required an environmental offset for the same, or substantially the same, impact and the same, or substantially the same, MSES?	
<input type="checkbox"/> No	Go to <i>Question 7</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> You <b>must</b> attach a copy of the marine park permit to this application.

**7. Matters of national environmental significance**

There are currently nine matters of national environmental significance (MNES) which have been defined in the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act). These are:

- world heritage properties
- national heritage places
- wetlands of international importance (listed under the Ramsar Convention)
- listed threatened species and ecological communities
- migratory species protected under international agreements
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mines)
- a water resource, in relation to coal seam gas development and large coal mining development

To determine whether the proposed ERA(s) will have a significant impact on MNES and for referral requirements, please refer to the guidance provided by the Federal Government's Department of Environment on [www.environment.gov.au](http://www.environment.gov.au).

**Application form**

*Development application Form 1 - Application details*—attachment for an application for an environmental authority

Would the carrying out of the proposed ERA(s) be likely to have a significant impact on a MNES?*	
<input checked="" type="checkbox"/> No	Go to <i>Question 9</i> .
<input type="checkbox"/> Yes	Has the proposal been referred to the Federal Department of Environment for formal assessment and approval? <input type="checkbox"/> No → Go to <i>Question 8</i> . <input type="checkbox"/> Yes → Go to <i>Question 7.1</i> .

**7.1 EPBC Act approval for environmental offsets**

Has an approval issued under the EPBC Act required an environmental offset for the same, or substantially the same, impact and the same, or substantially the same, MSES?	
<input type="checkbox"/> No	Go to <i>Question 8</i> .
<input type="checkbox"/> Yes	I have attached a copy of the approval under the EPBC Act. Are there any MNES which were assessed under the EPBC Act which are the same, or substantially the same as an MSES, but that were not conditioned in the approval? <input type="checkbox"/> No → Go to <i>Question 8</i> <input type="checkbox"/> Yes → List these MNES:

**8. Environmental impact statement under the *State Development and Public Works Organisation Act 1971***

Certain stages of the EA application process may not apply if the proposed activities were assessed as part of a coordinated project declared under the *State Development and Public Works Organisation Act 1971* (State Development Act), you are only required to answer Questions 8 to 8.1 if you have a current Co-ordinator General's (CG's) evaluation report for the project.

Has an environmental impact statement (EIS) process under State Development Act been completed?*	
<input type="checkbox"/> No	Go to <i>Question 9</i> .
<input type="checkbox"/> Yes	What is the title and project name of the completed EIS?*
	<input type="checkbox"/> The EIS was <b>completed for all activities</b> that are the subject of this application. <input type="checkbox"/> The environmental risks or the way the activity/activities are proposed to be carried out <b>have not changed</b> since the EIS was completed. <input type="checkbox"/> The environmental risks or the way the activity/activities are proposed to be carried out <b>have changed</b> since the EIS was completed.
	<input type="checkbox"/> The EIS was <b>not completed for all activities</b> that are the subject of this application. <input type="checkbox"/> The environmental risks or the way the activity/activities are proposed to be carried out <b>have not changed</b> since the EIS was completed. <input type="checkbox"/> The environmental risks or the way the activity/activities are proposed to be carried out <b>have changed</b> since the EIS was completed.
	Was the EIS completed for all activities that are the subject of this application?*
<input type="checkbox"/> No	Please list the activities that were not included in the EIS or attach documentation with this information to this application:  <input type="checkbox"/> I have attached the required supporting information.

	<input type="checkbox"/> Yes	
--	------------------------------	--

**8.1 Coordinator-General’s conditions**

Are there CG’s conditions that relate to the ERA(s) being applied for?*	
<input type="checkbox"/> No →	Go to <i>Question 9</i> .
<input type="checkbox"/> Yes →	Name of the CG’s evaluation report:

**9. Assessment of the environmental impact**

This question is **not applicable** if an EIS process under the State Development Act has been completed for all the ERA(s) that are the subject of this application and the environmental risks of the activities **and** the way they are proposed to be carried out has not changed since the EIS was completed.

You must attach to this application an assessment of the likely impact of each new ERA (whether from the DA application or another new ERA you want included on the EA that does not require a DA) on environmental values (\*if applicable), including:

- a description of the environmental values likely to be affected by each relevant activity
- details of any emissions or releases likely to be generated by each relevant activity
- a description of the risk and likely magnitude of impacts on the environmental values
- details of the management practices proposed to be implemented to prevent or minimise adverse impacts
- details of how the land the subject of the application will be rehabilitated after each relevant activity ceases

I have attached an assessment of the environmental impact and specific supporting information.

**10. Details of waste management**

Describe the proposed measures for minimising and managing waste generated by the activity/ies below *
Please see the attached supporting information report.

I have attached the proposed measures.

**11. Take effect date (when fees will commence being charged)**

You may nominate when the EA will take effect should it be approved. The date the environmental authority takes effect will be the date from which you can commence the activities as well as the date your annual fees will commence to be charged (your anniversary date). Under section 200 of the EP Act, if a development permit for a material change of use under the *Planning Act 2016* or a State development area (SDA) approval is required in order to carry out the ERA, the EA cannot take effect until the development permit or SDA approval takes effect (known as taking effect pending development approval).



**Application form**

**Development application Form 1 - Application details—attachment for an application for an environmental authority**

Note that where you are applying new ERAs, and your existing EA is an amalgamated EA, the application for ERAs associated with the DA application will create a new EA for the new ERAs. In this case you may wish to nominate a take effect date in the future which, post approval of this application, will provide you with enough time to amalgamate your current and new EAs. Amalgamating your EAs prior to the take effect date of your new EA will prevent you being required to pay the first annual fee for your new EA.

Do you want the EA to take effect on the decision date, nominated date, or pending development approval?*	
<input checked="" type="checkbox"/> Decision date	The take effect date will be the date of the decision.
<input type="checkbox"/> Nominated date	Details of nominated take effect date:

**12. Nomination of site contact**

An alternative contact nominated by the legal person which holds, or will in future hold, a relevant authority issued by the department. The department may direct correspondence relating to actual or potential compliance matters to the site contact.

Do you want to nominate a site contact?*		<input checked="" type="checkbox"/> No
		<input type="checkbox"/> Yes, provide details below
Title*	First Name*	Surname*
Email Address*		<input type="checkbox"/> Indicate if you want to receive correspondence via email
Phone		

**13. Nomination of application contact**

An alternative contact nominated by the legal person which has submitted, or will in future submit, applications to be assessed by the department. All departmental correspondence relating to the assessment of applications will be directed to the application contact, however, if the application results in the issuing of a relevant authority, the relevant authority will be sent to the applicant.

Name or Position*	David Henry Stead
Primary Phone*	0429205439
Secondary Phone	
Email Address*	dave.stead@agritechnovation.com

**Application form**

**Development application Form 1 - Application details—attachment for an application for an environmental authority**

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**14. Applicant declaration**

I declare that the information I have provided is true and correct. I understand that it is an offence under the *Environmental Protection Act 1994* to give information that I know is false, misleading or incomplete.

I will comply with all conditions on my environmental authority as well as any relevant provisions in the *Environmental Protection Act 1994*.

I understand that I am responsible for managing the environmental impacts of these activities, and that approval of this application is not an endorsement by the administering authority of the effectiveness of the management practices proposed or implemented.

Applicant's full name* Rudi Kriese	Applicant's position* Managing Director – African Renewables
Applicant's signature*  <small>RA Kriese (Jul 7, 2021 07:51 GMT+2)</small>	Date* 7 July 2021

**Submit attachment, together with any additional information, with all relevant Development application Forms to the assessment manager for the development application.**

**Application form**  
**Development application Form 1 - Application details—attachment for an**  
**application for an environmental authority**

**Attachment 1**

**Joint applicants and appointment of principal applicant**

We are joint applicants for this environmental authority application and hereby appoint \_\_\_\_\_ as the principal applicant to receive statutory documents relating to this application.

Name - individual or contact person if applicant is an organisation*	Suitable Operator Reference Number*
Organisation name, including trading name (*if an organisation)	ABN/ACN (*if an organisation)
Residential or registered business address (not a post office box)*	Phone*
Postal address (if same as above, state "AS ABOVE") *	Facsimile
Email*	<input type="checkbox"/> Indicate if you want to receive correspondence via email
Signature*	Date*

Name - individual or contact person if applicant is an organisation*	Suitable Operator Reference Number*
Organisation name including trading name (*if an organisation)	ABN/ACN (*if an organisation)
Residential or registered business address (not a post office box)*	Phone*
Postal address (if same as above, state "AS ABOVE")*	Facsimile
Email*	<input type="checkbox"/> Indicate if you want to receive correspondence via email
Signature*	Date*

Name - individual or contact person if applicant is an organisation*	Suitable Operator Reference Number*
Business name including trading name (*if an organisation)	ABN/ACN (*if an organisation)
Residential or registered business address (not a post office box)*	Phone*
Postal address (if same as above, state "AS ABOVE")*	Facsimile
Email*	<input type="checkbox"/> Indicate if you want to receive correspondence via email
Signature*	Date*

**Application form**  
*Development application Form 1 - Application details*—attachment for an  
 application for an environmental authority

**Attachment 2**

**List of locations where the ERA(s) will be carried out.**

Where there is more than one location list all locations and which ERA(s) will be conducted at each location.

Number*	Street Name*	Suburb/Town*	Postcode*	ERA/s*
Real Property Description*		Specific area within the location ie GPS or other descriptor (*if applicable e.g. dredging)		
Lot	Plan			

Number*	Street Name*	Suburb/Town*	Postcode*	ERA/s*
Real Property Description*		Specific area within the location ie GPS or other descriptor (*if applicable e.g. dredging)		
Lot	Plan			

Number*	Street Name*	Suburb/Town*	Postcode*	ERA/s*
Real Property Description*		Specific area within the location ie GPS or other descriptor (*if applicable e.g. dredging)		
Lot	Plan			

Number*	Street Name*	Suburb/Town*	Postcode*	ERA/s*
Real Property Description*		Specific area within the location ie GPS or other descriptor (*if applicable e.g. dredging)		
Lot	Plan			

Number*	Street Name*	Suburb/Town*	Postcode*	ERA/s*
Real Property Description*		Specific area within the location ie GPS or other descriptor (*if applicable e.g. dredging)		
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