

# Black Currant Island Boat Ramp Access & Carparking Feasibility Study

Prepared by:

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Client Manager: Scott Reid Report Number: 106698-49 Version / Date: Version 1 Prepared for:

WHITSUNDAY REGIONAL COUNCIL



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#### **Document Status**

Version	Purpose of Document	Orig	Review	Review Date
2	Feasibility Investigations	BG	BG	09/09/2016

#### Approval for Issue

Name	Signature	Date
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# Contents

1.0	BACKGROUND		1
2.0	0 THE PROPOSAL		2
	2.1	DTMR Boat Ramp	2
	2.2	Public Access & Carpark	2
	2.3	Preliminary Design Criteria for locating Vehicle Access & Carpark	2
3.0	THE	DELIVERY	
	3.1	Planning - Further Studies & Reports	6
	3.2	Land Tenure Approvals & Road Openings	6
	3.3	Detailed Design of Works	7
	3.4	Works Approval Applications	
	3.5	Construction	
	тот	AL	7
4.0		ICLUSION	

# **Appendices**

Appendix A: State Pre-lodgement Advice
Appendix B: Site Context Information

Appendix C: Engineering Feasibility Statement



# 1.0 Background

RPS and Reece Milburn (Project Engineer) have been engaged by Whitsunday Regional Council to investigate the feasibility of providing vehicle access and associated carparking to a boat ramp provided by DTMR at Black Currant Island from Hydeaway Bay.

The Department of Transport and Main Roads (DTMR) is committed to constructing an all tide, 2 lane boat ramp in the Cape Gloucester Area and has recently completed hydrographical survey of potential sites at Black Currant Island and Dingo Beach.

DTMR officers have advised they would be responsible for providing and maintaining a boat ramp to high water mark and Whitsunday Regional Council would be responsible for providing and maintaining vehicle access and boat trailer carparking (40 spaces) for the boat ramp, with DTMR potentially contributing up to 50% of the overall cost of the whole project.

This report discusses the findings of our feasibility investigations under the following headings, integrating the findings of Reece Milburn's Engineering Feasibility Statement: -

- The Proposal (including Preliminary Design Criteria for locating Vehicle Access & Carpark)
- The Delivery (including Scope of Works, ballpark estimates and timing for the various phases)



# 2.0 The Proposal

This section of the report details the proposal and identifies preliminary design criteria for locating the proposed vehicle access and carpark. It should be read in conjunction with 'The Proposal' section of the Engineering Feasibility Statement included in *Appendix C* of this report.

#### 2.1 DTMR Boat Ramp

The exact location and design of the boat ramp itself is a matter for DTMR to determine following detailed investigations. However, the general location is proposed in a sheltered area on the south-eastern side of Black Currant Island adjoining a channel which is accessible by recreational boats during all tides.

Please refer to Figure 1 & Figure 2 of the Engineering Feasibility Statement included in *Appendix C* of this report for general location

#### 2.2 Public Access & Carpark

The proposed public vehicle access to the Black Currant Island Boat Ramp being investigated is from Hideaway Bay Drive via: -

- o Freehold Lot 20 or 21 on SP271833;
- State land mainland Lot 1 on AP13184 (Permit to Occupy for Beach Access & Management Council as Permittee)
- State land mainland Lot 21 on CP858290 (Park and Recreation Reserve Council as trustee),
- The Black Currant Island Causeway; and
- Black Currant Island State land, Lot 17 on HR1210 (Park and Recreation Reserve Council as trustee).

The boat trailer carpark being investigated is to be located on Black Currant Island in close proximity to the proposed boat ramp. DTMR Officers have advised their standard carparking requirement for a 2 lane boat ramp is 40 boat trailer carparking spaces.

Please refer to the Smart Map & Land Tenure Map included in *Appendix B* of this report and 'Attachment 1 - Conceptual Development Layout' of the Engineering Feasibility Statement included in *Appendix C* of this report.

#### 2.3 Location & Design Criteria

It will be necessary to locate and design vehicle access and carparking for the boat ramp in compliance with the relevant State Development Assessment Provisions and State Marine Park Assessment Criteria, outlined in the 'State Pre-lodgement Advice' included in *Appendix A*. Our preliminary investigations indicate it should be possible to do so, however, further more detailed investigations are required to determine whether any environmental offsets would be required.

#### **Great Barrier Reef Marine Park Setting**

As advised in items 18 & 19 of the State Pre-lodgement advice, Black Currant Island is located in Setting 1 Area of the Whitsunday Planning Area of the Great Barrier Reef Marine Park which allows for permanent facilities such as boat ramps to be constructed. As such, the proposed boat ramp & its associated carparking and access could be approved if located and designed to avoid adverse impacts on the environment. An extract of the Whitsunday Planning Area Settings Map has been included in *Appendix B* of this report.



#### Commonwealth Marine Park Boundaries

We have confirmed the vehicle access and carpark would be located well outside the Commonwealth Marine Park (which is defined by low water mark). This means there will be no need to change the boundary of the marine park as per item 24 of the State Pre-lodgement Advice included in *Appendix A*.

#### Protected Plants (Nature Conservation Act)

The vehicle access and carparking for the boat ramp must be located and designed to avoid disturbing protected plant species under *Nature Conservation Act* which are known to occur on Black Currant Island. The subject land is located within a 'High Risk Area' under the Protected Plants Flora Trigger Map (please refer to Vegetation Management Report included in *Appendix B*). A Flora Survey must be undertaken to confirm endangered, vulnerable or near threatened plants are not present or can be avoided.

#### Marine Plants (Fisheries Act)

As per items 13-15 of the State Pre-lodgement Advice, the vehicle access and carparking for the boat ramp must be located and designed to avoid disturbing marine plants which are known to be present in the tidal area of Black Currant Island and either side of the causeway crossing. The Hydrographic & Land Detail Survey included in *Appendix B* prepared by DTMR shows this should be possible as the causeway has width of 11m with no marine plants present. However, a Flora Survey must be undertaken to confirm. A DAF officer should be present during the flora survey.

#### Regulated Vegetation & Essential Habitat (Vegetation Management Act)

As per items 3 & 4 of the State Pre-lodgement Advice, the vehicle access and carparking for the boat ramp must be located and designed to meet the following criteria, otherwise environmental offsets may be required by DNRM: -

- Follow existing access tracks through mapped areas where practical and feasible, otherwise take the shortest practical route, to firstly avoid and then minimise the extent of clearing required
- Avoid watercourses and drainage features (at least 10m setback)
- Minimise clearing within the mapped areas of Endangered Regional Ecosystem & Essential Habitat to 2ha or 20m width (sparse structure category). Recommend limiting road reserve with to as narrow as practical (maximum 15m reserve).
- Avoid any additional clearing across causeway & elsewhere where the width of mapped regional ecosystem is less than 100m. Road reserves in these areas will need to be a maximum width of 10m to match the width of the existing cleared tracks.
- Avoid reducing the width of the mapped remnant vegetation to less than 100m (This could be
  an issue for locating the boat trailer carpark. However, DTMR has indicated they have certain
  exemptions for vegetation clearing for boat ramps and ancillary areas)

Please refer to the Vegetation Management Report included in **Appendix B** for regional ecosystem and essential habitat mapping and details. In relation to essential habitat mapping, it should be noted: -

- The endangered plant species Glossocardia Othrocheta (10046) has been recorded on Black Currant Island.
- The Essential Habitat Mapping for the Coastal Sheathtail Bat (1010) no longer applies. The Coastal Sheathtail Bat is no longer listed as "protected wildlife" under the *Nature Conservation Act*.



It will be important to involve DNRM in locating and designing the vehicle access and carparking area to avoid environmental offsets.

#### Matters of State Environmental Significance (Coastal Management Act)

As per item 12 of the State Pre-lodgement Advice, the vehicle access and carparking for the boat ramp must be located and designed to avoid adverse impacts on Matters of State Environmental Significance which includes the Endangered Regional Ecosystem, Essential Habitat for *Glossocardia Othrocheta* (10046), Marine Plants and Protected Plants discussed above.

Unless sufficient measures are incorporated to protect and retain these Matters of State Environmental Significance and underlying ecosystem processes to the greatest extent practicable, then Environmental Offsets may be required by the Department of Environment & Heritage (DEHP).

DEHP has no prescriptive criteria for determining whether a proposal will adversely impact on Matters of State Environmental Significance. Furthermore, DEHP is not bound to accept the design criteria discussed separately above in relation to protected plants, marine plants, regulated vegetation and essential habitat. As such, it will be important to involve DEHP in locating and designing the vehicle access and carparking area to avoid environmental offsets.

#### **Coastal Processes**

As per items 11, 16, 17 & 25 of the State Pre-lodgement Advice, the vehicle access and carparking for the boat ramp must be located and designed to minimise or negate any impact on coastal processes across causeway. DTMR officers have advised they are of the opinion coastal processes won't really change if box culverts or a bridge is used to cross the causeway as the marine vegetation on either side of the causeway is currently blocking sediment transport processes. Furthermore, the Engineering Feasibility Statement included in *Appendix C* of this report concludes "adverse impacts to existing coastal processes from a fully reclaimed causeway would be a surprise".

A coastal processes investigation assessment is required to confirm suitability regardless of whether the causeway crossing is by culvert, bridge or reclamation.

#### **Erosion & Sea Level Rise**

As per item 10 of the State Pre-lodgement Advice, the vehicle access and carparking for the boat ramp must be designed to address erosion issues and sea level rise. DTMR officers have advised they are of the opinion if the causeway was lifted it would need to include some allowance for sea level rise and the causeway batters would need some level of scour protection, but the site is very protected so this should not be a major design/excessive cost issue.

#### Marine Safety

As per item 26 of the State Pre-lodgement Advice, the vehicle access and carparking for the boat ramp must be designed to ensure the causeway crossing is lit along its length so it is visible in darkness for marine safety purposes (strategic design issue for powering the lighting)

Site context information in *Appendix B* of this report includes: -

- o Smart Map
- Land Tenure Map
- o Aerial Photograph
- o Concept Plan
- o Hydrographic & Land Detail Survey 22 April 2016
- Vegetation Management Report including maps and details in relation to: -



- Regional Ecosystem;
- Essential Habitat (No longer applicable for Coastal Sheathtail Bat); &
- Protected Plants Flora Survey Trigger
- o Queensland Waterways for Waterway Barrier Works Map
- Coastal Management District Map
- o Matters of State Environmental Significance (MSES) Maps including: -
  - Regulated Vegetation (matches Endangered Regional Ecosystem Mapping)
  - Wildlife Habitat (matches Essential Habitat Mapping and like the Essential Habitat Mapping is out of date for the Coastal Sheathtail Bat)
  - Regulated Vegetation (Intersecting a watercourse)
- Coastal Hazard Maps



# 3.0 The Delivery

This section of the report details the scope of work required to deliver the proposal including associated ballpark costs and timeframes. It integrates and should be read in conjunction with 'The Delivery' section of the Engineering Feasibility Statement included in *Appendix C* of this report.

	Studies/Reports/Assessments	Ballpark Costs (ex GST)	Timeframe
3.1	Planning - Further Studies & Reports	\$105K	6 months
A	Environment Impact Assessment including Flora Survey and other environmental assessments required to address the relevant State Development Assessment Provisions and State Marine Park Permit Assessment Criteria in locating and designing the vehicle access and carpark  Additional detailed investigations may be required if potential environmental impacts are identified	\$15K	In conjunction with Item B below (Item 2 – Detail Survey)
В	Engineering, Surveying & Geotechnical Investigations as per Items 2-7 of Table 1 of 'The Delivery' section of the Engineering Feasibility Statement included in <i>Appendix C</i> of this report.	\$85K	6 months
С	Development Assessment Criteria Compliance Advice & Reporting addressing Vegetation Clearing, Interfering with Quarry Material on State Coastal Land, Tidal Works & State Marine Park Works, relying on EIA and Engineering Design for technical matters.	\$5K	In conjunction with Item B above (Item 7 - Engineering overview)
3.2	Land Tenure Approvals & Road Openings	\$30K*	6 months
D	Freehold Road Reserve Opening of Lot 20/21 under Acquisition Act by agreement or resumption by Whitsunday Regional Council, as per item 1 of 'The Delivery' section of the Engineering Feasibility Statement included in Appendix C of this report. This will require purchase of the land.	By Council – *not estimated as involves purchase of land	In conjunction with 3.1 above or 3.2E below.
E	State Land Road Reserve Opening – separate applications for each of the 3 State land lots  o State Land Application by external consultant o State Application Fees	\$5K	5 months from completion of 3.1 above
F	Survey Plans of Freehold & State Land Road Openings  (As per item 13 of 'The Delivery' section of the Engineering	\$25K	1 month from completion of D &



	Studies/Reports/Assessments	Ballpark Costs (ex GST)	Timeframe
	Feasibility Statement included in <b>Appendix C</b> of this report)		E above
3.3	Detailed Design of Works	\$120K	No Extra Time
G	<b>Detailed Engineering as per Items 8-12 of Table 1 of</b> 'The Delivery' section of the Engineering Feasibility Statement included in <i>Appendix C</i> of this report	\$120K	4 months in conjunction with 3.2 above so detailed design is completed at the same time as the road opening
3.4	Works Approval Applications	\$47K	3 months
Н	Prescribed Tidal Works including Works within Coastal Management District on State Coastal Land and Waterway Barrier Works; State Marine Park Permit; and EPBC Referral of Proposed Action Application  O Applications by external consultant based on material from 3.1 to 3.3  O Application Fees for the State as referral agency and for EPBC referral. We assume Council will not charge a fee for tidal works application.	o \$10K o \$37K	3 months assuming the proposal is not a controlled action for EPBC
3.5	Construction	\$1.82 Million	6 months
I	As per items 14a to 19 of 'The Delivery' section of the Engineering Feasibility Statement included in <i>Appendix C</i> of this report.  The Engineering Feasibility Statement identifies 2 options for constructing the causeway crossing, by reclamation or by culverts. The land tenure and works approval process outlined above assumes a culvert. If reclamation is ultimately proposed, a further road opening will ultimately be required over the reclaimed area, post construction.  The ballpark estimate and timeframe assumes herein assumes the causeway crossing will be by culvert	\$1.82 million	6 months from obtaining all relevant works approvals
ТС	DTAL	\$2.122 Million*	21 Months

<sup>\*</sup>ballpark estimate excludes purchase of freehold land for road opening and assumes no environmental offsets will be required



## 4.0 Conclusion

This report has investigated the feasibility of providing vehicle access from Hydeaway Bay and associated carparking to a boat ramp provided by DTMR at Black Currant Island.

While there a number of environmental constraints and land tenure issues associated with the subject land, our preliminary investigations undertaken in preparing this report have found it should be possible to locate and design vehicle access and carparking for the boat ramp in compliance with the relevant State assessment criteria. However, further detailed site based investigations are required to confirm whether any environmental offsets would be required.

This report has identified the scope of works required to construct the vehicle access and carpark including background studies and reports, land tenure approvals and associated road openings, detailed engineering design, works approvals and the construction. It is estimated the scope of works will cost in the order of \$2.1 million (excluding private land resumptions and any environmental offsets) and could be completed within 21 months. At the same time, DTMR will arrange the construction of the boat ramp itself and potentially contribute up to 50% of the overall cost of the whole project.



APPENDIX A – STATE PRE-LODGEMENT ADVICE

106698-49; Version 1 APPENDICES



Department of Infrastructure, Local Government and Planning

Our reference:

SPL-1015-025262

Your reference:

NΔ

18 March 2016

Mr Rod Cousins
Sport and Recreation Officer
Whitsunday Regional Council
Via email: rodney.cousins@whitsundayrc.qld.gov.au

Dear Mr. Cousins

# Pre-lodgement advice – proposed boat ramp and access road at Blackcurrant Island – Lot 1 AP13184 and Lot 17 HR1210, Hideaway Bay QLD 4800

Thank you for your correspondence in November 2015 in which you sought pre-lodgement advice from the Department of Infrastructure Local Government and Planning (the department) regarding the proposed development of a public boat ramp at Blackcurrant Island. We also note discussions with you over the recent months regarding the proposal.

The department has undertaken a preliminary assessment of the proposal and its impact. Based on your written correspondence, the following advice is provided:

#### Site details

Street address: Blackcurrant Island and adjacent Gloucester Avenue,

Hideaway Bay.

Real property description: Lot 1 AP13184 and Lot 17 HR1210

Local government area: Whitsunday Regional Council

#### Proposed development details

Development description: - Construction of new road over Lot 1 AP13184

(Unallocated State Land). Access to be obtained through freehold property on Gloucester Avenue,

across the lot.

- Construction of an access road through Lot 1

AP13184 (Unallocated State Land).

- Building a causeway between Lot 1 AP 13184 and

Blackcurrant Island.

- Construction of an access road over Lot 17 HR

The following advice outlines the matters of interest to the department and matters that should be addressed if you proceed with your proposal to further investigation stage.

#### **Pre-lodgement advice**

#### Item Advice

#### Department of Natural Resources and Mines (DNRM) - State Land Asset Management (SLAM)

#### 1. Proposed road opening on mainland

Whitsunday Regional Council can progress this further by submitting an application for road opening. Application forms (LA00 and LA17) are available at the following link: http://www.qld.gov.au/environment/land/state/forms/—

**LA00 Part A** and **LA17** Dedicate state land as road and the relevant application fee will be required. A sketch showing the proposed road opening area will also be required. If approved a survey will also be required.

#### Proposed causeway - reclamation works required

Until such time as the area of interest is proclaimed as being above the high water mark it cannot be opened as road as it is not considered state land. This process requires valid and approved reclamation works and certification by a suitably qualified engineer. If approved, a survey will be required.

#### **Boat Ramp**

If the boat ramp infrastructure extends beyond the boundary of the reserve for recreation, a reserve amendment will be required. If approved a survey will be required.

It should be noted that a native title assessment will be part of our investigation once applications are received.

2. Further pre-lodgement advice is strongly recommended should a preliminary road alignment or proposal design be progressed.

#### **DNRM - Vegetation Management**

- 3. The information supplied for this project was not sufficient for detailed advice to be provided. The following advice is provided for consideration:
  - The proposed road alignment is shown to traverse regulated vegetation shown as an endangered and least concern regional ecosystem on the regulated vegetation management map (Please refer to attachment 1).
  - A development application will have to address the relevant tables of the State
    Development Assessment Provisions (SDAP), depending on the type of application,
    most likely to be Tables 8.1.3 and 8.1.4. The following issues would be of particular
    concern to the project:
    - The application would have to demonstrate how the development has first avoided, and then minimised the impacts of the development.
    - The proposed road alignment may result in offsets being required as clearing is proposed in the endangered vegetation, depending on the extent of the clearing for the development.
    - Essential habitat would also be a concern as the lots are mapped as essential habitat and the application will need to address this.

Item	Advice		
	DNRM recommends advice is sought from the Department of Environment and Heritage Protection (DEHP) in relation to the mapped essential habitat and the presence of protected plants located on Blackcurrant Island, within the proposed carpark section.		
4.	Further pre-lodgement advice is strongly recommended should a preliminary road alignment or proposal design be progressed.		
DEHP	- Tidal Works		
5.	The causeway and boat ramp would constitute Operational Works - Prescribed tidal works.		
6.	SLAM will need to provide Owner's Consent for the tidal works below high water mark.		
7.	Development (i.e. a road opening) on both lots would constitute Operational Works – Interfering with quarry material on State coastal land above high water mark.		
8.	The SDAP Module 10: Coastal Protection will need to be thoroughly addressed in the application along with RPEQ certified drawings of the causeway and boat ramp.		
9.	Vegetation should be avoided when considering the location of the boat ramp.		
10.	Erosion issues and sea-level rise should be considered at the design stage.		
11.	A raised causeway could prevent natural sediment transport along the coast. To meet Performance Outcome PO5 of Module 10, the applicant should consider a culvert crossing or bridge to maintain sediment flow and allow fish passage. The height of this crossing should be above Mean High Water Springs. Would like to see reports on sediment transport in the area showing that the development will not impact on natural coastal processes.		
DEHP	- Works within Coastal Management District		
12.	Lot 1/AP13184 includes regulated vegetation (endangered). DEHP would generally not support vegetation clearing within this mapped zone. To meet PO9 of Module 10, alternate access should be investigated for the eastern side of this lot where the veg is listed as 'least concern'. If alternative access is not achievable, an environmental offset may be required.		
Depar	tment of Agriculture and Fisheries (DAF) - Marine Plants and Waterway Barrier Works		
13.	Marine Plants  DAF (Fisheries), where the impact on Fisheries Resources is minimised, generally supports the construction of public boat ramps. Section 8.8 (Works that may be approved) of the Fish Habitat Management Operational Policy FHMOP001 states (in part where relevant): (https://www.daf.qld.gov.au/data/assets/pdf_file/0010/56359/FHMOP001-Fish-Hab-Manage.pdf).		
14.	DAF have inspected the proposed location in 2015. The site contains some scattered low Grey Mangrove colonising the rocky shore, with some small scattered patches of ground cover of Sea Purslane. Based on the information provided to date, it is estimated the maximum area of marine plant disturbance would be no greater than 25m <sup>2</sup> .		
15.	The proposed development would need to justify any impacts against Module 5 of the SDAP. ( <a href="http://www.dilgp.qld.gov.au/resources/policy/sdap/sdap-module-5-v1-5.pdf">http://www.dilgp.qld.gov.au/resources/policy/sdap/sdap-module-5-v1-5.pdf</a> ). Of particular importance would be addressing Module 5.3 - PO9 (Public Infrastructure to facilitate fishing).		
16.	Access – Waterway Barrier Works:  Additionally, a low-level causeway has been proposed to access Blackcurrant Island. Options may be to leave the access as is, which would restrict vehicle access on very high tides, or construct a raised vehicle access across the existing causeway. Fisheries would have no additional requirement if the existing causeway were to be used in its current form as part of the ramp construction. Fisheries would also have no involvement in the construction of any access roads or carparks on either the mainland or island, provided that any road alignment		

Item	Advice
	avoided marine plants.
17.	Any works to construct a <i>raised</i> vehicle access would require assessment for Waterway Barrier Works (as part of the assessment of the ramp, or separately). Any design would need to address the Performance Outcomes in Module 5.2 of the SDAP, however the main driver in this instance would be to minimise or negate any impact on coastal processes across the existing causeway (i.e. – any raised crossing should be designed so that sand, water or debris/seeds/propagules etc., can pass freely from one side to the other, without creating a physical barrier). An appropriately designed series of culverts using the natural rocky base of the existing causeway as the base, between the high-tide mark at each end (approx. 100m) may be able to sufficiently satisfy these requirements.
Depai	rtment of National Parks, Sport and Racing [NPSR] (Marine Parks)
N.B. N	Marine park approvals fall outside of SARA coordination
18.	The proposed location is within the Great Barrier Reef Marine Park (GBRMP) and the Whitsunday Planning Area ( <a href="http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management/whitsunday-plan-of-management">http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management/whitsunday-plan-of-management</a> ).
19.	Blackcurrant Island is a location within a Setting 1 Area within the Whitsunday Planning Area.  Setting 1 areas provide for permanent facilities such as boat ramps.
20.	Structures within the Great Barrier Reef Marine Park (including boat ramps and causeways/culverts) require a Marine Parks permit and a deed of agreement and a bond amount.
21.	Information on the application and assessment process, fees and link to application form can be found on <a href="http://www.gbrmpa.gov.au/zoning-permits-and-plans/permits.">http://www.gbrmpa.gov.au/zoning-permits-and-plans/permits.</a>
22.	Any proposal would be assessed in accordance with the assessment criteria outlined in the GBRMP Regulations.
23.	Native Title notification would be required.
24.	The proposal to install a causeway has the potential of changing the boundary of the GBRMP. This is a very complex process and would require a proclamation of Federal Parliament agreed to by both houses.
25.	In addition to potential impacts from the works on the marine environment, the hydrodynamic implications of the proposal (in particular the causeway) will need to be considered.
Marin	e Safety Queensland (MSQ)
26.	The causeway must be lit along its length to indicate its presence during the period of darkness.
27.	Approach to the boat ramp must be marked with navigational lights.

This pre-lodgement advice does not constitute an approval or an endorsement that the department supports the development proposal. Additional information may be required to allow the department to properly assess the development proposal when a formal application has been lodged. It is strongly recommended that further pre-lodgement advice is sought from the department if the proposal is to be progressed by the Department of Transport and Main Roads (Boating Infrastructure) and/or Whitsunday Regional Council.

If you require any further information, please contact Ainsley Sullivan, Senior Planning Officer, Mackay Isaac Whitsunday Regional Office on 4898 6813 or via email ainsley.sullivan@dilgp.qld.gov.au who will be pleased to assist.

Yours sincerely

Patrick Ruettjes

Manager (Planning) - Mackay Isaac Whitsunday Regional Office

enc: Attachment 1 – Vegetation Mapping



#### APPENDIX B - SITE CONTEXT INFORMATION

Smart Map Land Tenure Map Aerial Photograph Concept Plan

DTMR Hydrographic & Land Detail Survey Vegetation Management Report

Regional Ecosystem; Essential Habitat; & Protected Plants Flora Survey Trigger

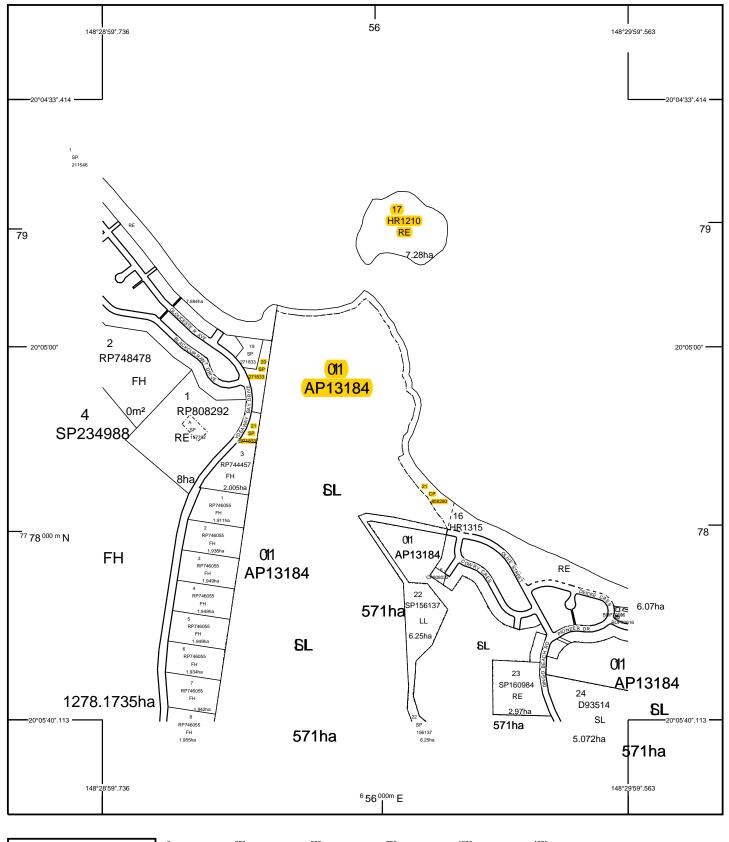
Queensland Waterways for Waterway Barrier Works Map Coastal Management District Map Matters of State Environmental Significance (MSES) Maps

> Regulated Vegetation Wildlife Habitat

Regulated Vegetation (Intersecting a watercourse)

Coastal Hazard Maps

106698-49; Version 1 APPENDICES





MAP WINDOW POSITION & NEAREST LOCATION

#### SUBJECT PARCEL DESCRIPTION



 DCDB
 21/CP858290

 Lot/Plan
 21/CP858290

 Area/Volume
 2.95ha

 Tenure
 RESERVE

 Local Government
 WHITSUNDAY REGIONAL

 Locality
 DINGO BEACH

 Segment/Parcel
 62023/11

#### CLIENT SERVICE STANDARDS

PRINTED (dd/mm/yyyy) 18/07/2016

DCDB 16/07/2016 (Lots with an area less than 1500m² are not shown)

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# SmartMap

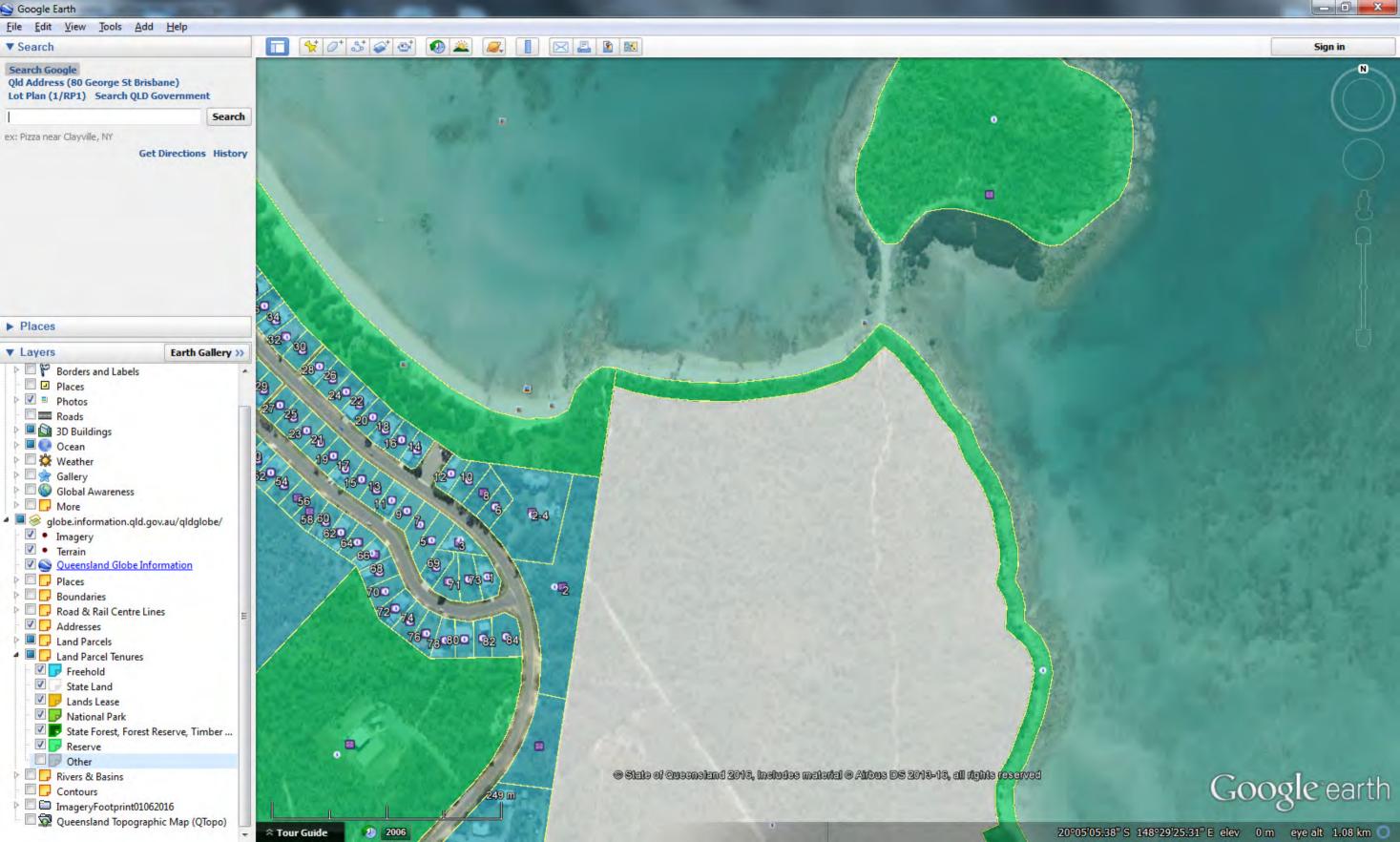
An External Product of SmartMap Information Services

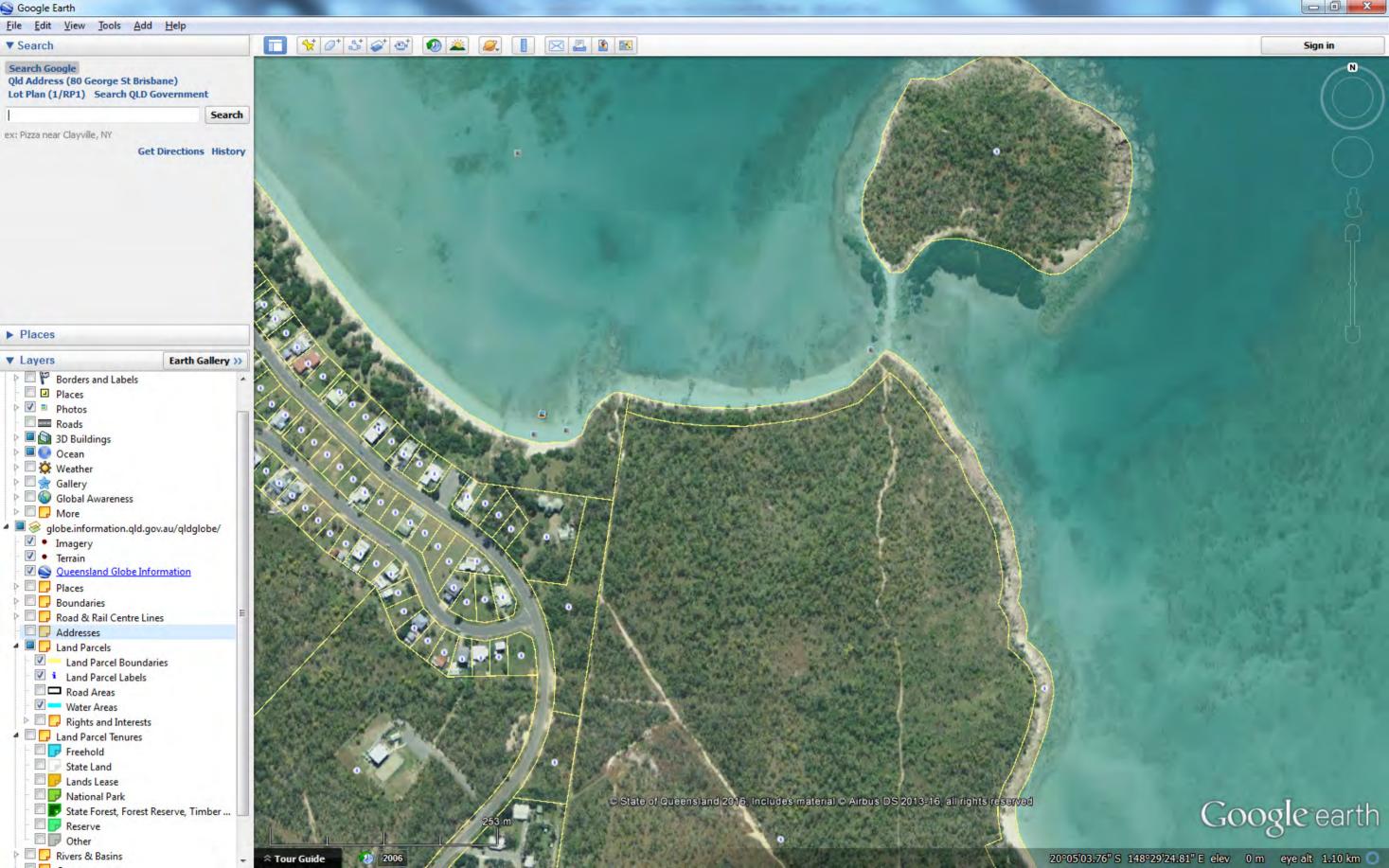
Based upon an extraction from the Digital Cadastral Data Base

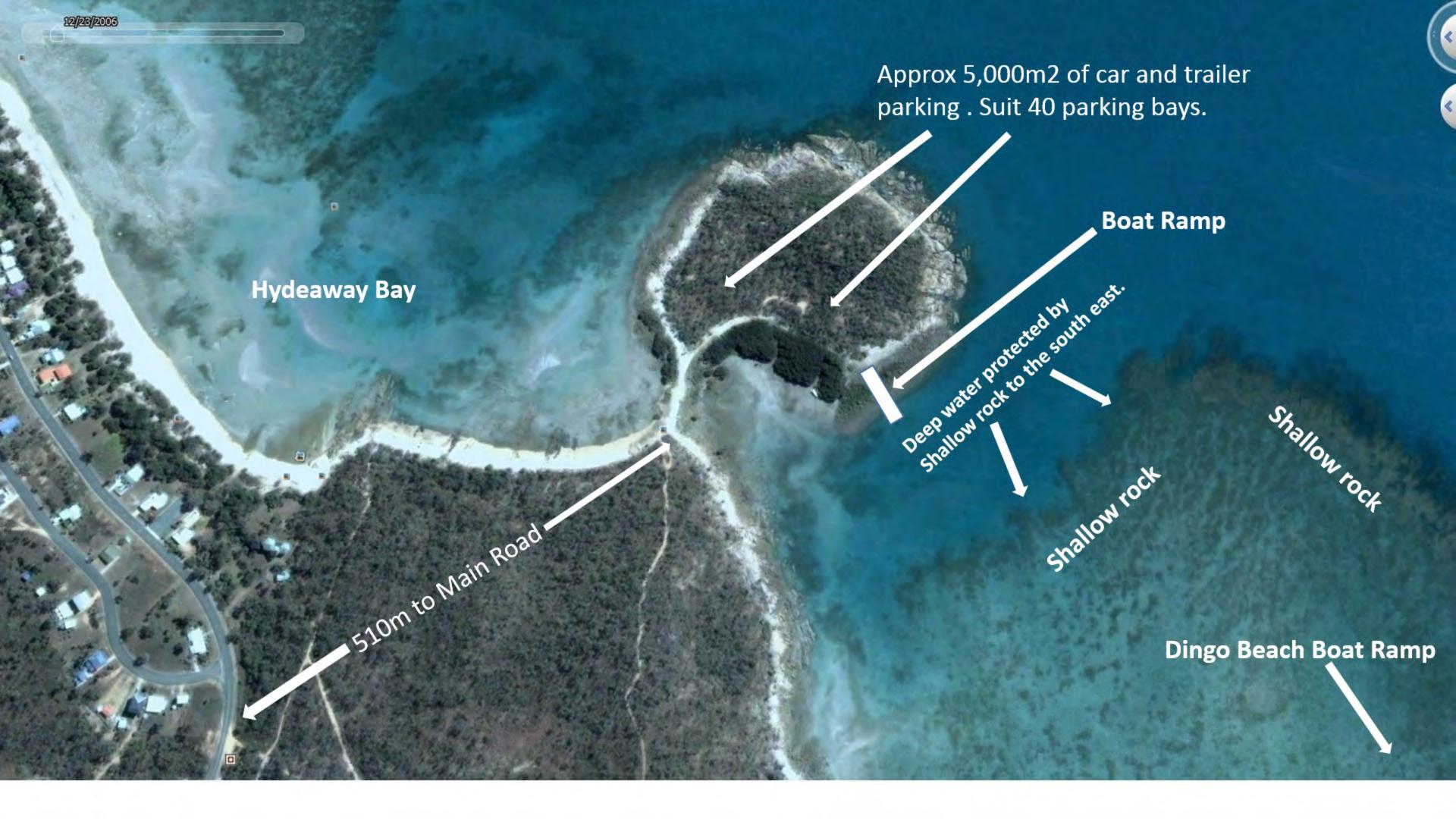


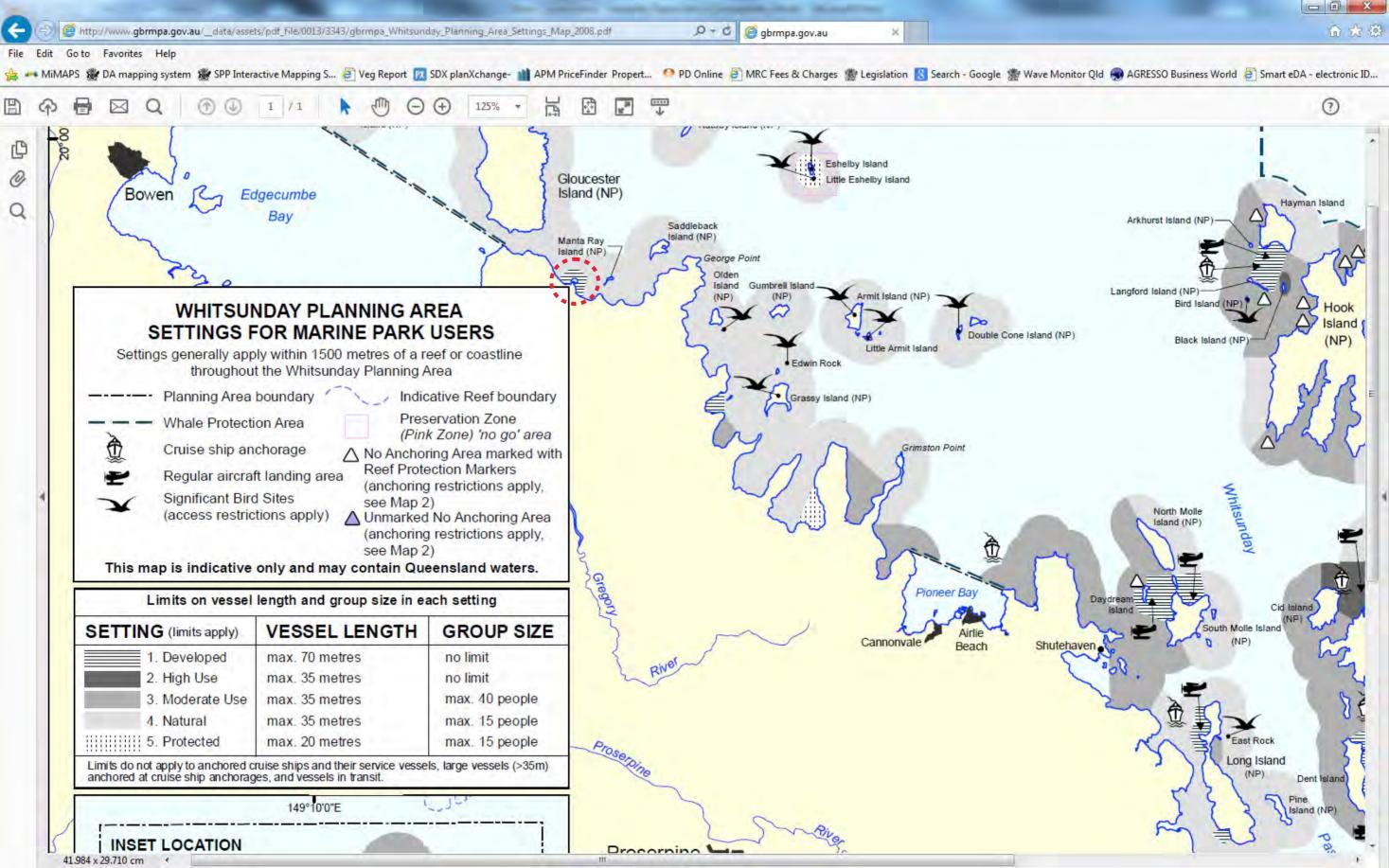
Queensland Government

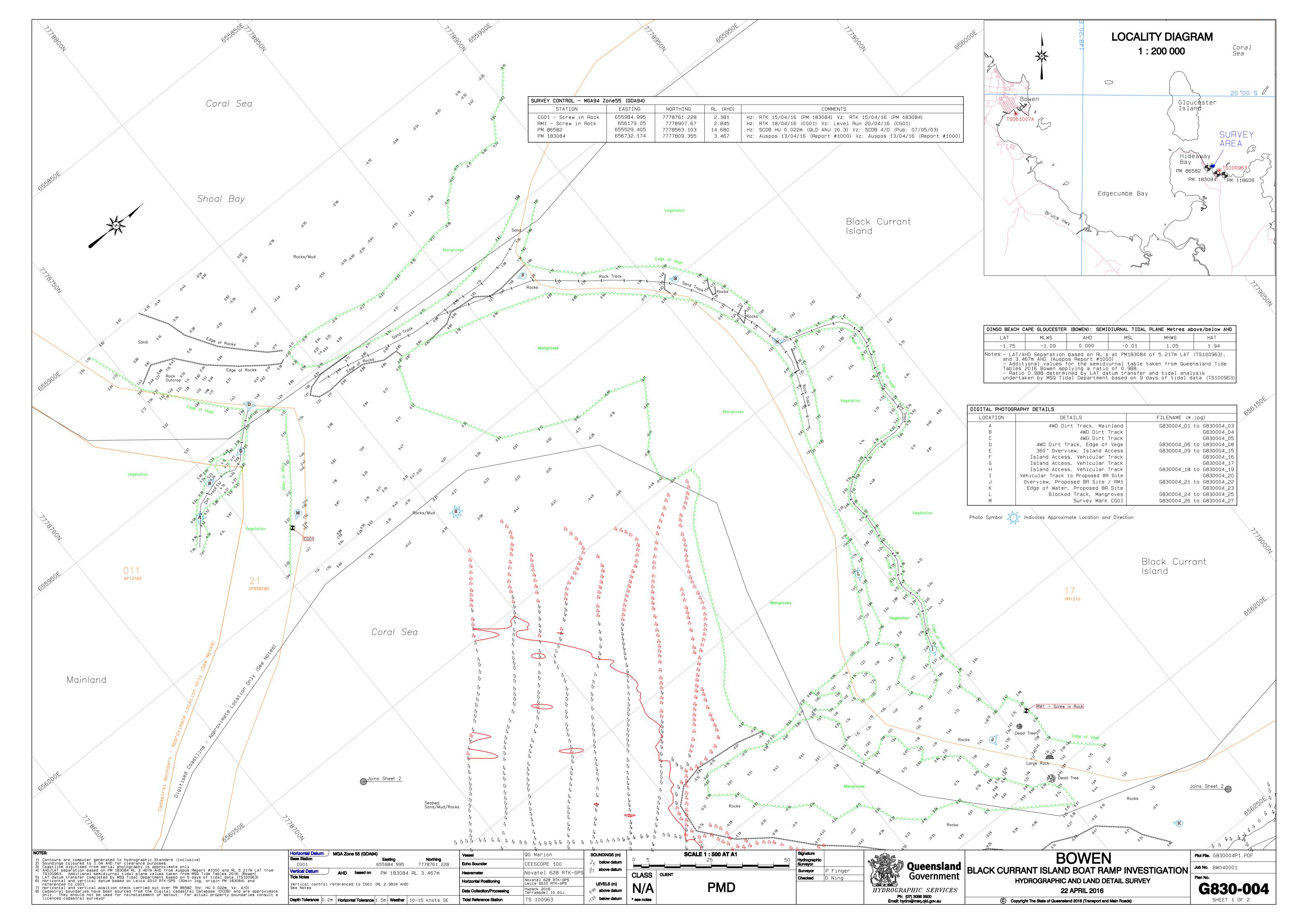
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# Vegetation management report

For Lot: 21 Plan: CP858290

Current as at 18/07/2016



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#### **Overview**

The management and clearing of native vegetation in Queensland is regulated by the *Vegetation Management Act 1999*, the Vegetation Management Regulation 2009, the *Sustainable Planning Act 2009* and the Sustainable Planning Regulation 2009 in conjunction with associated policies and codes. These legislation, policies and codes are referred to as the Vegetation Management Framework.

Many routine vegetation management activities can be carried out under exemptions or self-assessable codes under the *Vegetation Management Act 1999*. Other activities may require you to apply for a development approval under the *Sustainable Planning Act 2009*. The requirements for a permit depend on the type of vegetation, the land tenure (e.g. freehold or leasehold land), the location, and the extent and purpose of the proposed clearing. In urban areas, vegetation may be regulated by local government provisions even if it is not regulated vegetation under the VMA.

The information in this report will assist you to determine the options for managing vegetation on your property. Based on the lot on plan you have supplied, this report provides the following detailed information:

- 1. *Property region* the local government area, bioregion(s), subregion(s), catchment(s) and any applicable area management plans associated with your property.
- 2. Vegetation management framework an explanation of the options that may be available to manage vegetation on your property.
- 3. Property details for the specified Lot on Plan specific information about your property including land tenure, vegetation categories, regional ecosystems, watercourses, wetlands, essential habitat, land suitability and protected plants.
- 4. Maps a series of colour maps to assist in identifying regulated vegetation on your property including:
- regulated vegetation management map
- vegetation management map
- proposed regulated vegetation management map
- proposed vegetation management map
- land suitability map
- protected plants map.

Please note, the Government has proposed changes to the Category C and Category R areas which are shown on the proposed regulated vegetation management map. For more information on these changes, please refer to the Department's website.

#### **Table of Contents**

1 Droporty roai	Table of Contents
. , ,	ions
ŭ	nanagement framework
2.1	1 Exemptions
2.2	2 Self-assessable codes
2.3	B Area management plans
2.4	4 Development approvals
3. Property deta	ails for Lot: 21 Plan: CP858290
3.1	1 Tenure
3.2	2 Vegetation categories
3.3	Regional ecosystems
3.4	4 Watercourses
3.5	5 Wetlands
3.6	6 Essential habitat
3.7	7 Land suitability
3.8	3 Protected plants
3.9	9 Emissions Reduction Fund (ERF)
4. Contacts for	further information
5. Maps	
5.1	Regulated vegetation management map
	2 Vegetation management supporting map
5.3	3 Proposed regulated vegetation management map
	Proposed vegetation management supporting map
	5 Land suitability map ...............................17
F 6	C Drotoctod planto man

# 1. Property regions

Table 1 provides a summary of the regions that property Lot: 21 Plan: CP858290 is located within.

#### **Table 1: Property regions**

Local Government(s)	
Whitsunday Regional	

Bioregion(s)	Subregion(s)	
Central Queensland Coast	Debella	

Catchment(s)
Proserpine

Area Management Plan(s): Nil

# 2. Vegetation management framework

Vegetation clearing is regulated under the *Vegetation Management Act 1999* (VMA) and the *Sustainable Planning Act 2009* (SPA). A development approval is required to clear where the clearing is not exempt under the SPA, or where it cannot be carried out under a self-assessable clearing code or an area management plan under the VMA.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenure types as defined under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing vegetation not regulated under the VMA may require permits under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- a) grass or non-woody herbage;
- b) a plant within a grassland regional ecosystem; and
- c) a mangrove.

The regulated vegetation management map, the vegetation management map, the land suitability map and the protected plants map provided in section 4 and the information provided in section 2 and 3 of this report will assist you in identifying clearing suitability and enable you to determine whether your proposed clearing is:

- · exempt;
- requires notification and compliance with a self-assessable code or area management plan; or
- requires a development approval.

# 2.1 Exemptions

The vegetation management framework allows clearing for certain purposes without approval, known as an exemption.

Areas that are mapped as Category X (white in colour) on the regulated vegetation management map (section 5.1) on most State land tenures are exempt and therefore do not require a development approval or notification.

There are other exemptions that apply to a range of routine property management activities. A list of these is available at <a href="https://www.gld.gov.au/environment/land/vegetation/exemptions/">https://www.gld.gov.au/environment/land/vegetation/exemptions/</a>.

Although vegetation management laws may allow clearing under an exemption, there may be other state, local or Commonwealth laws that apply. Exemptions may not apply if the vegetation is subject to permit conditions, a covenant, an

offset or restrictions as a result of unlawful clearing.

#### 2.2 Self-assessable codes

Some clearing activities can be undertaken using a self-assessable vegetation clearing code and notification process. The codes can be downloaded at

https://www.gld.gov.au/environment/land/vegetation/codes/

If you intend to clear vegetation under a self-assessable vegetation clearing code, you must notify the department before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at

https://apps.dnrm.qld.gov.au/vegetation/

## 2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

If an area management plan applies to your property, it will be listed in Table 1 of this report.

To clear under an existing AMP, you must notify the DNRM before clearing starts and follow the conditions listed in the AMP. You can download the area management clearing notification form and obtain a copy of the relevant AMP at <a href="https://www.qld.gov.au/environment/land/vegetation/area-plans/">https://www.qld.gov.au/environment/land/vegetation/area-plans/</a>

# 2.4 Development approvals

If your proposed clearing is not exempt, or is not permitted under a self-assessable vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at <a href="https://www.gld.gov.au/environment/land/vegetation/applying/">https://www.gld.gov.au/environment/land/vegetation/applying/</a>

# 3. Property details for Lot: 21 Plan: CP858290

#### 3.1 Tenure

All of the lot, plan and tenure information associated with property Lot: 21 Plan: CP858290, including links to relevant Smart Maps, are listed in Table 2. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 2: Lot, plan and tenure information for the property

Tenure	Lot	Plan	Link to property on SmartMap
Reserve	21	CP858290	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=21\CP858290

The tenure of the land determines whether certain exemptions are applicable.

Some self-assessable codes apply only to freehold and leasehold land granted for grazing and agricultural purposes.

# 3.2 Vegetation categories

Please note, the Government has proposed changes to the Category C and Category R areas which are shown on the proposed regulated vegetation management map. For more information on these changes, please refer to the Department's <u>website</u>.

Vegetation categories are shown on the regulated vegetation management map in section 5.1 of this report. Descriptions for these categories are shown in Table 3.

Table 3

Category	Colour on Map	Description	Requirements
А	red	Compliance areas, environmental offset areas and voluntary declaration areas	Clearing requires a development approval, exemption, or self-assessable clearing code or area management plan notification.
В	dark blue	Remnant vegetation areas	Clearing requires a development approval, exemption, or self-assessable clearing code or area management plan notification.
С	light blue	High-value regrowth areas	Clearing requires exemption, or self-assessable clearing code or area management plan notification.
R	yellow	Regrowth within 50m of a watercourse in the priority reef catchment areas	Clearing requires exemption, or self-assessable clearing code or area management plan notification.
X	white	Areas not regulated under the Vegetation Management Act 1999	No permit or notification required on all but certain state land tenures.

The vegetation categories on this property are listed in Table 4.

Table 4: Vegetation categories for subject property

Vegetation category		
Category Water		
Category B		

# 3.3 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 5.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at <a href="https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/">https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/</a>

Table 5: Regional ecosystems present on subject property

Regulated vegetation description	Regional ecosystem patch
rem_oc	8.2.2/8.2.1
rem_leastc	8.12.6
rem_end	8.5.2

rem\_leastc is vegetation category A or B with a VMA status of least concern rem\_oc is vegetation category A or B with a VMA status of concern rem\_end is vegetation category A or B with a VMA status of endangered hvr\_leastc is vegetation category C or R with a VMA status of least concern hvr\_oc is vegetation category C or R with a VMA status of concern hvr\_end is vegetation category C or R with a VMA status of endangered

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exemptions
- performance outcomes in State Development Assessment Provisions (SDAP)
- self-assessable codes.

Some clearing purposes are limited to a particular group of regional ecosystems (e.g. encroachment) and some self-assessable codes allow clearing only in certain regional ecosystems.

#### 3.4 Watercourses

Vegetation management watercourses for this property are shown on the vegetation management supporting map in section 5.2.

#### 3.5 Wetlands

There are no vegetation management wetlands present on this property.

## 3.6 Essential habitat

Any essential habitat on this property will be shown on the vegetation management supporting map in section 5.2.

Essential habitat identifies areas in which species of wildlife that are endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992* have been known to occur. These important habitat areas are protected under the VMA.

If essential habitat is identified on this property, the information about the protected wildlife species is provided in Table 6 below (if no table is displayed below, there has not been any essential habitat identified on this property). The species label is shown on the vegetation management supporting map in section 5.2. The essential habitat factors are stated in the columns marked with an asterisk.

Table 6: Endangered, vulnerable, rare or near threatened wildlife species identified within the property (if no table is shown below, there is no essential habitat identified on the property)

Label	Scientific Name	Common Name	NCA Status	*Vegetation Community	*Altitude
1010	Taphozous australis	Coastal Sheathtail Bat	V	All habitats within a few kilometres of coast, e.g. dune mesophyll/sclerophyll scrub, mangroves (Rhizophora, Bruguiera), heath, open forest/woodland, rainforest/monsoon forest and Melaleuca/sedge swamp, rocky escarpments ± low shrubfield.	Sea level to 150m.

Label	Scientific Name	Common Name	NCA Status	*Vegetation Community	*Altitude
10046	Glossocardia orthochaeta	None	E	Very tall open woodland of Araucaria cunninghamii with mid dense shrub layer	500 to 1000 m

#### Additional essential habitat information

3.1.2, 3.1.3, 3.1.4, 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5, 3.2.6, 3.2.7, 3.2.8, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.2.13, 3.2.14, 3.2.15, 3.2.16, 3.2.17, 3.2.18, 3.2.20, 3.2.21, 3.2.22, 3.2.28, 3.2.29, 3.2.30, 3.2.31, 3.3.1, 3.3.2, 3.3.4, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.12, 3.3.13, 3.3.14, 3.3.16, 3.3.17, 3.3.18, 3.3.19, 3.3.20, 3.3.21, 3.3.22, 3.3.23, 3.3.24, 3.3.25, 3.3.26, 3.3.27, 3.3.28, 3.3.29, 3.3.30, 3.3.31, 3.3.32, 3.3.33, 3.3.34, 3.3.36, 3.3.37, 3.3.38, 3.3.39, 3.3.40, 3.3.41, 3.3.42, 3.3.43, 3.3.44, 3.3.45, 3.3.46, 3.3.47, 3.3.48, 3.3.49, 3.3.50, 3.3.51, 3.3.52, 3.3.53, 3.3.54, 3.3.63, 3.3.67, 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8, 3.5.9, 3.5.10, 3.5.11, 3.5.12, 3.5.13, 3.5.14, 3.5.15, 3.5.16, 3.5.17, 3.5.18, 3.5.20, 3.5.21, 3.5.22, 3.5.23, 3.5.24, 3.5.25, 3.5.26, 3.5.27, 3.5.28, 3.5.31, 3.7.1, 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.6, 3.8.1, 3.8.2, 3.8.3, 3.9.2, 3.9.5, 3.9.6, 3.9.7, 3.10.1, 3.10.2, 3.10.3, 3.10.5, 3.10.16, 3.10.7, 3.10.8, 3.10.9, 3.10.10, 3.10.11, 3.10.12, 3.10.13, 3.10.14, 3.10.15, 3.10.16,
, 3.3.16, 3.3.17, 3.3.18, 3.3.19, 3.3.20, 3.3.21, 3.3.22, 3.3.23, 3.3.24, 3.3.25, 3.3.26, 3.3.27, 3.3.28, 3.3.29, 3.3.30, 3.3.31, 3.3.32, 3.3.33, 3.3.34, 3.3.36, 3.3.37, 3.3.38, 3.3.39, 3.3.40, 3.3.41, 3.3.42, 3.3.43, 3.3.44, 3.3.45, 3.3.46, 3.3.47, 3.3.48, 3.3.49, 3.3.50, 3.3.51, 3.3.52, 3.3.53, 3.3.54, 3.3.63, 3.3.67, 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8, 3.5.9, 3.5.10, 3.5.11, 3.5.12, 3.5.13, 3.5.14, 3.5.15, 3.5.16, 3.5.17, 3.5.18, 3.5.20, 3.5.21, 3.5.22, 3.5.23, 3.5.24, 3.5.25, 3.5.26, 3.5.27, 3.5.28, 3.5.31, 3.7.1, 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.6, 3.8.1, 3.8.2, 3.8.3, 3.9.2,
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, 3.3.63, 3.3.67, 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8, 3.5.9, 3.5.10, 3.5.11, 3.5.12, 3.5.13, 3.5.14, 3.5.15, 3.5.16, 3.5.17, 3.5.18, 3.5.20, 3.5.21, 3.5.22, 3.5.23, 3.5.24, 3.5.25, 3.5.26, 3.5.27, 3.5.28, 3.5.31, 3.7.1, 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.6, 3.8.1, 3.8.2, 3.8.3, 3.9.2,
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3.9.5, 3.9.6, 3.9.7, 3.10.1, 3.10.2, 3.10.3, 3.10.5, 3.10.6, 3.10.7, 3.10.8, 3.10.9, 3.10.10, 3.10.11, 3.10.12, 3.10.13, 3.10.14, 3.10.15, 3.10.16,
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2, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.64, 7.12.65, 7.12.66, 7.12.68, 7.12.69,
8.1.2, 8.1.3, 8.1.4, 8.1.5, 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.2.5, 8.2.6, 8.2.7, 8.2.8, 8.2.9, 8.2.10, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.4,
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5, 8, 12, 26, 8, 12, 27, 8, 12, 28, 8, 12, 29, 8, 12, 32, 11, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1
5, 3, 2, 4, 8, 8,

Label	*Regional Ecosystem (mandatory)
10046	9.12.2; 9.12.19

# 3.7 Land suitability

Land suitability mapping and information is required if you are applying to clear vegetation for high value or irrigated high value agriculture. Land suitability assessment addresses the capacity of land to sustain specific land uses such as cropping, irrigated agriculture and forestry.

A land suitability map for this property is provided in section 5.3. The map provides detailed land suitability, agricultural land classification, or soil and land resource mapping data where it is available.

The land suitability project that applies to this property is shown in Table 7 and Table 8.

Table 7: Land suitability project details for this property

Project name	Project code	Start date	Scale
Whitsunday Integrated Land Use Study	WCS	1998-01-01 00:00:00	50000
No data	No data	None	NA

#### Table 8: Available land suitability project reports for this property

Project name	Availability of report
Whitsunday Integrated Land Use Study	Available at www.publications.qld.gov.au
No data	NA

## 3.8 Protected plants

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992*. The Act endeavours to ensure that protected plants (whole plants or protected plant parts) are not illegally removed from the wild or illegally traded.

Prior to clearing, you must check the flora survey trigger map to determine if the clearing is within a high risk area. The trigger map for this property is provided in section 5.4.

If your property is in a high risk area, a flora survey must be undertaken and a clearing permit may be required for clearing endangered, vulnerable and near threatened plants (EVNT plants) and their supporting habitat.

If a flora survey identifies that EVNT plants are not present or can be avoided by 100m, the clearing activity may be exempt from a permit. An exempt clearing notification form is required. This form can be downloaded at <a href="http://www.ehp.qld.gov.au/licences-permits/plants-animals/protected-plants/">http://www.ehp.qld.gov.au/licences-permits/plants-animals/protected-plants/</a>

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present.

Clearing of least concern plants is exempt from requiring a clearing permit within a low risk area.

To be eligible for certain clearing exemptions you need to keep a copy of the map for the area subject to clearing. Protected plants flora survey trigger maps are valid for a period of 12 months from the date of request. After 12 months you will need to obtain a new protected plants flora survey trigger map to determine clearing requirements for your area of interest. This can be accessed online at

http://www.ehp.qld.gov.au/licences-permits/plants-animals/protected-plants/map-request.php

For further information or assistance on the protected plants flora survey trigger map for this property, please contact the Department of Environment and Heritage Protection at <a href="mailto:palm@ehp.gld.gov.au">palm@ehp.gld.gov.au</a>

# 3.9 Emissions Reduction Fund (ERF)

The ERF is an Australian Government scheme which offers incentives for businesses and communities across the economy to reduce emissions.

Under the ERF, farmers can earn money from activities such as planting (and keeping) trees, managing regrowth vegetation and adopting more sustainable agricultural practices.

The purpose of a project is to remove greenhouse gases from the atmosphere. Each project will provide new economic opportunities for farmers, forest growers and land managers.

Further information on ERF is available at https://www.qld.gov.au/environment/land/state/use/carbon-rights/

#### 4. Contacts for further information

For further information on vegetation management:

Phone 135VEG (135 834)

Email vegetation@dnrm.qld.gov.au

Visit www.dnrm.qld.qov.au/our-department/contact-us/vegetation-contacts to submit an online enquiry.

# 5. Maps

The maps included in this report may also be requested individually at:

https://www.dnrm.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form and

http://www.ehp.qld.gov.au/licences-permits/plants-animals/protected-plants/map-request.php

#### Regulated vegetation management map

The regulated vegetation management map shows vegetation categories to determine clearing requirements. These maps are updated monthly to show new <u>property maps of assessable vegetation</u>

#### Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

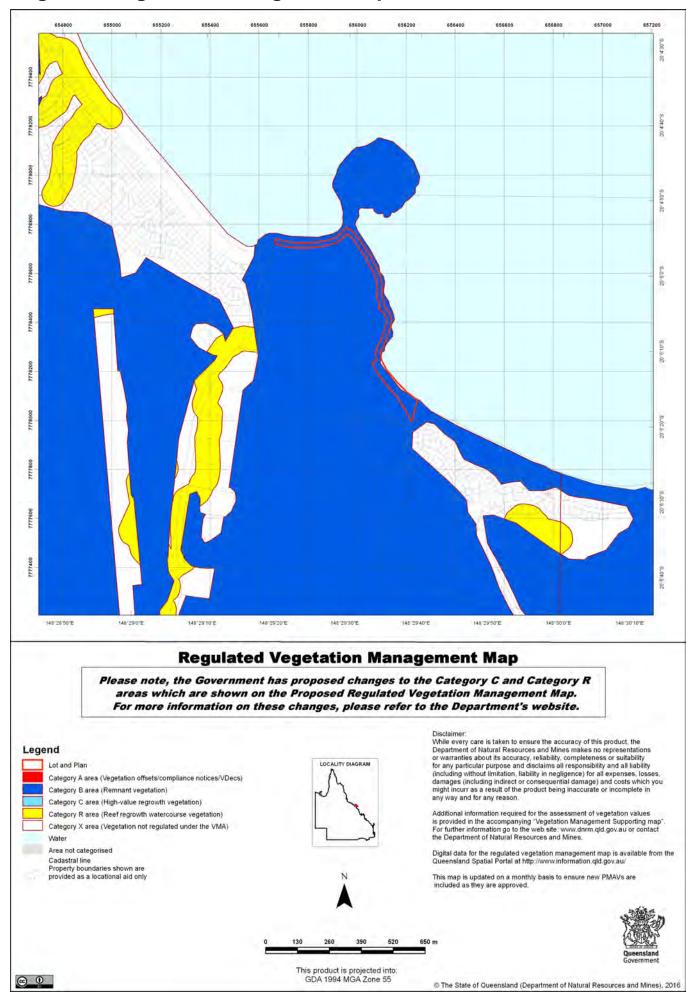
#### Land suitability map

The land suitability map assists with identifying the land suitability category under the high value and irrigated high value agriculture vegetation clearing purpose.

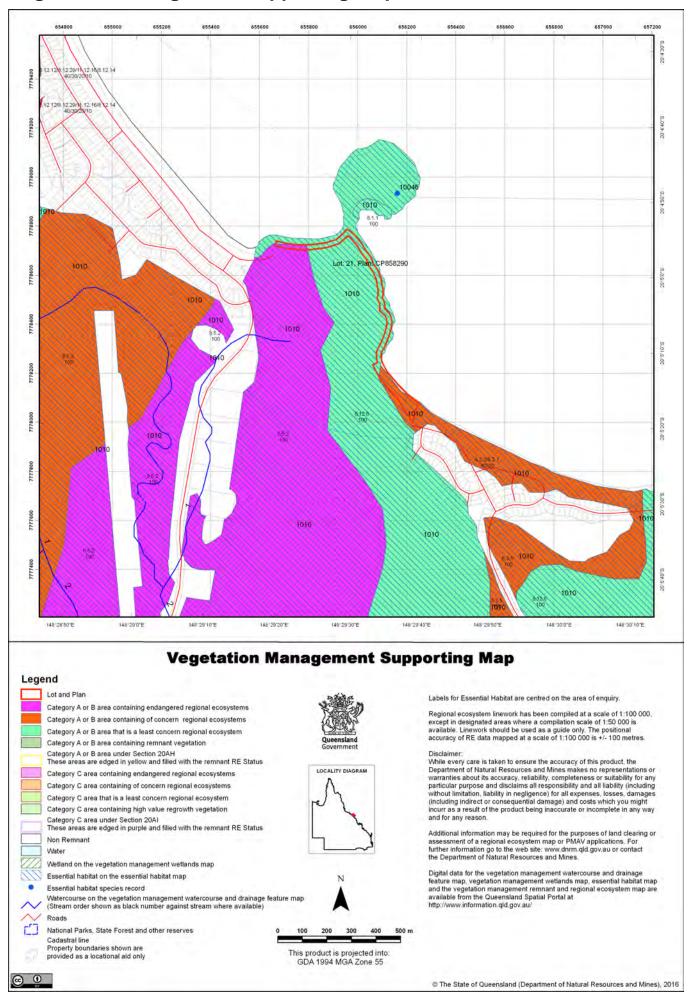
#### Protected plants map

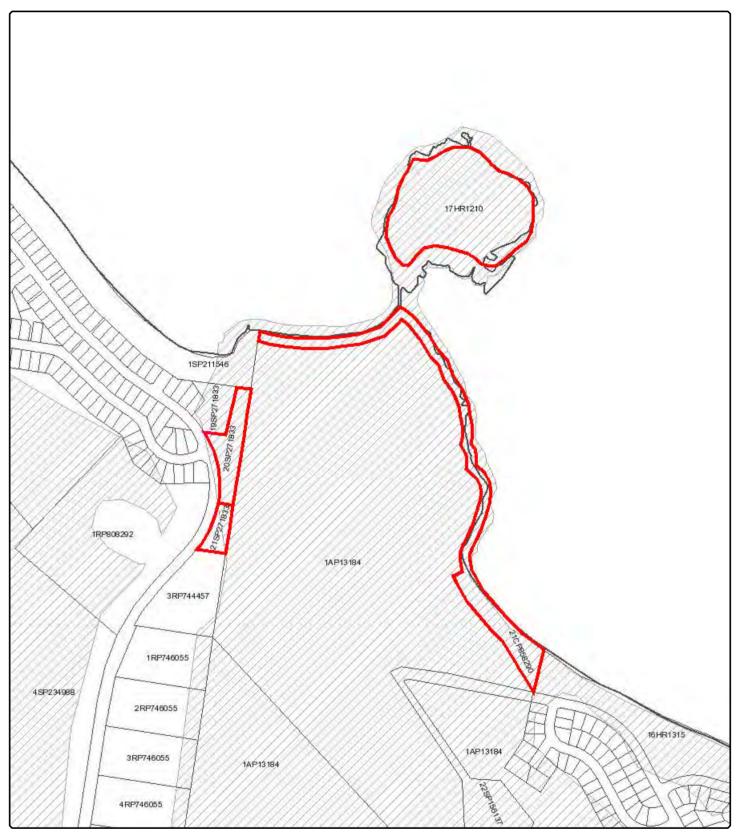
The protected plants map shows areas where particular provisions of the *Nature Conservation Act 1992* apply to the clearing of protected plants.

## 5.1 Regulated vegetation management map



## 5.2 Vegetation management supporting map





### **State Assessment and Referral Agency** Date: 18/07/2016

Department of Infrastructure Local Government and Planning Queensland © The State of Queensland 2016. Government

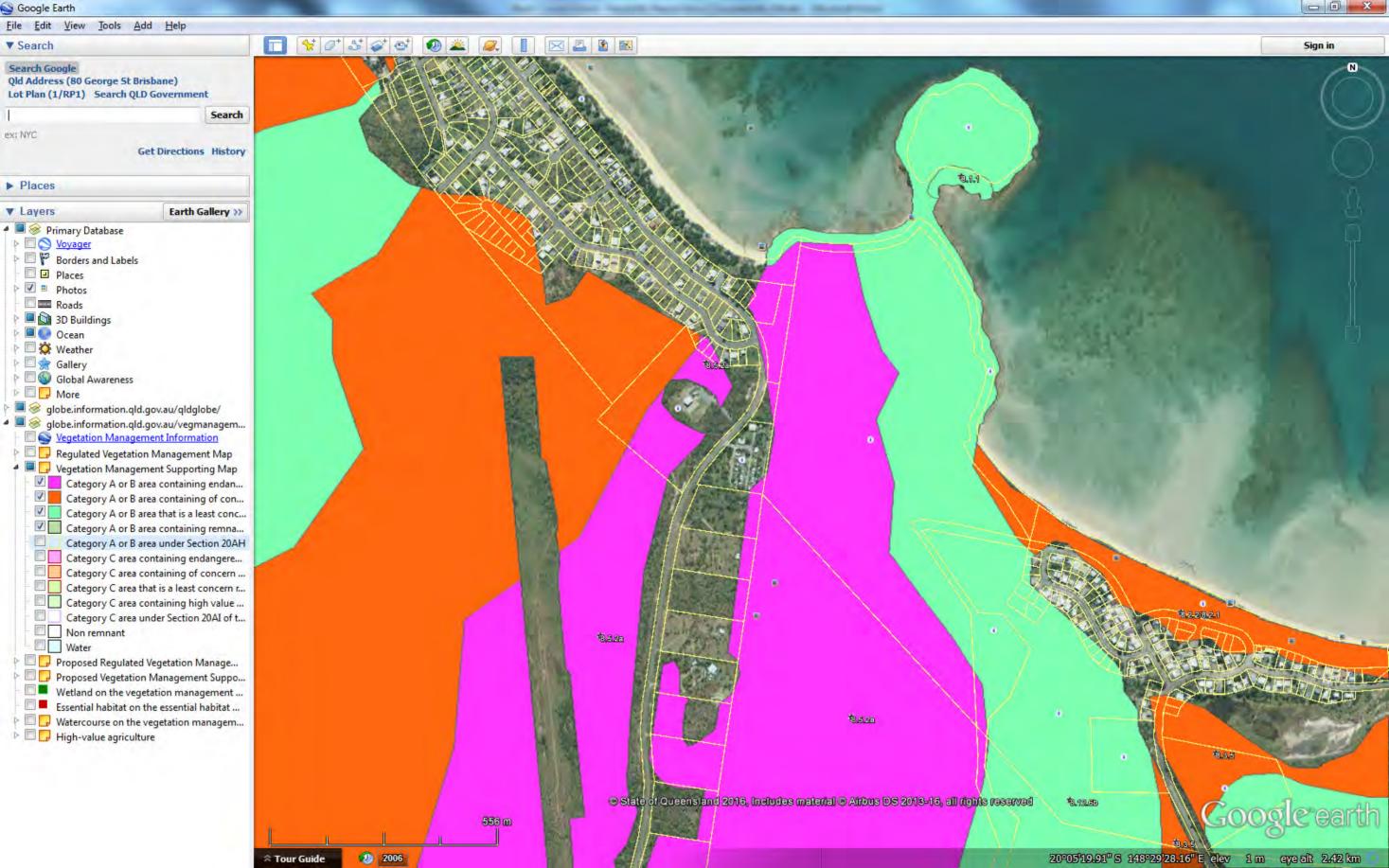
#### 140 280 420 560 Metres

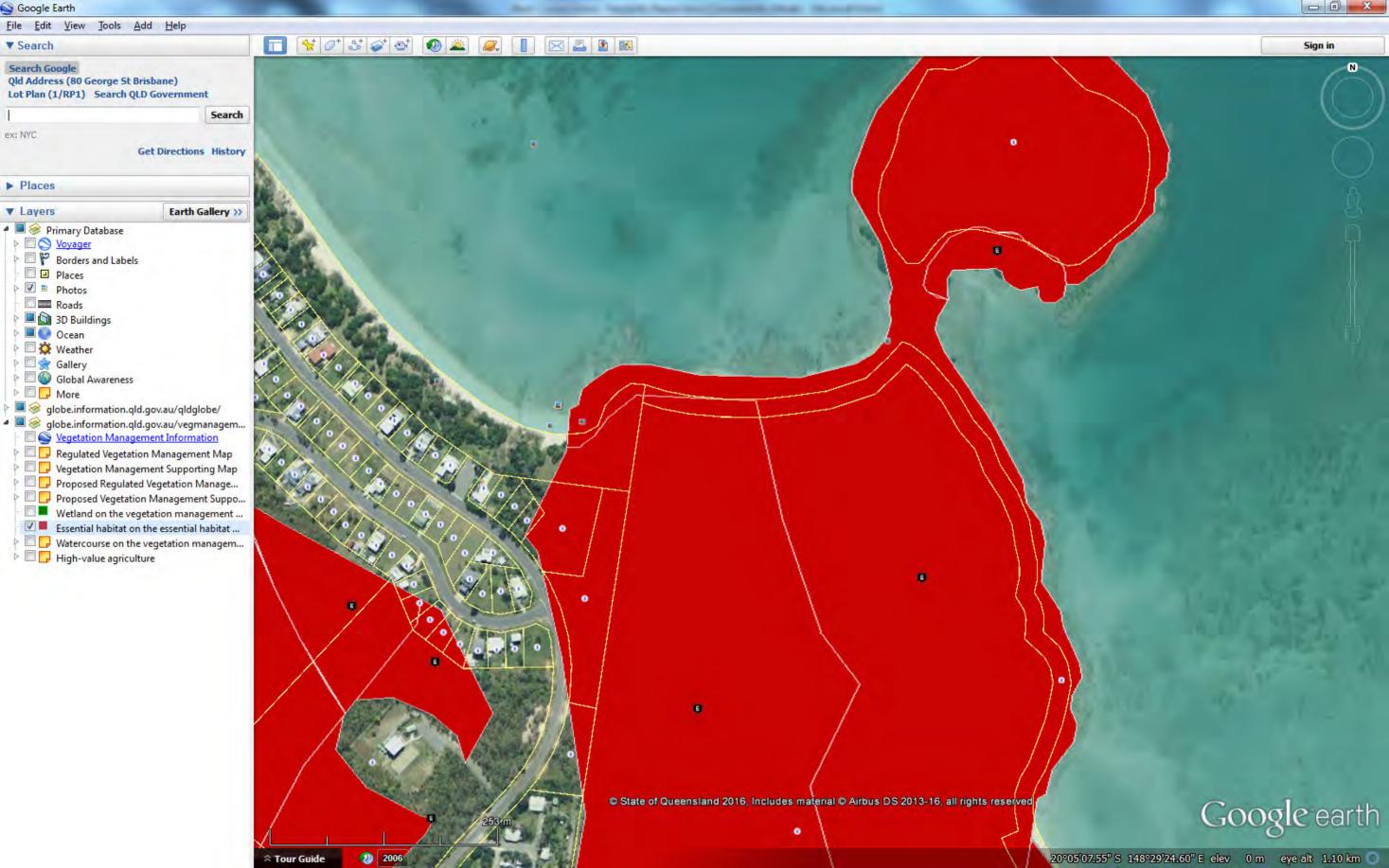
### Legend

Category A and B extract from the regulated vegetation management map

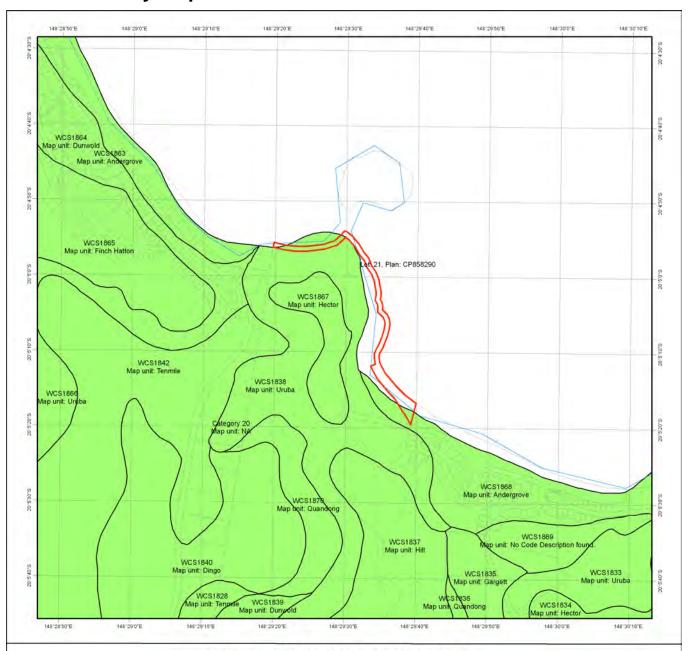
Category A on the regulated vegetation management map

Category B on the regulated vegetation management map





### 5.5 Land suitability map

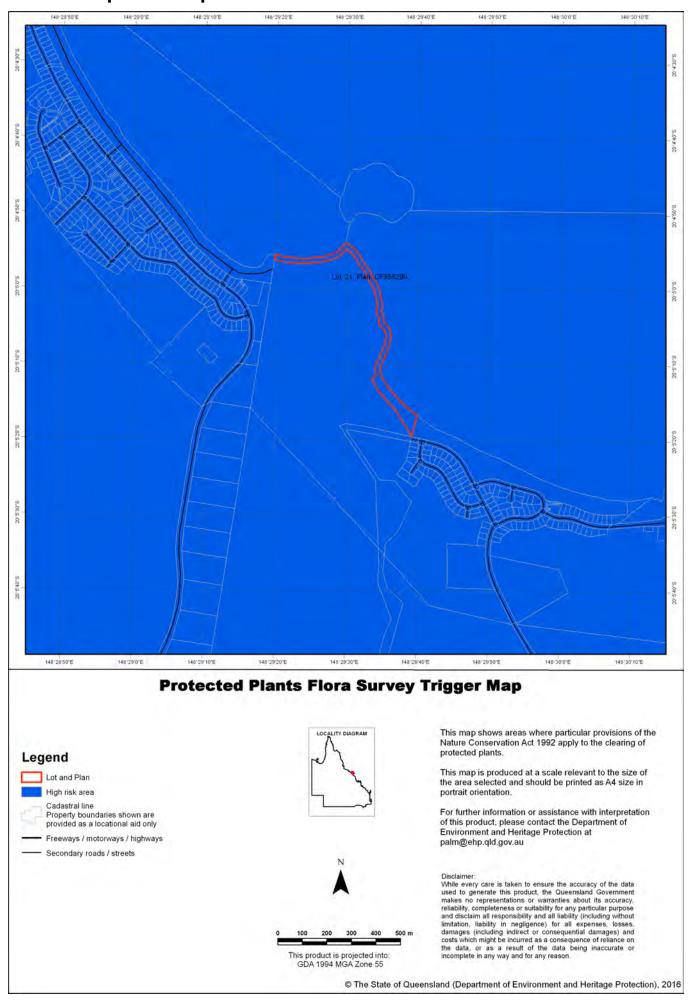


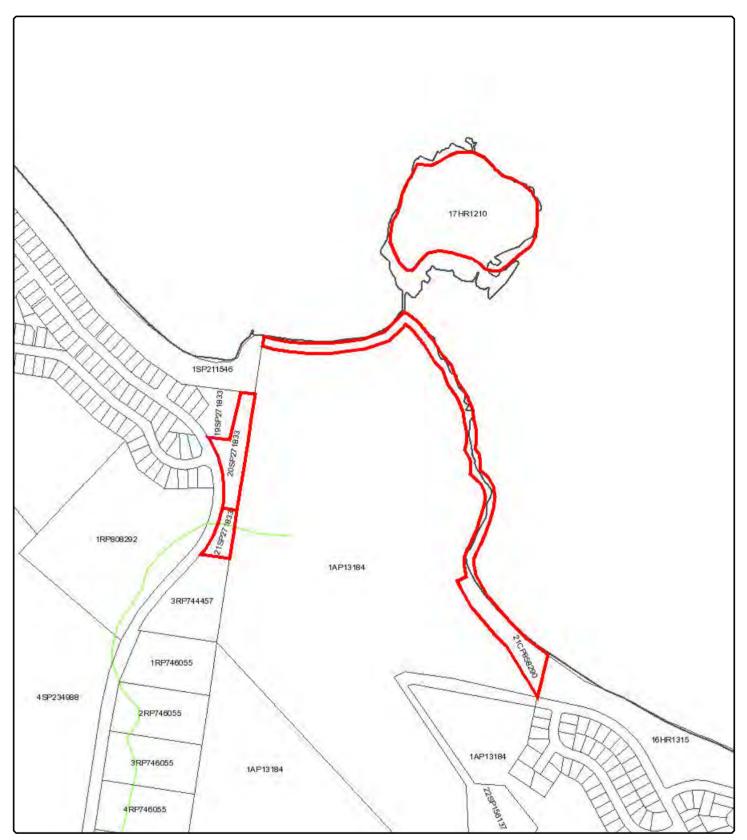
#### **Land Suitability Overview Map**

#### Legend Important information Lot and Plan The Land Suitability Overview Map assists with identifying the Land Suitability category under the high value and irrigated high value agriculture vegetation clearing purpose. This map provides detailed land suitability, agricultural land Land suitability mapping 1:100,000 scale or better (Category 2 or 3\*) Land suitability mapping greater than 1:100,000 scale (Category 4) classification, or soil and land resource mapping data where No mapping available (Category 4) it is available on the selected lots. Where no data is LOCALITY DIAGRAM available, the maps will be blank, with no mapping visible. \* Category 3 applies to applications where there is some land resource mapping or information available however it either Further information on these categories is available in the Guideline for applying to clear for high-value or irrigated highdoes not cover the entire area, or the land suitability mapping and information does not identify the land as suitable for the value agriculture (www.dnrm.qld.gov.au). proposed crop and management systems. All persons and organisations by using this map take all responsibility All persons and organisations by using this map take all responsibility for assessing the relevance and accuracy of the map contents for their purpose and accept all risks associated with its use. The State of Queensland (as represented by the Department of Natural Resources and Mines) makes no representations or warranties in relation to the map contents, and, to the extent permitted by law, excludes or limits all warranties relating to correctness, accuracy, reliability, completeness or currency and all disclaims all liability for any direct, indirect and consequential costs, losses, damages and expenses incurred in any way (including but not limited to that arising from negligence) in connection with any use of or reliance on the map contents. This product is projected into: GDA 1994 MGA Zone 55

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## 5.6 Protected plants map

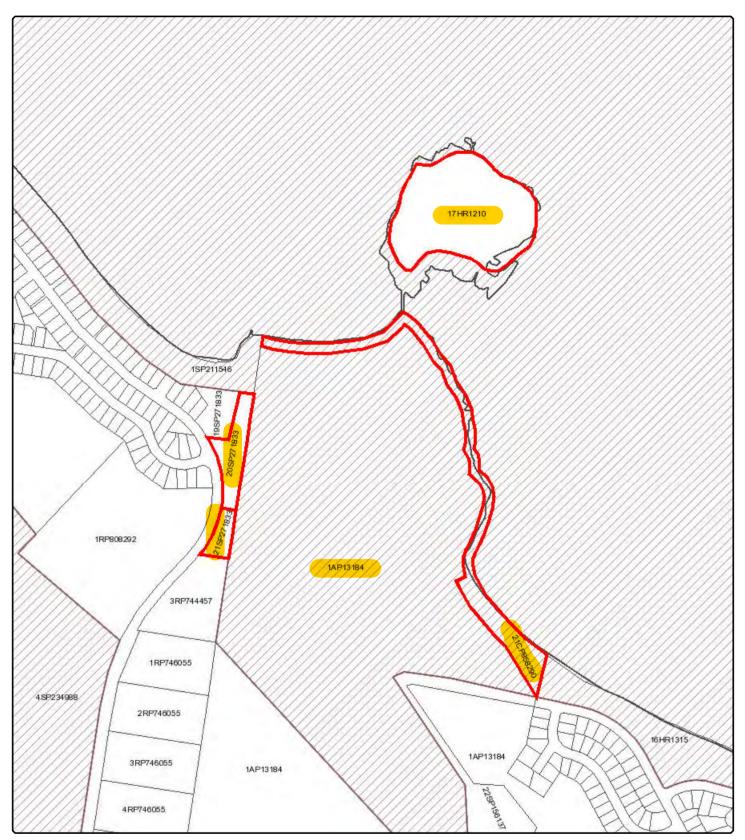




### **State Assessment and Referral Agency** Date: 18/07/2016

Department of Infrastructure Legend Local Government Qld waterways for waterway barrier and Planning works Queensland © The State of Queensland 2016. 1 - Low Government 2 - Moderate 140 280 420 560 3 - High Metres 4 - Major

Disclaimer:
This map has been generated from the information supplied to the Department of Infrastructure, Local Government and Planning for the purposes of the DA Mapping System. It has been prepared with due care based on the best available information at the time of publication. The State of Queensland holds no responsibility for any errors, inconsistencies or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties.



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140 280 420 560 Metres

#### Legend

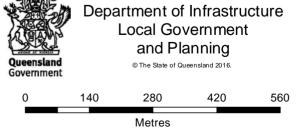
Coastal management district



Coastal management district

Government





Date: 18/07/2016

## Legend

MSES - Regulated vegetation

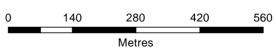
MSES - Regulated vegetation





### Department of Infrastructure Local Government and Planning

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Date: 18/07/2016

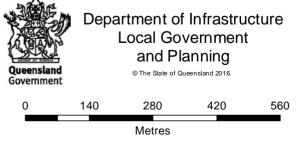
#### Legend

MSES - Wildlife habitat



MSES - Wildlife habitat



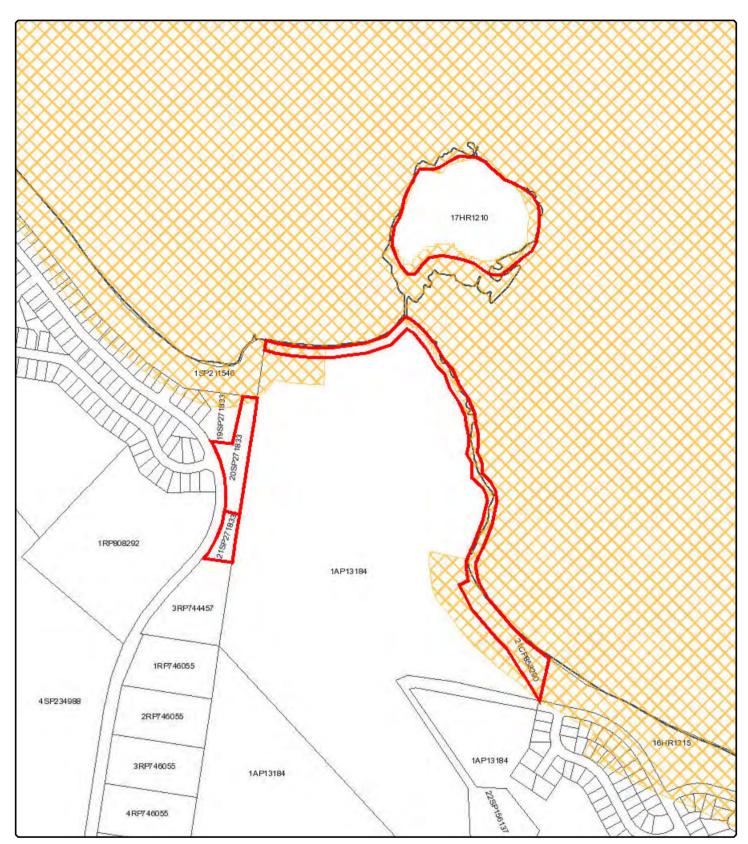


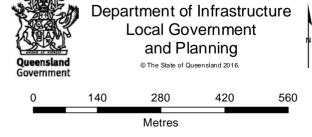
Date: 18/07/2016

#### Legend

MSES - Regulated vegetation (intersecting a watercourse)

MSES - Regulated vegetation (intersecting a watercourse)





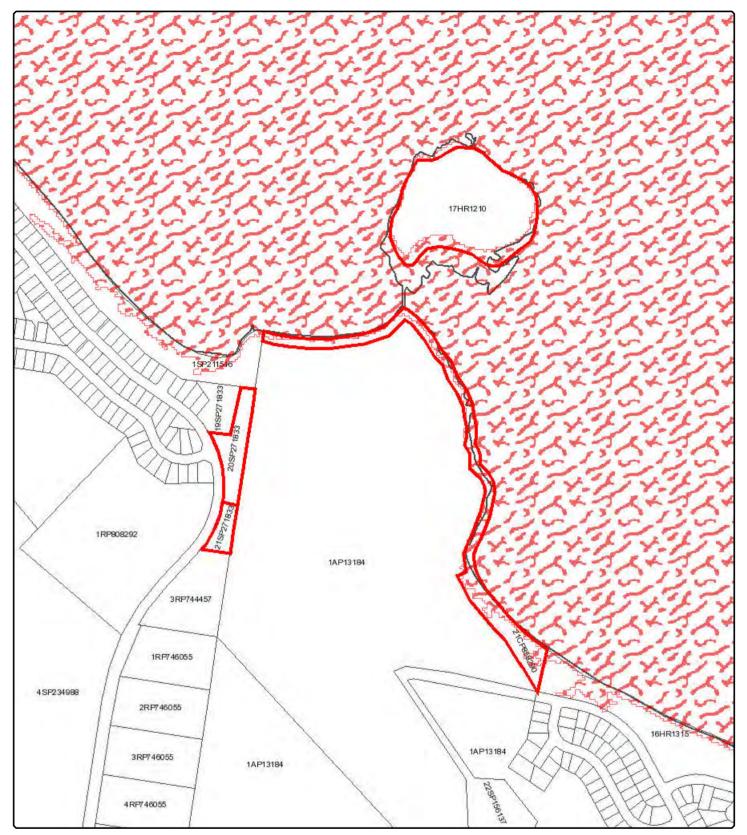
Date: 18/07/2016

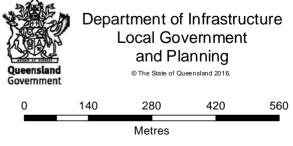
### Legend

Coastal hazard area - erosion prone area



Coastal hazard area - erosion prone area





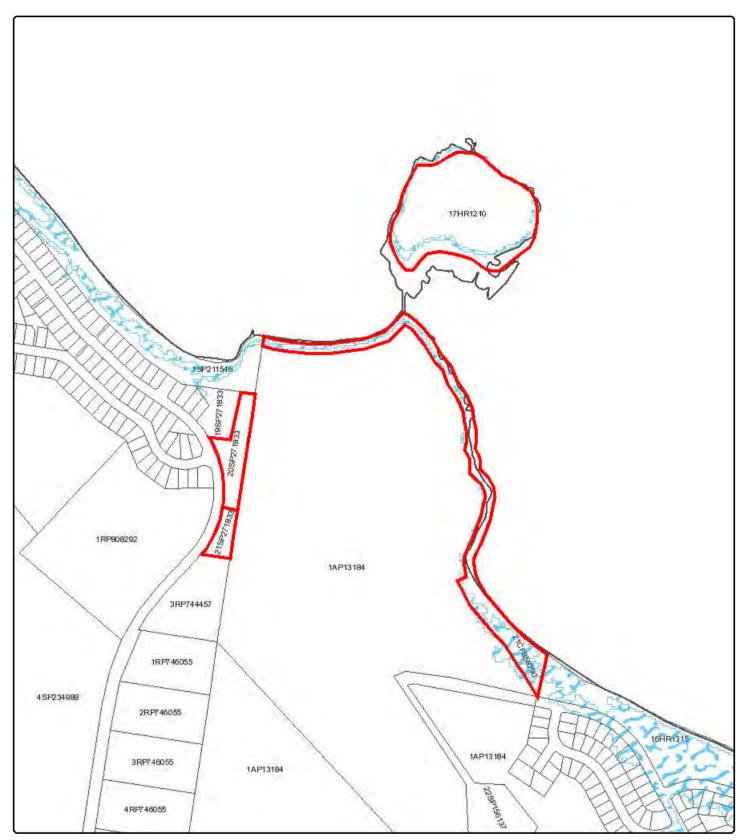
Date: 18/07/2016

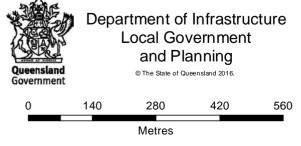
#### Legend

Coastal hazard area - high storm tide inundation area



Coastal hazard area - high storm tide inundation area





Date: 18/07/2016

#### Legend

Coastal hazard area - medium storm tide inundation area



Coastal hazard area - medium storm tide inundation area



APPENIDX C - ENGINEERING FEASIBILITY STATEMENT

106698-49; Version 1 APPENDICES

Whitsunday Regional Council C/- RPS Australia Asia Pacific Suite 4b Whitsunday Business Centre 230 Shute Harbour Road CANNONVALE QLD 4802

Attention: Mr Barwon Gooch

Dear Barwon

#### BLACKCURRANT ISLAND (LOT 1 ON AP13184, LOT 17 ON HR1210 & LOT 21 ON CP858290) GLOCESTER AVENUE, HYDEAWAY BAY, QLD, 4802 PROPOSED BOAT RAMP – ENGINEERING FEASIBILITY STATEMENT

As requested by RPS Group (Airlie Beach), in email advice dated 29 June 2016, an engineering assessment has been carried out to determine the feasibility of developing a boat ramp on Blackcurrant Island.

#### **Background**

The subject site is situated at the southern end of Hydeaway Bay and is connected to the mainland via an existing natural causeway (accessible at most times other than high tide). The site locality is shown in Figure 1 below.

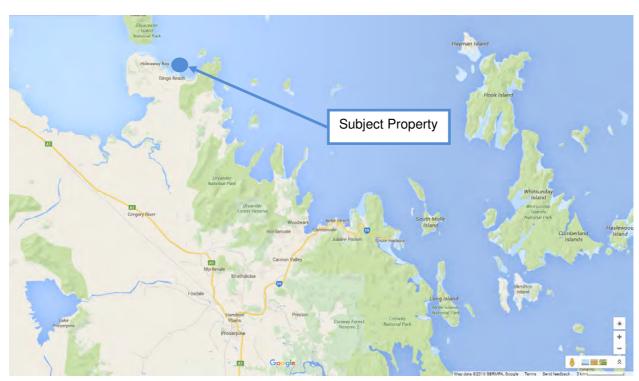


Figure 1: Site Locality
SOURCE: Google Map Data

The scope of this feasibility assessment consisted of the following aspects:

- A site inspection to Blackcurrant Island, Gloucester Avenue, the land between Gloucester Avenue and Blackcurrant Island, and existing infrastructure (overhead power lines). A number of the features inspected during the site visit are highlighted on the attached aerial view in Figure 2 below; and
- Identifying the extent of engineering work required to deliver the development and quantifying the associated costs and timeframes.

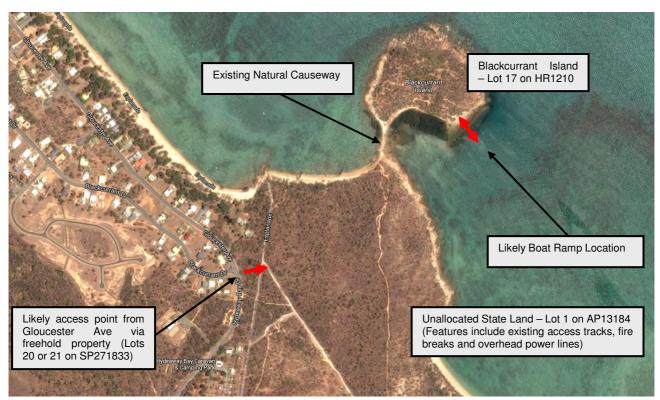


Figure 2: Site Aerial View
SOURCE: Google Earth Data and Site Inspection

#### The Proposal

Development of the boat ramp on Blackcurrant Island is anticipated to involve provision of the following land based infrastructure (excludes sea based infrastructure like navigational lights):

- 1. An access road connecting Gloucester Avenue to the existing natural causeway,
- 2. Upgrade of the existing natural causeway to an all tide access,
- 3. Access and car parking areas on Blackcurrant Island (approximate parking for 40 vehicles with trailers).
- 4. A dual use boat ramp,
- 5. Amenities, including on site effluent disposal and potable water storage,
- 6. Power supply for amenities and streetlights, and
- 7. Line-marking and signage

A conceptual layout of the proposed development and related infrastructure is illustrated in Attachment 1 and the ownership details of the land upon which the development would occur is shown in Attachment 2.

It should be noted that access to private land (Lots 20 & 21 on SP271833) will need to be negotiated in order for this development to achieve the proposed outcome. No attempt has been made by the author to assess the costs relating to the purchase of access rights or the timeframe to negotiate same.

### The Delivery

The scope of engineering and construction work required to deliver the infrastructure for this development is detailed in Table 1 below.

Item	Description	Cost (ex GST)	Timeframe
Planning (Development Application)		\$90,000	6 months
1	Negotiate access rights to Lot 20 or 21	By Others	By Others
2	Prepare detail, level and contour survey over defined land in Lots 20 or 21, Lot 1 and Lot 17	\$20,000	1 month
3	Carry out a hydrographic survey to boat ramp area and surrounding offshore areas (below high water mark)	\$NIL	Completed by DTMR
4	Carry out coastal processes and tidal hydrodynamic studies	\$35,000	3 months
5	Investigate and report on geotechnical stability, effluent disposal and acid sulphate potential (& management)	\$15,000	1 month
6	Prepare preliminary site layout and road drawings detailing road and car park arrangement, causeway crossing level and alignment of boat ramp	\$15,000	1 month
7	Engineering overview to support development application	\$5,000	1 month
Detailed Design and Construction Compliance (Operational and Building Works)		\$120,000	4 months
8	Detailed design/documentation and operational works application to Council	\$50,000	2 months
	Gloucester Avenue intersection & access road on Lots 20 or 21 (freehold land) and Lot 1 (unallocated state land)		
	- Access road and car parks on Lot 17 (Blackcurrant Island)		
	- All tide causeway crossing		
9	Detailed design/documentation for amenities including effluent disposal and building application	\$30,000	1 month
10	Detailed design/documentation of power supply including street lighting and amenities use	\$5,000	1 month
11	Detailed design/documentation of causeway reclamation works above high water mark and application to DILGP	\$5,000	1 month
12	Site specific documentation for boat ramp using DTMR standard boat ramp drawings and application to DILGP	\$5,000	In conjunction with item 11
13	Engineering inspections and compliance	\$30,000	Included in construction
14	Prepare new road reserve survey plans	\$25,000	1 month
Construction		\$1,620,000	6 months
15	Construction of sealed access road (3700m2)	\$500,000	5 months
16	Construction of concrete causeway with culverts access (600m2)	\$300,000	Incl. Item14
17	Construction of dual lane boat ramp	\$BY DTMR	Incl. Item 14
18	Construction of car parking for 40 car and trailers (5000m2)	\$500,000	3 months
19	Construction of amenities and effluent disposal	\$150,000	3 months
20	Construction of electrical reticulation supply for streetlights and amenities	\$170,000	1 month
Constru	ction Option	\$200,000	Incl. above
16a	Construction of concrete causeway on reclaimed base	\$200,000	

<u>Table 1:</u> Scope of Works/Costs Schedule SOURCE: Various

#### **Summary**

In summary, the development's engineering and construction deliverables are estimated to be of the following order:

Proposal Option 1- Concrete Causeway with access culverts

Development Planning - \$90,000 (6 months)

Operational Works and Building Works (Design & Documentation) - \$120,000 (4 months)

Operational Works and Building Works (Construction) - \$1,620,000 (6 months)

Total Estimated Cost = \$1,830,000

**Total Estimated Duration = 16 months** 

Proposal Option 2 – Concrete Causeway on a fully reclaimed base)

Development Planning - \$90,000 (6 months)

Operational Works Design and Documentation - \$120,000 (4 months)

Operational Works Construction - \$1,520,000 (6 months)

Total Estimated Cost = \$1,730,000

**Total Estimated Duration = 16 months** 

Please note that the proposed development option will be subject to outcomes from the coastal and tidal process study.

#### **Discussion**

Outcomes from Deliverable Items 1 and 4 (Table 1) are considered critical to the success of the development proposal and it has been assumed that they will be progressed in the first 3 months (prior to any other activities). Anecdotal feedback suggests that the existing landowner will be a willing participant in the acquisition process, while adverse impacts to existing coastal process from a fully reclaimed causeway would be a surprise.

The remaining deliverables in Table 1 are considered routine and are unlikely to adversely impact on the feasibility or the success of this development. It should be noted that costs to assess vegetation clearing and habitat disruption, including any related costs for ameliorative measures, have been considered separately to this statement.

For reference purposes, aerial views of the proposed boat ramp location are shown in Attachment 3.

Yours sincerely

Reece Milburn

**PROJECT ENGINEER (RPEQ 4600)** 

PO BOX 5155

AIRLIE BEACH QLD 4802

Mob: 0402 121 765

Email: rdmilburn@hotmail.com

**Attachments** 

Attachment 1 - Conceptual Development Layout

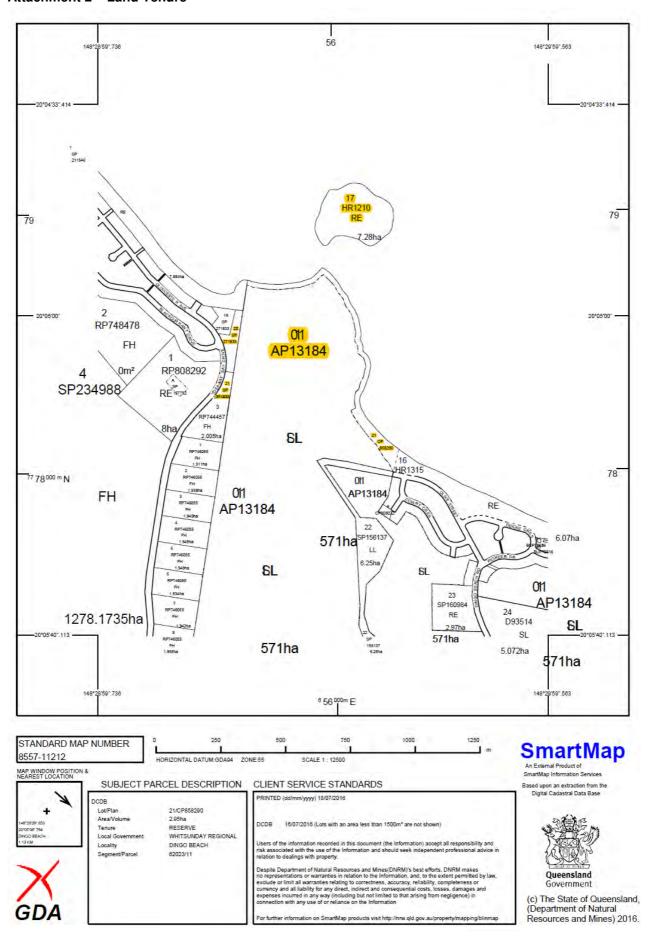
Attachment 2 - Land Tenure

Attachment 3 – Aerial Views of Proposed Boat Ramp Location

#### Attachment 1 - Conceptual Development Layout



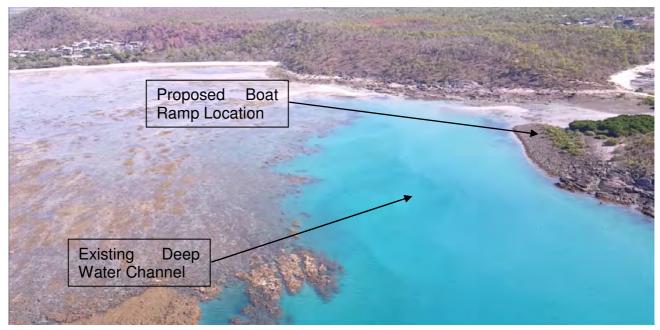
#### Attachment 2 - Land Tenure



### Attachment 3 – Aerial Views of Proposed Boat Ramp Location



**Plate 1: Existing Natural Causeway** 



**Plate 2: Existing Deepwater Channel**