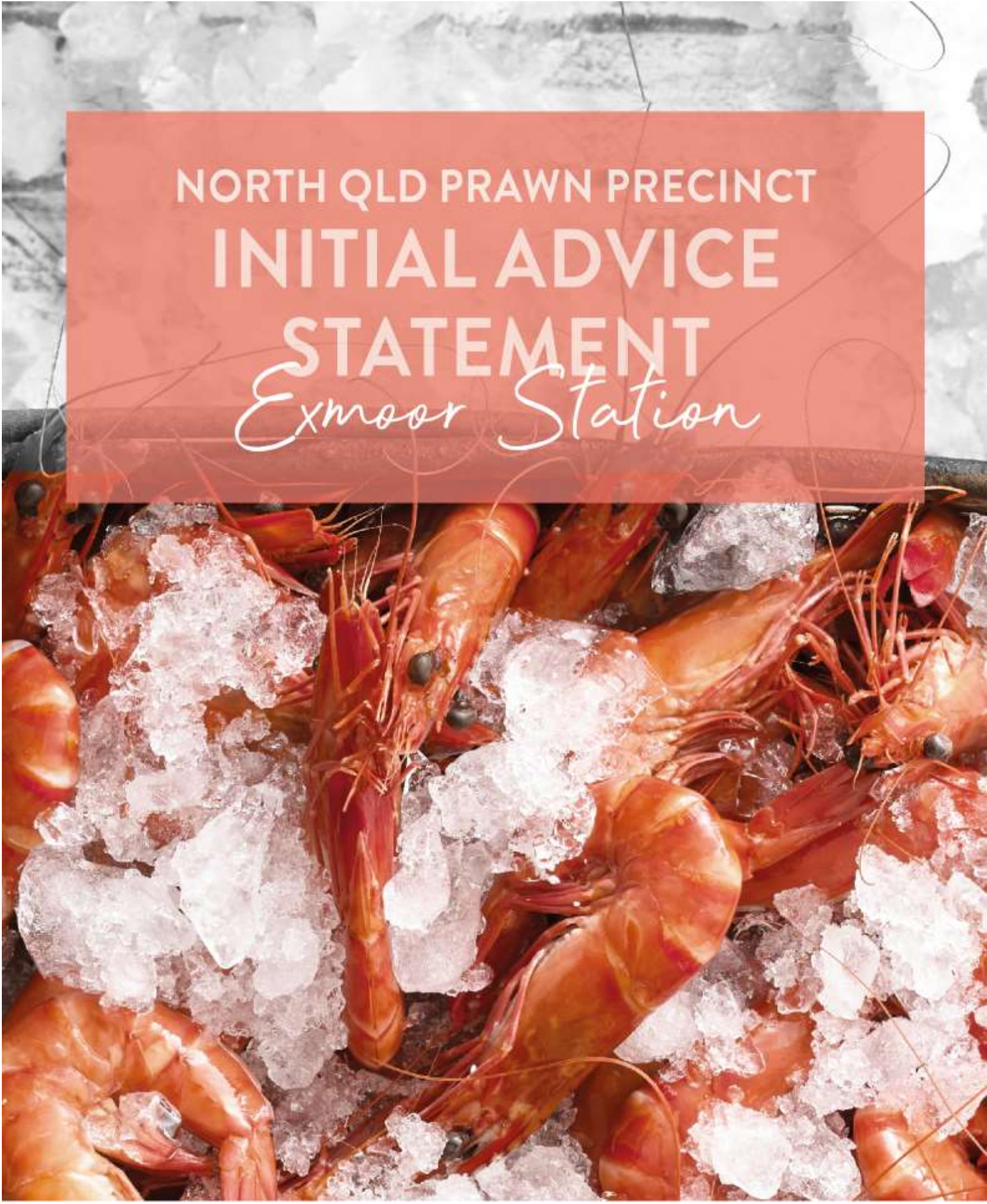
NORTH QLD PRAWN PRECINCT
INITIAL ADVICE STATEMENT
Exmoor Station



TASSAL GROUP

a better tomorrow

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Executive Summary

Tassal propose to develop the property Exmoor Station located near Bloomsbury in the Mackay region into a world class prawn farm and associated operations precinct. The development provides the basis for Tassal to drive its diversification into Queensland prawn farming and facilitate its growth track to 20,000 tonnes by 2030.

This Initial Advice Statement ("IAS") outlines the proposal and formalises an application for Coordinated Project status under section 26(1) of the *State Development and Public Works Organisation Act* 1971 (SWDPO Act). In making this application, Tassal notes:

- The development of Exmoor Station is the first Aquaculture Development Area identified by the Queensland government as part of its ambition to develop the state's aquaculture industry to be the "global hub for aquaculture". As such, the success of the Project will be a bell-weather for future aquaculture investment in Queensland, noting that prior to Tassal's entry into the industry there has been little growth investment in the last 10 to 15 years.
- The project provides strong regional employment and economic stimuli. It is expected to create in excess of 100 jobs in the construction phase, and a further 600+ jobs once fully operational. With an expected multiplier of 5 indirect jobs for every 1 direct, this equates to 3,600 jobs over the next decade. Significantly, the breadth of skills means the jobs created range from unskilled to trade professionals to graduates and postgraduates creating a diversity within the employee group and broader community.
- Initial staged development of 350 production hectares out of the potential 1,000 production hectares will involve an estimated investment of c$200 million in the construction phase with an annual production output of 5,000 tonnes per annum targeted.
- Tassal itself brings an advanced aquaculture experience base to the Project which will ensure the farm design and operations are world class and thus something that all of Queensland can be proud of. With a track record of sustainable practices, recognised by global awards, and disciplined financial management, Queensland is partnering with an organisation that is investment ready, operationally capable and socially and environmentally responsible to realise the shared values that Exmoor Station's development will deliver.

To support an investment of this nature will require an interactive and consultative approach with the relevant Government authorities and key stakeholder groups, to provide the clarity of environmental boundaries, social licence and investment certainty needed to make this a successful project. Part of this process will be to seek clarity regarding the Queensland regulatory environment, parts of which have been enacted without full consideration and communication of the supporting policy frameworks and principles. This project provides an excellent opportunity for such frameworks to be concluded to achieve the underlying regulatory and policy objectives, with practical application to land based aquaculture.

Tassal acknowledges the complexity of the approvals landscape for the Exmoor Station. To this end approval of this request for assistance from the Office of Coordinator General will ensure this landscape is effectively navigated.

The detail in the body of this statement summarises the intended plans for development, highlights the anticipated environmental, social and economic challenges and opportunities, and demonstrates that the project meets the criteria stated in the Act and is appropriate to be declared a Coordinated Project. Accordingly, Tassal commends this application for consideration and welcomes discussion on any matters that may require clarification.

1 Introduction

1.1. Background

Apparent global per person seafood consumption (whole weight equivalent) increased from 9.0 kilograms in 1961 to an estimated 20.5 kilograms in 2017 (FAO 2018a). Most of the growth in supply since the 1980s has come from increased aquaculture production, reflecting relatively static wild-caught fisheries production. Aquaculture is now the fastest growing primary food production sector globally, with 50% of seafood now consumed derived from farm production. Australia still imports around 70% of its seafood consumption needs.

In Australia, aquaculture growth has been led by salmon, with Tassal being the largest and most successful aquaculture company in Australia, whilst also being recognised globally for sustainability achievements. Tassal commenced salmon farming in 1986, and now has over $1b in assets, generates c$550m revenue per annum (salmon, prawns and seafood) and employs over 1,500 staff, mostly in regional areas of Australia. Tassal was the first company globally to achieve the gold standard in sustainability accreditation for all its salmon farming operations – Aquaculture Stewardship Council (ASC). Tassal is recognised as an employer of choice, and its annual sustainability report has achieved global recognition.

Salmon and prawns comprise the largest portion of seafood consumption in Australia. However, there has been no material growth in supply of Australian wild caught or Australian farmed prawns for 15 years. Growth in demand has been fuelled by imports, most of which is farmed in developing countries.

Prawn farming in Australia is an emerging high value industry that's attracting large investor focus and high levels of Government support and promotion. Australian Governments recognise the role of aquaculture for regional job creation, to fuel demand for seafood in times of a reducing growth of wild caught, and to curve the net importation of seafood in Australia. The Commonwealth Government's National Aquaculture Strategy is to double the Australian aquaculture industry to $2 billion by 2027. The Queensland Governments has put in place a policy direction to see significant expansion in aquaculture in Queensland, supported by the development of Aquaculture Development Areas.

Prawn farming in Australia is on track to be a regional economic driver and a major contributor to seafood security for Australia. Prawn farming is a land based coastal process, drawing on saltwater, and Australia has significant areas of coastal land suitable for aquaculture farming.

Tassal acquired Australia's largest prawn farm assets in 2018 (existing farms that were not being fully operated), with a view to increasing supply of Australian farmed prawns. These existing farm assets provide the basis for Tassal to implement programs to transform prawn farming practices (via smart farming, controls and technology), with the view of implementing the most advanced system globally into expanded assets. The current prawn farm assets have a capacity of around 6-7,000tn once fully developed. Tassal has set a target of achieving 20,000tn of Australian prawns per annum by 2030, and therefore required further land-based assets to achieve this objective.

Tassal, through its wholly owned subsidiary De Costi Seafoods Pty Ltd ("Tassal") purchased Exmoor Station in 2019 with the view of developing it as a key asset within its Queensland prawn farming operations. Tassal's acquisition decision relied heavily on the work completed by the Queensland

Government which had identified that 2,126 hectares of the 7,012 hectare property is one of six Aquaculture Development Areas[1] ("ADAs") (Appendix 1) in the state earmarked for the purposes of promoting and growing a sustainable aquaculture industry in Queensland.

Located at Bloomsbury, approximately halfway between Mackay and Proserpine, the property was purchased from a local cattle farming family. Since taking ownership in July 2019 Tassal has leased the property to a reputable Queensland family pastoral company for continued cattle grazing while planning and site investigation for establishing a prawn farm and associated operations are undertaken.

Forming part of the Northern Queensland Prawn Precinct, Tassal views Exmoor Station as critical to delivering on its targets and diversification strategy to build a Queensland based sustainable prawn farming business. Tassal is well equipped to deliver on this project, leveraging the experience, capability and learnings gained during 30 years of involvement in aquaculture, growing to be Australia's largest producer of salmon and leading seafood processor.

Exmoor Station will be, on completion, Queensland's largest land-based aquaculture development, ensuring that Tassal is well on track to achieving its target of 20,000 tonnes of prawns by 2030, and delivering much needed sustainable Australian sourced seafood growth.

The project is anticipated to comprise:

- approximately 1,000 hectares of production ponds, supported by advanced smart farming capability
- approximately 200 - 300 hectares of water cleaning ponds
- State of the art processing facilities
- Hatchery and nursery facilities, including domestication and selective breeding infrastructure
- Research and development facilities, including educational program support
- Bulk materials (feed etc) handling and storage
- Bulk fuel storage
- Hardstand areas and B-Double parking/turning areas
- Office and meeting space
- Operational and construction workforce accommodation and facilities
- Quarry and Screening operations for rock materials to be used on site for pond construction.

Development would be on a staged basis. Tassal has completed a preliminary cost-benefit on developing stages 1 and 2 of the site which would comprise approximately 350 hectares of production ponds. This initial development horizon for the project has an estimated development cost of $200 million and will create approximately 100 jobs during the construction of the project. Ultimately the project when fully developed and operational will generate approximately 600 direct employment opportunities in the region.

[1] Refer Appendix 1 – Department of Agriculture & Fisheries Bloomsbury Aquaculture Development Area

In recognition of the significant economic benefits associated with the proposal, Tassal is seeking for the project to be declared a "coordinated project" in accordance with section 26(1) of the *State Development and Public Works Organisation Act* 1971 (SWDPO Act). This will enable Tassal to work through the complexity of the numerous State development regulations and also assist in streamlining any state and Commonwealth assessments required in accordance with the EPBC Bilateral Agreement.

The purpose of this Initial Advice Statement is to introduce and outline the merits of the project, demonstrating to the Coordinator-General that the project is a positive and significant development for Queensland and thus warrants the strategic and coordinated assessment pathway available through the SDPWO Act.

Tassal notes the separate and distinct application process available to proponents under the SDPWO, being the abbreviated process "Impact Assessment Report" (IAR) and the more comprehensive "Environmental Impact Assessment" (EIS) which is usually required for projects which will be subject to a more complex planning framework and have a potentially significant environmental impact.

Tassal acknowledges the importance of ensuring this project's environmental management outcomes. As such Tassal has concluded that it will need to complete an EIS to enable appropriate assessment of this project and to support an effective **Coordinated Project** process.

The regulatory environment in Queensland for aquaculture activities is robust. Table 2 outlines potential approvals required from Commonwealth, State and Local governments. Tassal believes the Coordinator General's powers will provide the best pathway to ensure it navigates this regulatory environment efficiently and effectively.

Tassal also intends to apply, at a future date, for a declaration of Prescribed Project status. Ultimately Tassal will be required to lodge an application for an Environmental Authority for Aquaculture through the Department of Environment and Science (DES), and the Prescribed Project will ensure the Coordinator-General is best placed to assist DES with their assessment and decision making in a timely and appropriate manner.

Tassal is confident the development of Exmoor Station, being the key strategic asset in the North Queensland Prawn Precinct Development (NQPPD) meets the criteria for Coordinated Project Status. Tassal's believes granting of this status will support its ability to deliver regional investment in the aquaculture industry, while also growing the Australian aquaculture industry in line with the Commonwealth's National Aquaculture Strategy.

Specifically, Tassal believe that:

- The project is of state significance given the associated social and economic outcomes for regional Queensland and recognition of this via Coordinated Project status will ensure community and investor confidence in the project. Specifically, it will support Tassal's credentials, track record and commitment to delivering regional projects in an environmentally sustainable and responsible way;
- Working with the Coordinator-General will benefit and assist Tassal to navigate regulatory requirements and approval processes; and
- The coordinated project status for Exmoor Station will provide a roadmap for future development under the Aquaculture Development Areas (ADA) to further strengthen and grow Queensland's aquaculture industry.

2 The Proponent

2.1 Background

Since opening its first marine farms in 1986, Tassal has grown from a privately-owned operation to a major public company listed on the Australian Stock Exchange, now in the ASX200. Today, Tassal is Australia's leading seafood provider, the largest producer of fresh salmon products and following the diversification into prawn farming in 2018 is now on the way to leading farmed prawn production in Australia.

Tassal brings strong performance and capability credentials to Queensland's aquaculture sector including:

- A balance sheet that has in excess of $1 billion of assets;
- More than 1,500 staff with the breadth of skills and experience, complementing the team in Queensland that will be expanded to execute the growth strategy in a responsible and sustainable manner;
- A business that has sustainability at the core of its farming ethos and practices, evidenced by:
    - First salmon producer globally to attain the WWF-backed Aquaculture Stewardship Council certification on all farms, as quality assurance for its communities and consumers that salmon is grown in an environmentally and socially responsible way.
    - Membership of the Global Salmon Initiative (GSI);
    - Tassal's 'leading' rating for its FY2017 Sustainability Report by the Australian Council of Superannuation Investors (ACSI) for ASX200 listed companies. This rating demonstrates a commitment to quality and transparent reporting of its activities.
    - Recognition as Employer of Choice since 2012; and
    - The multiple awards Tassal has won:

2.2 Relevant History

In 2015, Tassal acquired well-known Sydney business, De Costi Seafoods, broadening its portfolio from 'salmon to 'salmon and seafood'. De Costi is a wholly owned subsidiary of Tassal Group Limited and provides the platform to diversify from a salmon farming business to a seafood business with a variety of choice for customers. This differentiates Tassal in the aquaculture industry, as the end-to-end capability meets customer needs with a portfolio offer whilst simultaneously connecting with the consumer to grow seafood consumption.

Australians prefer locally grown and caught seafood. Atlantic salmon and prawns comprise 70 per cent of all retail seafood purchases in Australia. Both the salmon and prawn domestic consumption is 60,000 tonnes each. However, unlike salmon, there has been no material growth in the Australian supply of prawns for the past 15 years, with demand growth and market share fuelled by imports. Tassal's diversification into prawn farming will lead the resurgence of the Australian prawn farming industry to fuel the appetite of Australian consumers and consequently grow Australian consumption per capita.

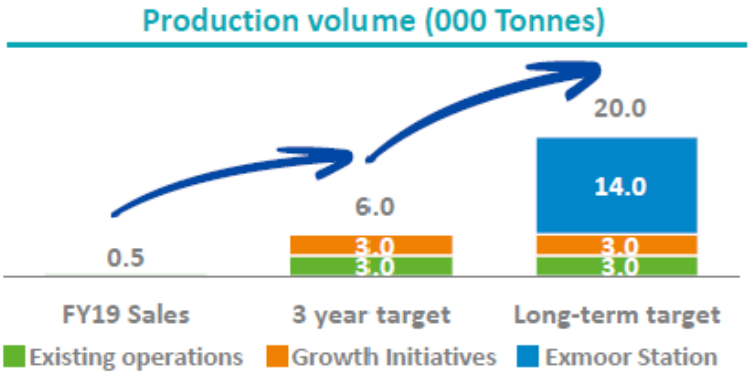

Figure 1 – Tassal's prawn production volume growth projections

Tassal continues to grow responsibly having made considerable investment in technology and operational improvements to its supply chains across both salmon and prawns, including:

- Producing prawn and salmon larvae hatcheries and nurseries, to select the genetically superior specimens while minimising the impact on marine environments;
- Investing in eco-aquaculture (such as smart farming, sensor feeding on demand) projects at all existing farms to offset environmental impacts and rejuvenate native species for an improved marine environment;
- Ensuring all farms feature world-leading sanctuary pens and pond construction standards, guaranteeing first class animal husbandry;
- Adopting carbon-neutral innovations, with a focus on renewable energy, recycling and reuse;
- 100 per cent regulatory compliance across all leases and land-based facilities
- 100 per cent third party certification (ASC & BAP) across all salmon and prawn harvest produce
- 100 per cent sustainable, and responsibly sourced seafood

2.3 Corporate Structure

The Exmoor Station development and operations will be conducted by De Costi Seafoods Pty Ltd, a wholly owned subsidiary of Tassal Group Limited, a publicly listed company on the Australian Stock Exchange. For completeness, the Tassal Group Limited corporate structure is shown in Figure 2 below.

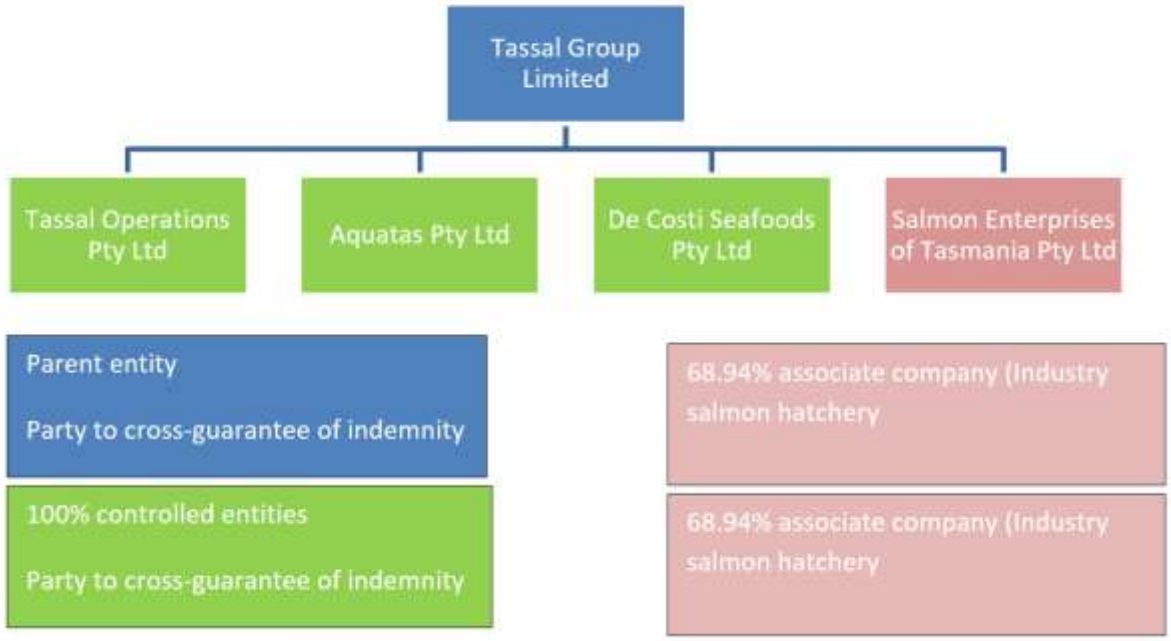

Figure 2 - Tassal Group corporate structure

2.4 Marketing & Branding

The Tassal brand and logo is well established and the Group is recognised as a leader in sustainable aquaculture and salmon farming for more than 30 years. It's important to note that while the salmon business underpins Tassal's foundations, it's the innovation, technology and science know-how learned in aquaculture that will ensure its success in prawns.

For that reason, Tassal made the decision to diversify its marketing and branding and developed *Tropic Co* as the newly established prawn marketing banner. This brand separation will enable the prawn business to become known for:

The Tropic Co brand will leverage the equity in the Tassal brand and will ensure that its quality and innovation remain synonymous with the broader salmon operations.

Traditionally, prawns have been a Christmas staple, however with supply of both cooked (frozen) and uncooked (frozen) prawns, Tassal aims to make the product available year-round (as is the supply of salmon) whilst keeping cost and quality consistent. Thus, consumers will experience reliability of choice at any time of the year.

Tiger prawns are also Australia's most recognised and preferred prawn variety[2] and are the prawn of choice for consumers. This means the variety Tassal has chosen to farm is instantly recognisable with its deep red colour and 'stripes' and appeals to the largest audience. It is also Tassal's intention to supply a 'premium' product that attracts a premium price, driving profitability and maintaining reputation for quality.

2.5 Proposed Supply Chain

Tassal supply prawns to major and independent retailers, the wholesale and foodservices sectors, and to various export markets.

Having established supply lines means that Tassal can utilise the existing systems, processes and customers to ensure its prawns are available on seafood platters across Australia and the world.

2.6 Relevant Project Experience

Tassal has a history of successfully executing major and complex projects over the past 10 years, with an annual capital spend of between $50-150m, including:

- 2009 – Rookwood Hatchery

  Construction and operation of a state-of-the-art recirculated aquaculture system (RAS) Rookwood Salmon Hatchery in Tasmania. The Hatchery sources eggs from a selective breeding program and produces up to 10 million smolt per annum which supply the Tassal Marine Operations. RAS Hatchery facilities utilise best practice technology to minimise potential impacts to the surrounding environment as the recirculating system ensures that no water is discharged back into waterways and is instead used for beneficial reuse, such as land irrigation.

- 2014 – Triabunna Rendering Facility

  Construction and operation of the Triabunna Rendering Facility in Tasmania. By-product from Tassal's fin-fish processing facilities is transported to this facility and rendered to produce Omega-3 oil and fish meal. Consequently, Tassal now processes 99 per cent of the harvested salmon biomass to a saleable product.

- 2017 – Okehampton Bay Marine Farm

  In 2017 Tassal was granted approval by the Tasmanian Government to establish a new marine farm in Okehampton Bay. This marine farm is an 80-hectare lease with annual production of up to 800,000 fish. Okehampton Bay is also Australia's first eco-aquaculture site which integrates multi-trophic farming to reduce potential environmental impacts, through the growth of shared species (salmon, mussels and seaweed).

[2] According to market research conducted by Tassal in 2019.

- 2018 – 3 Prawn Farm Acquisition and Upgrade Program

  $85m investment to transforming 3 existing prawn farms in Australia, including commissioning Australia's largest new prawn processing factory, restoring 2 hatcheries, re-building 270 ha of ponds, and installing smart farming technology, building an additional 80 hectares of ponds and a new hatchery precinct.

- 2019 – Storm Bay Marine Farm

  In 2019 Tassal prepared an EIS to establish four new high energy offshore marine farms in Storm Bay. This was approved with conditions by EPA Tasmania. High energy refers to the hydrodynamics such as strong winds and large swells. These conditions have required Tassal to develop tailored infrastructure and farming practices to operate successfully in the Storm Bay area.

- 2019 – Well Boat

  Tassal commissioned a purpose built 84-meter aquaculture vessel to undertake fish and smolt transfers and freshwater fish bathing operations. The vessel contains an on-board desalination plant to recycle freshwater used for fish bathing. The vessel operates continuously across the week and will enable a significant reduction of freshwater use and improved fish health outcomes.

- 2019 /2020 Hamilton Hatchery

  Tassal is in the final stages of the approval process for a second RAS Hatchery with construction anticipated to commence in 2020.

All of these projects required complex engineering considerations, detailed baseline environmental assessments and the development of approval documentation (I.e. EIS or equivalent). Additionally, voluntary EPBC referrals were submitted for the Okehampton Bay and Storm Bay Marine Farm projects. Ongoing regulatory compliance for each operation is managed by a dedicated Environmental Compliance department comprising of experienced environmental professionals.

2.7 Principal Consultants

Tassal has more than 20 staff in environmental management and engineering roles. This experienced in-house team of environmentalists, engineers, planners and project managers who will deliver the Exmoor Station project internally to ensure successful project outcomes. Where skills gaps are identified, Tassal will source appropriate experts to complement the in-house skills. Consistent with Tassal's policy, local consultants will be sourced where possible.

2.8 Contact Details

The primary contacts for this project are:

Kylie Drysdale	Ben Daley
Approvals and Planning Manager	Head of Supply Chain and Commercial Services
Kylie.Drysdale@tassal.com.au	Ben.Daley@tassal.com.au
0448 260 986	0438 291 224

2.9 Environmental Record

Tassal undertakes extensive work to understand the environment in which it operates and to implement management controls to eliminate or minimise environmental impacts that may arise from farming and processing operations.

Tassal operates under multiple regulatory instruments and licences across its activities and has a dedicated Environmental Compliance department to ensure all regulatory obligations are fulfilled. The Group utilises a risk-based management system to continuously identify and assess environmental risks associated with aquaculture and processing activities; determine appropriate management actions; monitor the effectiveness of the controls; and inform planning processes and operational decision making.

Tassal is a global leader in the aquaculture industry in regard to environmental management and stewardship. The Group was integral in developing broad scale environmental monitoring programs (BEMPs) for salmon farming operations in Tasmanian Waters. The BEMPs provide an ongoing program for monitoring and detecting any changes at a whole of system level and have now been incorporated as a requirement of the environmental licences for each marine farm.

Tassal was the first salmon company in the world to successfully certify all its Tasmanian salmon sites to the WWF-backed Aquaculture Stewardship Council (ASC) Standard. The ASC Standard is one of the highest-level of certification available globally and defines a set of farming and environmental standards to ensure responsible farming practices, full product traceability and open and transparent reporting. Tassal is currently in the process of also obtaining Best Aquaculture Practices (BAP) certification for all operations across Australia.

A summary of environmental performance is detailed in Tassal's Sustainability Reports that can be accessed via the Tassal Group website.

2.10 Capability to complete IAS and EIS

Tassal's capability to successfully complete the Exmoor Station development is evident from its:

- existing aquaculture knowledge;
- demonstrated success in establishing and delivering development sites and quality products;
- environmental management systems and protocols; and
- financial capacity to ensure the development is sustainable and capable of staged growth and development year-on-year.

With the backing of shareholders, Tassal raised $108 million through a Placement and $17 million through a Share Purchase Plan in 2019 to fund the acquisition and expansion of the existing prawn farms.

Tassal maintains a financially disciplined approach to investment in biomass and infrastructure, which has led to strong operational growth. Figure 3 summarises the recent financial performance

which is consistent with a track record of earnings growth and return to shareholders to complement its strong social and environmental performance.

Financial Performance (A$m)	FY19	FY18	Change
Revenue	560.79	484.54	15.7% ▲
Operating results			
Operating EBITDA	112.31	99.78	12.6% ▲
Operating EBIT	88.55	76.76	15.4% ▲
Operating NPAT	56.62	50.31	12.5% ▲
Statutory results			
AASB 141 SGARA Impact [1]	4.61	10.81	(57.3%) ▼
Statutory EBITDA [1]	114.91	110.00	4.5% ▲
Statutory EBIT [1]	91.16	86.98	4.8% ▲
Statutory NPAT [1]	58.44	57.29	2.0% ▲
Operating cashflow	89.90	43.88	104.9% ▲
Final dividend - cps	9.00	8.00	12.5% ▲
Total dividend - cps [2]	18.00	16.00	12.5% ▲
Gearing Ratio [3]	28.2%	18.7%	
Funding Ratio [4]	38.8%	28.5%	
Funding Leverage [5]	2.19	1.67	

Figure 3 - Financial Performance Summary

Tassal's FY2019 full year results announcement in August 2019 included the following highlights:

- **Record full year results** with Operating NPAT up 12.5% to $56.6 million and operating cashflow up 104.9% to $89.9 million **highlighting the strength of Tassal's platform to generate continued, sustainable growth in shareholder returns**
- **Continued strong growth in salmon biomass and sales**
  - Harvest up 7% to 33,036 hog tonnes; sales up 10.3% to 33,856 hog tonnes
  - Optimised salmon size (4.4kg hog)
  - Live salmon value up 9.4% to $399.9 million
- **Positive salmon fundamentals** underpin expected strong growth. Demand again outpaced supply and this is expected to continue with a more gradual growth in supply over the short term, allowing Tassal to optimise pricing and increase salmon returns
- **Investment in prawns building on our success with salmon** delivering diversification and a new growth platform with a shorter working capital cycle and, once established, lower capex requirements

Figure 4 - Aerial photo of Stages 1 and 2 of Proserpine Prawn Farm

3 The Nature of the Proposal

This proposal is to develop Exmoor Station as a land-based aquaculture facility with ancillary services progressively over several stages. The timing of construction and the quantity of ponds to be delivered in each stage will be further refined as the project progresses and as the results of technical investigations influence design decisions. Figure 5 is the locality plan of the site in context to the urban centres of Proserpine and Mackay.

Ancillary services will include a hatchery, processing factory and associated pond infrastructure, such as pump stations, drainage channels, water pipes, water storage, electrical infrastructure and discharge outlets.

Pre-feasibility and master planning of the site to date has been informed by, and seeks to avoid, the environmental values of the site such as native vegetation, waterways and the terrestrial environment. Given the precision required to develop this site in terms of water network, pond layout and design (informed by topography and soil types), the master plan contained in Appendix 2 contains an indicative staging plan informed by the best available information at the time of lodgement of this application. It is anticipated during the course of the project, this master plan will be further refined and change to respond to the results of the technical investigations.

Figure 5 - Exmoor Locality Plan

The location of the hatchery and processing centre and other ancillary facilities is also only indicative at this time and will be determined during the course of the project. Their location depends on the development of a biosecurity plan, farm operations best practice and the final location of the production ponds.

3.1 Scope of the Project

Tassal's proven experience in farming both salmon and prawns demonstrate that we know the level of investment, planning and infrastructure required to establish a world class, environmentally responsible facility.

The scope of the project will centre around the development of land-based aquaculture ponds on Exmoor station, together with the ancillary but necessary supporting infrastructure such as water treatment ponds, water intake and outfall infrastructure, channels and associated farm buildings (refer to Appendix 2 – Masterplan Concept). The exact location of buildings, infrastructure and ponds will be further refined during the EIS process.

Key aspects of the development will include:

- Approximately 1,000 hectares of production ponds – a typical pond design is usually 130m x 105m (1.365Ha) in area and constructed to be 1.5m deep.
- Approximately 250 hectares of water treatment ponds – the size of the ponds is to be informed by the water quality modelling to ensure the settlement ponds are effectively treating total suspended solids (TSS), total nitrogen and dissolved inorganic nitrogen.
- State of the art processing centre with the potential to produce both green (frozen) and cooked (fresh and frozen) prawns.
- Hatchery and nursery facilities – designed to produce post larvae stock to supply the grow out ponds on the farm. The nursery and hatchery precinct will be a state-of-the-art facility utilising best practice husbandry and biosecurity protocols and equipment.
- Research and development facilities, including educational program support
- Bulk materials (feed etc) handling and storage (including cold storage) - the construction of warehouses to store feed and other consumables,
- Bulk fuel storage –fuel storage for farm vehicles and backup generators
- Hardstand areas and B-Double parking/turning areas – given the nature of incoming (feed deliveries, construction equipment etc) and outgoing (refrigerated trucks, contractors and construction machinery) it will be necessary to allocate sufficient space for parking, set down and turning areas to minimise risk of conflict between users of the site.
- Office space – to house project staff during construction, prawn operational staff and management, data and feed centre operations, environmental and WH&S operations;
- Resident (operational workforce) and non-resident (construction workforce) accommodation & facilities. Consideration will be given to the accommodation requirements for the construction workforce as well as the 24 hour continuous operations of the prawn farm to enable appropriate on-site accommodation without placing an undue burden on the neighbouring community of Bloomsbury.
- Quarry and Screening operation for rock extraction to be used for infrastructure purposes including pond construction reinforcement materials.

Outside the property boundary, it is anticipated that the project will require certain works to improve the infrastructure coming into the site, including:

- Improvement of the condition of the local government-controlled Exmoor Road, together with an upgrade to the state-controlled road at the intersection of Exmoor Road the Bruce Highway to accommodate the anticipated traffic movements and to ensure the safety of road users.
- Connection of high-voltage power to the site. Tassal's preference is to work with the energy regulator to determine the most cost-effective connection source taking into account the broader public benefit.

- Access to water resources and discharge locations beyond the property boundary, including potential traversing of unallocated State land. It may be necessary to obtain a Permit to Occupy (PTO).

3.2 Land Use (existing)

The land subject to this application is located at Exmoor Road, Mentmore, via Bloomsbury, 4799 in the very northern reaches of the Mackay Regional Council Local Government area. Figure 6 shows the location of the site in the context of the state of Queensland.

Figure 6 – Exmoor location in relation to the State of Queensland

Located 9 kilometres off the Bruce Highway, the property comprises 4 freehold titles:

- Lot 43 on CI801
- Lot 44 on CI801
- Lot 45 on CI796 and
- Lot 1441 on C124391.

Copies of the relevant title searches are located in Appendix 3. Current encumbrances on title include a registered lease to the current cattle grazier on the property, and an administrative advice

notifying of the existence of a registered Property Map of Assessable Vegetation ("PMAV"). More detail on the PMAV is located in section 5.2

The current cattle graziers, Watts Pastoral Pty Ltd currently lease the property from Tassal and run a breeding and fattening cattle operation.

Historically, Exmoor Station was owned and operated for the last 50 years by the Giaiotti family, with up to 4,000 head of cattle at peak operations. Improvements include two residential houses, two large machinery sheds, cattle yards, tanks and other agricultural equipment. The property is divided in to 14 main paddocks as well as a number of smaller, holding paddocks.

The property has approximately 14 kilometres of coastal frontage, intersected by a number of creeks and tributaries.

It is proposed to scale back the cattle farming operation progressively to facilitate the staged development of the aquaculture ponds.

3.3 Land Use (proposed)

The government's designation of approximately 2,000ha of the property as Aquaculture Development Area indicates that the current government has an appetite to support appropriate aquaculture proposals in this location. Tassal's engagement with the opposition government also indicates strong support for the aquaculture industry in Queensland.

Leveraging of the status as an Aquaculture Development Area, Tassal is seeking to develop Exmoor Station as a world class prawn farm operation. Any surplus land will continue to be used for cattle grazing as the property's capacity permits.

3.4 Project need, justification and alternatives considered

With the increasing demand for protein, aquaculture is seen as a sustainable way to ensure global food supply. This fact is fundamental to Tassal's vision of "Building a better tomorrow" and is consistent with the Queensland government's ambition to establish Queensland as the aquaculture hub of the world.

Having established a presence in Queensland through the acquisition of 3 farms, Tassal has developed a business plan to grow its own prawn operations to 20,000 tonnes per annum by 2030. This represents a modest compound growth rate of [4%] in demand from current market size to ensure that the overall industry value is not compromised with the volume growth.

Recognising Australia is a net-importer of prawns, the ability to grow Queensland's aquaculture industry is a realistic and laudable ambition for government and has been supported by the establishment of 6 Aquaculture Development Areas, of which Exmoor is one. Tassal believes these areas are critical to achieving the expansion of prawn production in Queensland due to the topography, climate, water access and scale provided to enable growth investment in the sector.

Project Alternatives/Options analysis

(a) "Do nothing"

The "Do Nothing" option was considered prior to the acquisition of the site. However, Tassal believes that the spatial planning conducted by the Queensland government to establish

Exmoor Station as an ADA supported the view that the site could be successfully developed to enable Tassal's growth objectives to be met whilst also furthering the ambition of Queensland to grow its aquaculture industry. In this context, "Do Nothing" was seen as the least-preferred option particularly as Tassal is investment ready.

(b) "Invest in Queensland"

For Tassal, progressing development of Exmoor Station is critical to our ongoing investment in Queensland aquaculture as it:

- Provides a suitable greenfield site for development underpinned by the ADA status;
- Offers sufficient scale to enable development that delivers appropriate returns on the infrastructure investment;
- Is located in proximity to our existing Proserpine operations to enable leverage, whilst also geographically distanced to ensure effective biosecurity segregation; and
- Enables industry growth in an environmentally sustainable manner to alleviate the pressure on less sustainable protein production.

Prior to the purchase of Exmoor Station, Tassal undertook an initial due diligence assessment to determine the suitability of the site for of a project of this scale. With the ADA already declared, Tassal investigated the vegetation characteristics of the site, conducted preliminary soil analysis and undertook a desktop environmental and planning assessment which all confirmed that Exmoor Station is an appropriate location for aquaculture expansion. Also, the convenience of its proximity to Tassal's existing Proserpine operation allows Tassal to benefit from synergy of operations, logistics and planning.

More detailed feasibility assessments are currently underway to assist in the designing of the master plan for the site and for the most appropriate locations of pond infrastructure, intake and discharges. Tassal's in-house engineers are cognisant of the environmental constraints on site and are designing the farm to achieve operational efficiencies whilst avoiding environmental impacts where possible.

In addition to contributing to sustainable fisheries in Queensland, this project also provides other benefits, such as: –

- Direct job creation - Tassal anticipate a projected peak employment for this project (not including construction phase) to be approximately 600 jobs, as outlined in Table 1
- Construction job creation - the employment of contractors during feasibility and construction phases is estimated at 120. This provides an alternative to employment in Queensland's fluctuating mining sector, and due to its relative proximity to the centres of Mackay and Proserpine, also brings added lifestyle benefits.

3.5 Link to Queensland Government Policies

The Queensland Government has a suite of policy intended to support business and drive economic growth. Below is a summary of the key policies that directly support Tassal's project.

- **Advance Queensland** – this project will support several of the key priorities of this project, such as "Create Jobs in a Strong Economy" by creating approximately 600 jobs in regional Queensland, "Keep Queensland Healthy" by supporting local production of sustainably sourced protein and to "Protect the Great Barrier Reef" by ensuring the project is environmentally sustainable in order to continue to operate.
- **Aquaculture Development Areas** – our investment in an Aquaculture Development Area seeks to support the Government's agenda of protecting areas with the potential for land-based aquaculture in order to promote and grow a sustainable aquaculture industry in Queensland in furtherance of the initiatives of the *Aquaculture Policy Statement*.
- **State Planning Policy** – the single state planning policy seeks to provide clear and comprehensive details of policies needed to ensure appropriate development in Queensland. Of relevance to this project are the Natural Hazards, Risk and Resilience policy (ensure development is appropriately integrating the Government's climate change projections), Planning for Economic Growth (ensure jobs and industry growth is supported in appropriate locations), Planning for the environment and heritage (ensuring development is sensitive to the surrounding environment and environmentally sustainable).
- **Queensland Trade and Investment Strategy** – Tassal's exported product will support the Advancing Trade and Investment strategy by contributing to the target of increasing Queensland's share of national overseas exports.

- **Mackay, Isaac & Whitsunday Regional Plan** – This project is consistent with the objectives of the Regional Plan in that it appropriately addresses the economic challenge of driving greater industry diversification to create resilient communities. The land use planning objectives of the Mackay Desired Regional Outcomes are also advanced by expanding key aquaculture industry sector in an appropriately designated location.

4 Key Project Challenges

Tassal sees significant economic and social benefit arising from the Exmoor Station project, but also is concerned that the investment is challenged by the following key risks.

4.1 Impact of the Reef Regulations

To support an investment of this nature will require an interactive and consultative approach with the relevant Government authorities and key stakeholder groups, to provide the clarity of environmental boundaries, social licence and investment certainty needed to make this a successful project. Part of this process will be to seek clarity regarding the Queensland regulatory environment, parts of which have been enacted without full consideration and communication of the supporting policy frameworks and principles. This project provides an excellent opportunity for such frameworks to be concluded to achieve the underlying regulatory and policy objectives, with practical application to land based aquaculture.

The transition from the current regulatory provisions to the recent introduction of the Reef Regulations requires increased Government clarification to provide an environment that facilitates sustainable investment. Whilst the water quality objectives are clearly stated in government policy, understanding the relationship of the new "Reef Regulations", which commence on 1 June 2021, and the methodology by which any potential impact on water quality will be assessed is required to provide a pathway forward.

During the course of consultation on the Reef Regulations Tassal specifically, and the aquaculture sector more broadly, made submissions and raised concerns about the apparent incompleteness of the research supporting the Regulations, the science and methodology for collecting data and the increased investment risk that the lack of clear pathways provides.

Tassal acknowledges and supports appropriate regulation to protect the Great Barrier Reef and is committed to exploring all viable options to achieve the water quality objectives required to meet the Government's Reef 2050 Plan. However, the Reef Regulations fail to consider the unique elements of land- based aquaculture nor provided equivalent considerations that have been granted to other industries – fundamentally, the regulations do not cater for land based aquaculture effectively, possibly due to the underdeveloped and cottage nature of the existing industry and lack of expansion projects to guide regulatory thought. In particular, Tassal would highlight:

- Aquaculture relative to other agricultural industries is a low impact industry (supported by science) but because it has been nominated as a generic point source discharge industry, it is being held to the same standard as industrial discharge operations such as sewerage plants. There are significant fundamental differences between such industries, which are not recognised within regulation

- Tassal operates to the standard of globally accredited sustainability certifications including Best Aquaculture Practice which it has obtained for its prawn operations in the first year of operations. These globally recognised programs are independently audited but are not considered as an equivalent to the BMP programmes recognised for sugar and cattle industry operators. A similar scheme should be recognised for aquaculture
- Whilst there is a "nil net decline" standard imposed under the Water Quality Standards, the policy framework to operate under this condition, including appropriate environmental offsets, has not been clarified.
- The risk to Tassal advancing this Project can be extended to the balance of the ADA's identified by the Queensland government. To realise the advantage of the work that has identified these areas as suitable for aquaculture will be dependent upon creating a clear pathway for viable project approvals that balances the environmental, social and economic impacts of developments. This needs to consider the full policy toolkit including market based offsets.

Tassal continues to seek clarity as to how to navigate the implications of the incomplete regulatory environment, including the potential to lodge an application for an *Environmental Authority* for Aquaculture Operations independently of the Coordinator General's processes (i.e. directly through the *State Assessment and Referral Agency (SARA)*. This is to ensure that Tassal can utilise the transitional provisions of the Amendment Regulation and fall within the current policy framework. Equally we are assessing the interoperability of the Federal Environment Protection and Biodiversity Conservation Act ("EPBC Act").

Tassal appreciates the importance of open and transparent communications regarding this issue and will work with the Office of Coordinator General, Department of Environment and Science, Department of Agriculture and Fisheries and the Federal Department of Agriculture, Water and the Environment to develop a pathway through this uncertainty.

4.2 Electricity Infrastructure

Preliminary inquiries with Ergon Energy detail significant electrical infrastructure upgrades will be required in order to provide the necessary high voltage supply required to service the development. Estimates of the cost of this infrastructure are detailed further in this IAS and are a significant imposition on the capital forecast projection for the initial stages of the development.

Tassal has commenced options analysis for the delivery and funding of this capital expenditure. Initial analysis has revealed that there will potentially be significant benefits to the community as a result of the upgrade of the electricity network in and around the local communities in terms of reliability of supply, supporting further industrial and commercial development by ensuring high voltage supply is available.

It will be necessary to fully explore this broader benefit of upgrading electricity infrastructure as the required investment on a stand-alone basis increases the financial risk of the Project and hence its viability.

4.3 Roads Infrastructure

It is reasonably anticipated that a significant upgrade to the intersection of the Bruce Highway (State Controlled Road) and Exmoor Road (local government road) will be required. In addition, the eight kilometres of Exmoor Road is currently an unsealed road with creek crossings and will also require significant expenditure. Until a traffic assessment and road condition assessment is undertaken, the exact extent and cost estimate of upgrades is unknown. However, it is considered that the improvement of the road conditions will also provide a safety benefit to the residents along Exmoor Road as well as the general public using the Bruce Highway. It will be necessary to fully explore this broader benefit of upgrading road infrastructure as the required investment on a stand-alone basis increases the financial risk of the Project and hence its viability.

4.4 Resourcing Requirements

This project is anticipated to create approximately 600 direct employment jobs once fully developed. In addition, over 100 construction jobs area estimated to be required during the first years of civil construction and it is estimated that for every one person directly employed, approximately five jobs are created in the community.

Whilst there will be positive downward pressure placed on the unemployment rate of the region, it is also anticipated that it will be difficult to source the skilled and unskilled labour force required to support this project due to factors including competition with the high-paying mining industry and of the regional nature of the project.

Tassal's experience in in regional Queensland and Tasmania is that it can be challenging to employ reliable unskilled workers, particularly casual and seasonal workforce, and this can lead to shortages in periods of harvest and processing.

It is anticipated that workforce planning will be developed during development of the EIS once the full extent of the social and economic profile of the region's employment base is known.

4.5 The need for Coordinated Project Status

Tassal views the benefits of Coordinated Project Status as being:

- A streamlined assessment of both the matters of Commonwealth interest under the Environmental Protection and Biodiversity Conservation Act (EPBC) being undertaken and negotiated on its behalf pursuant to the existing Bilateral agreement as streamlining the approvals pathway;
- Providing a one-stop-shop for the assessment of complex environmental matters such as Matters of National Environmental Significance (MNES) and (MSES) water quality, marine and terrestrial flora and fauna and to provide central coordination of the State Interests;
- Providing a streamlined pathway through subsequent approvals under the *Planning Act* 2016 for the Variation Request and Material Change of Use and Operational Work approvals required to be obtained from Mackay Regional Council. The SDPWO Act EIS public notification period would replace the public notification period under the *Planning* Act for these approvals, thereby reducing the decision timeframes; and
- Providing concise and transparent project documents to the public due to the notification requirements of the EIS process.

4.6 Infrastructure requirements (proposed)

A preliminary assessment of the key infrastructure requirements has been undertaken by Tassal's in-house engineering services team and this will be further updated as the project progresses, with input from external specialist consultants where required External infrastructure requirements such as electrical supply, construction requirements and road infrastructure will be explored fully in the EIS process.

Outlined below are some of the key infrastructure aspects of the proposal that will require further feasibility and option analysis over the course of developing the project:

Water supply

Fresh water

Groundwater investigations will be required to determine the availability of both underground and aboveground freshwater supplies and storage as well as for the purposes of understanding potential impacts of construction on the water table. It is anticipated that one or more dams will be required to trap freshwater flows in the existing tributary system as well as overland flows. During periods of minimal rainfall, freshwater is required to be added to the seawater intake to reduce salinity levels for animal health. Freshwater and freshwater storage will be required.

In addition to the pond water demands, freshwater will also be required for human consumption, dust suppression and prawn processing. Options for freshwater will need to be fully investigated and may include bore water, trucked water, and potentially connecting to Mackay Regional Council's reticulated water supply network, of which there are nodes available to connect to in Bloomsbury, some 8 km from the farm gate. Mackay Regional Council's water network in the northern region of the Local Government Area is supplied from the Peter Faust Dam, a Sunwater Asset. As such, support from the Coordinator General with respect to negotiating on-farm dam approvals or other potable water supply connections may be required.

Salt Water

In order to draw sufficient salt water from the ocean to adequately supply approximately 1,000 hectares of production ponds, it will be necessary to undertake an investigation of the bathymetry of the adjacent creek's to determine the most appropriate location for water intakes. Given the large tidal fluctuations in the area, the critical nature of water supply is an important consideration in designing the farm layout and water supply configuration.

Estimated salt water demand for the production pond network is calculated at 1ML/10Ha/hour to fill the ponds and support water exchanges as required for water quality and prawn welfare for 776 hectares of production ponds, this equates to 77ML/hour.

The availability of a reliable supply of saltwater is critical to the operation of production ponds and so this piece of work is a high priority in the feasibility process. It is anticipated that modifications to the master plan, circulating network and discharge locations will be largely influenced by the results of the saltwater supply investigation and further details will be provided as the project progresses.

The saltwater network will also be required to be conveyed in a series of open drains or pipes across the site and between stages of development. The final design of each stage will be informed by the geotechnical and survey investigations but will require a series of pump and/or lift stations throughout the network.

The exact location of the intake and discharge infrastructure beyond the property boundary will be determined as the feasibility and technical studies are completed.

Roads

It is anticipated that an upgrade of Exmoor Road will be required. It is currently a rural unsealed road and is not currently proposed to be upgraded as part of Mackay regional Council's trunk infrastructure network plans, and therefore no infrastructure charges offset will be available to assist us with the funding of the necessary upgrades.

A traffic impact assessment will be undertaken during the course of the environmental studies to determine any necessary upgrades in order to bring the road to Austroads standards to cater for the proposed traffic movements and to ensure the safety of road users on both the Bruce Highway and Exmoor Road.

The traffic impact assessment will also review the flood immunity of Exmoor Road and identify any upgrades that may be necessary to minimise the impact of inclement weather. Culverts and crossings will also be assessed for load limits. Flood immunity and load limits has an impact on farm operations (availability of feed supply, fuel supply and product transport) and so it is imperative to fully understand these constraints.

Energy

Preliminary enquiries with Ergon Energy indicate that significant power upgrades will be required to the network to provide adequate supply to Exmoor Station.

Figure 7 - Geographic Energy Network

Figure 7 indicates that the network in the local area currently extends to the township of Midge Point and the development known as Laguna Quays, both located to the north of the site.

Upgrading the infrastructure in the local area would bring security and reliability of supply not only to the proposed development of Exmoor Station, but to the local township and residents in the area.

Discussions with the energy provider (Ergon) regarding supplying the estimated 20MVA of load have revealed that significant upgrade to Ergon's 66kV network would be required, and costs are estimated to range from $40M - $65M. Further information on network design, feasibility and funding options will be explored as the project progresses.

Telecommunications

As this is a remote greenfield site there is limited Telecommunications or Network Infrastructure available from any carrier (Telstra/Optus etc). Nearby neighbours are connected by Telstra Radio Telephone Services which cater for voice only services (no data/Internet).

As line of sight doesn't exist between Exmoor and Proserpine, Tassal will work with telecommunication companies to determine whether it can leverage the infrastructure proposed for the Existing Debella Prawn Farm Site at Mt Lucas. This would require an additional new site to be established near Midge Point to achieve the link. This link would be terminated at a nominated point at the Exmoor farm. From here, telecommunication and data services could be distributed locally as required. This solution is not yet designed or costed.

4.7 Timeframes for the project

Tassal is committed to a diversification strategy to build a Queensland based prawn business with an aspirational production target of 20,000 tonnes by 2030. The effectiveness of the growth strategy is reliant upon achieving sustainable operations at scale to build a global competitive advantage.

Tassal has established a project feasibility team to drive the initial investigations required to understand the characteristics of the site that inform the design of the farm. Exmoor will start feasibility and construction the same time as Proserpine Stage 4 while expansion within the footprint will be staged to progressively bring capacity to market. Feasibility work will define staging based on demand profiles, farm design and construction options, along with sound capital management. The upfront investment to build core infrastructure to the site (roads, electricity) will demand that this capacity is built efficiently.

The planned development of Exmoor Station is outlined in Figure 8 below.

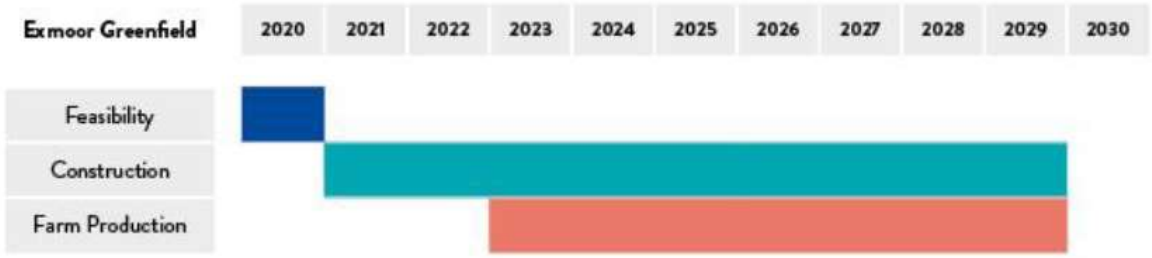

Figure 8 - Exmoor development timeline

4.8 Construction and operational processes

Due to the size of the site and the scale of construction required, it is proposed to undertake construction progressively over stages.

Stage 1

- Accommodation camp construction and/or alternative off-site accommodation;
- Approximately 200 ponds (1.3 hectares each);
- Hatchery
- Factory
- Intake, channel and discharge infrastructure including pump and lift stations required to service stage 1;

- Settlement ponds/water treatment infrastructure.

Stage 2

- Approximately 70 ponds;
- Booster Pumps from pipe/channel from Stage 1.

Stage 3

- Approximately 200 ponds;
- Additional pump station, channels and pipes;
- Hatchery expansion;
- Factory expansion;

Stage 4

- Approximately 80 ponds;
- Additional pump station and settlement pond area;

Stage 5 and beyond

- Approximately 60 ponds, possibly larger, depending on terrain model which will influence pond design and location.

Notes –

- Proposal to include up to five freshwater storage dams around the south/eastern property boundaries to assist with controlling salinity levels during dry season; attenuate storm flows through pond areas and to provide fresh water for factories, hatcheries and other applications (such as dust suppression and non-potable consumption).
- Roadworks will be required prior to construction to ensure safe movement throughout the site – the location of the roads is yet to be determined;
- Hatchery and Factories are planned for near the entrance to the site but with sufficient separation distances to ensure farm biosecurity;

Typical pond construction drawing is included as Appendix 4 – Typical Pond Construction Drawing

Ponds are typically constructed to a depth of 1.5 metres using predominantly cut and fill techniques depending on the contours of the land.

Alternating inlet and outlet channels are used to convey water through a reticulation system to ensure that water only ever passes through one pond before being discharged to ensure greater biosecurity.

At the inlet to each pond is a pipe (usually around 600mm in diameter) with concrete wingwalls reinforced by rock protection, and the outlet is a monk structure which allows the pond to be drained in approximately 4 hours. Prawns are harvested by placing nets around the outlet structure and capturing the prawns as the water flows out.

Figure 9 - Prawns nets are lifted by excavator

Once the net is lifted from the water, the prawns are released from the bottom of the net into ice bins on a nearby truck and transported immediately to the processing factory.

Figure 10 - Ice bins

4.9 Workforce requirements during construction and operation

During the construction and feasibility phase of Exmoor Station, Tassal's direct incremental employment is project to be between 5 – 10 employees, with the majority of the work to be performed by local and regional consultants. It is estimated that approximately 100 consultants will be engaged across different firms and disciplines ranging from survey and design through to heavy machinery operators.

Over the course of construction, this project will provide a steady pipeline of opportunity for both skilled and unskilled workforce and offer an alternative employment opportunity to the mining and tourism sectors.

The skills likely to be in demand during the construction phase include:

- Environmental management and planning;
- Farm operational input (such as smart farm planning);
- Civil construction (including drafting, design, management and heavy equipment operators);
- Project management;
- Builders and labourers;
- Workplace health and safety; and
- General administration.

During operations, Tassal's direct employment is project to peak at 620 employees with an indicative profile below.

Table 1 - Direct Employment Figures

	Employment per 100ha	Percentage	Proserpine	Exmoor	Projected Peak	
Tertiary Qualified	12	20%	48	123	135	Management, hatchery and farm technical team
Trade based skills inc. aquaculture certified	18	30%	72	182	200	Farm, maintenance, hatchery and processing
Administration	2	5%	8	33	35	Administration
General labour	28	45%	112	282	310	Farm and Processing
		100%	240	~600	~860	

Tassal's experience is regional employment is that for every direct job created there is a multiplier of a further indirect 5 jobs being created in the community. As such, the Exmoor Station project peak employment will translate into an estimated total employment of approximately 3,000 community jobs.

4.10 Economic Indicators

While Exmoor Station is a remote cattle station in north Queensland, there are a number of neighbouring areas which will benefit economically through Tassal's investment and development of the site. Figure 11 is a map showing the site's proximity to the centres of Proserpine to the north and Mackay to the south.

Figure 11 - The site in context to the centres of Proserpine and Mackay

Bloomsbury

The small township of Bloomsbury is located about eight kilometres from the Exmoor Station property and has a population of 599 people, which represents 0.5 per cent of the total number of people in the wider local government area of Mackay.

Of this 599 people, the majority are aged between 40-49 and 60-69, at 18.5 per cent and 17.7 per cent respectively. There is a small cohort of young people at 14.8 per cent. The unemployment rate in Bloomsbury is above the national average unemployment rate at 6.7 per cent.

It's clear that a development in the local area, which would provide stable and permanent jobs near the township of Bloomsbury would help to retain young people in the community, as opposed to the fly-in fly-out work typical of the dominant resource and mining industry dominant in this region of north Queensland.

However, it is acknowledged that Mackay Regional Council (MRC) appears to have limited appetite for growth and development in the Bloomsbury area, as is represented by the Growth Management and Urban Consolidation commentary in the Mackay Regional Council Planning Scheme. Support may therefore be required to assist Mackay Regional Council to manage growth in local areas (particularly with commercial or light industrial development). Lack of supporting services may have the potential to derail and may require further consultation with MRC.

Midge Point

Like Bloomsbury, Midge Point has a small population of 458 and sits about 30 kilometres north of the Exmoor Station property by road. The coastal town has an older population with the majority aged between 50-59 and 60-69, at 18.1 per cent and 17.2 per cent respectively. Similar to

Bloomsbury there is also a small cohort of young people aged between 10-19 at 13.7 per cent. The town's unemployment rate is substantially below the national average at 7.9 per cent.

While Midge Point has a larger population of retiree-aged people, the township also has a range of temporary and holiday style accommodation, including the Laguna Quays resort development, which could be potentially be refurbished and utilised for staff and contractor accommodation.

Mackay

Exmoor Station is situated in the Mackay region of north Queensland which is dominated by the mining and sugar cane industries. The mining and resource sector make the greatest contribution to economic output in the region, which accounts for 16.1 per cent of total output at $2.7 billion.

Despite the majority of Mackay's economic strength owing to the resources sector, only 5.4 per cent of residents are employed within the mining industry. Most Mackay residents are employed in the health care and social assistance, retail, and education and training sectors indicating that the resources sector sources staff from outside the Mackay region (FIFO).

Despite being a sugar cane dominate region of Queensland, the agriculture, forestry and fishing sector only employs only 1,873. Once operational, it's expected the Exmoor Station project would increase employment in this sector to 2493 while contributing to $95 million per annum to the economic output of Mackay.

With an unemployment rate of 6.3 per cent, Mackay sits above the national unemployment rate. The addition of another large employer in the region, such as Tassal, would obviously see this rate reduce. The Exmoor Station project also offers an opportunity for employment during the 'off season' of sugar cane harvests and would therefore not be in competition with the strong sugar cane industry around Mackay.

Unlike the two smaller communities surrounding the Exmoor site, Mackay – which sits less than 100 kilometres south of Exmoor Station has younger working population, with the majority aged between 45-54, 35-44, and 25-34, at 23.1 per cent, 20.9 per cent, and 21 per cent, respectively.

As with the northern townships of Airlie Beach and Proserpine, Mackay will be the major centre from which Tassal expects to source employees from.

Figure 12 - Mackay Population by age bracket

Whitsunday Region

The region of Whitsunday is one of the fastest growing populations in Queensland, and encompasses the major townships of Airlie Beach, Bowen, Cannonvale, Collinsville and Proserpine. There are a number of rural and coastal communities throughout the region as well.

The Whitsunday Region economic output is valued at $5.5 billion and is based largely on tourism, agriculture and mining sectors and supports 15,805 jobs for the 35,050 people who call the region home.

The mining sector makes the greatest contribution to economic output in the region, which accounts for $996.3 million, or 17.8 per cent of the total output for Whitsunday Region.

Unsurprisingly given the region's proximity to the Great Barrier Reef and Whitsunday Islands, accommodation and food services make up the largest employment sector, employing more than 17.2 per cent of residents in the region.

The next largest industry in the region is agriculture, forestry and fishing, which employs more than 10.4 per cent of residents in the region[3]. This figure does not include the staff employed at our Proserpine Prawn Farm.

Despite the Exmoor Station project sitting outside Whitsunday Regional Council boundaries, Tassal expect a significant portion of its workforce to reside in this municipality, given the proximity to the Exmoor Station property, with Proserpine sitting just 40 kilometres north of the property.

Whitsunday Region also has an above average unemployment rate, with the majority aged between 20-29, 30-39, 40-49, and 50-59, at 14.4 per cent, 13.7 per cent, 13.6 per cent, and 14.1 per cent, respectively.

Figure 13 - Proserpine region by age bracket

[3] 2016 Census

4.11 Financing requirements and implications

Tassal is a public company listed on the ASX and is part of the ASX200 index. Having recently raised $133 million to accelerate its prawn expansion program, there is a strong investor support for Tassal to execute its growth plans in Queensland. Whilst scoping studies are still being completed, the initial development horizon of stages 1 and 2 is expected to be in the vicinity of $175 million. Tassal will fund this with an appropriate mix of debt and equity noting that the Group is used to funding large capital projects.

5 Approvals Required for the Project

Aquaculture development is Queensland has historically been subject to a lengthy and complex approvals process due to the layers of the planning framework, particularly relating to the regulating of environmental impacts. In recognition of these challenges, the Queensland Government sought to identify several suitable locations for aquaculture and 6 sites within Queensland were declared as Aquaculture Development Areas (ADA's). The purpose of the ADA's was to provide guidance to investors on locations suitable for aquaculture development and to protect these areas for aquaculture-specific development.

Aquaculture land use was also codified in the single State Planning Policy (State Interests being Agriculture and Coastal environment) as well as State Code 17: Aquaculture which prescribes five performance-based outcomes to be addressed.

Tassal's vision is to ensure that the Exmoor Station aquaculture project is a fully integrated paddock to plate facility, and to achieve this vision Tassal has considered what a fully developed operation will encompass to ensure approvals for this vision culminates in a one-stop shop variation to the Mackay Regional Council Planning Scheme. It is envisaged that land uses range from hatchery and production ponds through to processing and all possible uses in between.

Approvals at all levels of Government will be required for this project and Tassal believes that the Office of the Coordinator General using the coordinated project status will ensure this is efficiently achieved. Summarised below in Table 1 are the potential approvals required during the construction and operational phases of the project.

Table 2 - Itemised Approvals Summary

Project Component/Activity	Permit/Approval/Arrangement	Lead Authority/Agency
Commonwealth Approvals		
Potential Impacts to matters of National Environmental Significance (MNES)	Referral for 'Controlled Action' determination with potential for Offset conditions	Commonwealth Department of Agriculture, Water and the Environment under s7-9 or a Strategic Assessment under s10 *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*

Use and operation of infrastructure (intake pipes and pumps and outfall) beyond the property boundary and into the Marine Park	Authority to construct and operate infrastructure in marine park	Great Barrier Reef Marine Park Authority under the *Great barrier Reef Marine Park Act 1975 (Cth)*
Transport Infrastructure (roads) suitable to carry B Double loads along Exmoor Road	Improvement of Exmoor road to standard acceptable to National Heavy Vehicle Regulator	*Heavy Vehicle National Law (Cth)*
State Approvals		
Project Coordination and Facilitation with subsequent benefits such as discretion under the *Planning Act* and *Environmental Protection Act*	Declaration as Coordinated Project and Prescribed Project	Office of the Coordinator General under to the *State Development and Public Works Organisation Act 1971*
Potential Impacts to Great Barrier Reef Marine Park for land-based aquaculture adjacent to the Great Barrier Reef	Application for use and entry to Great Barrier Reef Marine Park for intake/outfall locations	Great Barrier Reef Marine Park Authority under the *Marine Parks Act 2004*
ERA1 – Aquaculture and intensive animal industry; ERA34 – Seafood Processing	Environmental Authority to Conduct Environmentally Relevant Activity	Chief Executive – Department of Environment and Science under the *Environmental Protection Act* 1994 (Qld)
ERA16 - Extract quarry materials and screening and conduct quarry blasting to reuse materials on site	Environmental Authority to Conduct Environmentally Relevant Activity (only if blasting is required)	Chief Executive – Department of Environment and Science under the *Environmental Protection Act* 1994 (Qld)
Clearing native vegetation (other than category X)	*Permit to clear vegetation for a relevant purpose	Chief Executive – Department of Natural Resources, Mines and Energy under *Vegetation Management Act 1999* (Qld)
Install intake Pipes and outfall channel beyond property boundary, on Unallocated State Land	Permit to Occupy for works on USL	Chief Executive – *Land Act* 1994 (Qld)
Clearing of marine plants	*Permit to damage, destroy or remove marine plants	Chief Executive – Department of Agriculture and Fisheries under the *Fisheries Act* 1994 (Qld)
Clearing of native vegetation in a water course	*Permit to destroy native vegetation within a defined water course	Chief Executive – Department of Natural Resources, Mines and Energy under the
Culling wildlife (Cormorants and other predator species)	Damage mitigation permit	Chief Executive – Department of Environment and Science

		under the *Nature Conservation Act 1992* (Qld)
Destroy vegetation, excavate or place fill in a watercourse, lake or spring	Riverine Protection Permit	Chief Executive – Department of Natural Resources, Mines and Energy under the *Water Act* 2000 (Qld)
Other Operational Work approvals	Waterway Barrier Works, works in a Fish Habitat Area.	Chief Executive – Department of Agriculture and Fisheries under the *Fisheries Act* 1994 (Qld)
Works in a Fish Habitat Area	Resource Allocation Authority	Chief Executive – Department of Agriculture and Fisheries under the *Fisheries Act* 1994 (Qld)
Works on State Controlled Roads	Permits to work in Road Reserve	Transport Infrastructure Act
Local Government Approvals		
Land use zoning approval change the use of the land from rural production to Aquaculture and associated uses	Request to vary the Mackay Regional Council (MRC) Planning Scheme to allow all proposed uses to be considered 'accepted development' (previously referred to as a 'preliminary approval' or s242 Request)	Mackay Regional Council under s61 of the Planning Act
Construction works (Access & Parking, wastewater discharge, filling and excavation)	Various operational works approvals including all state referral triggers mentioned above, plus triggers identified in the MRC Planning Scheme	Either Mackay Regional Council or the Chief Executive under the Planning Act for matters where the State is the Assessment Manager

* Indicates potential Matter of State Environmental Significants to which the *Environmental Offsets Act 2014* (administered by the Department of Environment and Science) would apply.

5.1 Location of Key Project Elements

As mentioned previously (refer s3.2), the project area is located approximately halfway between the secondary urban centre of Proserpine and the major urban centre of Mackay. Access is via the Bruce Highway to Exmoor Road turnoff, with the property located approximately 8km down Exmoor Road (a local government, unsealed road).

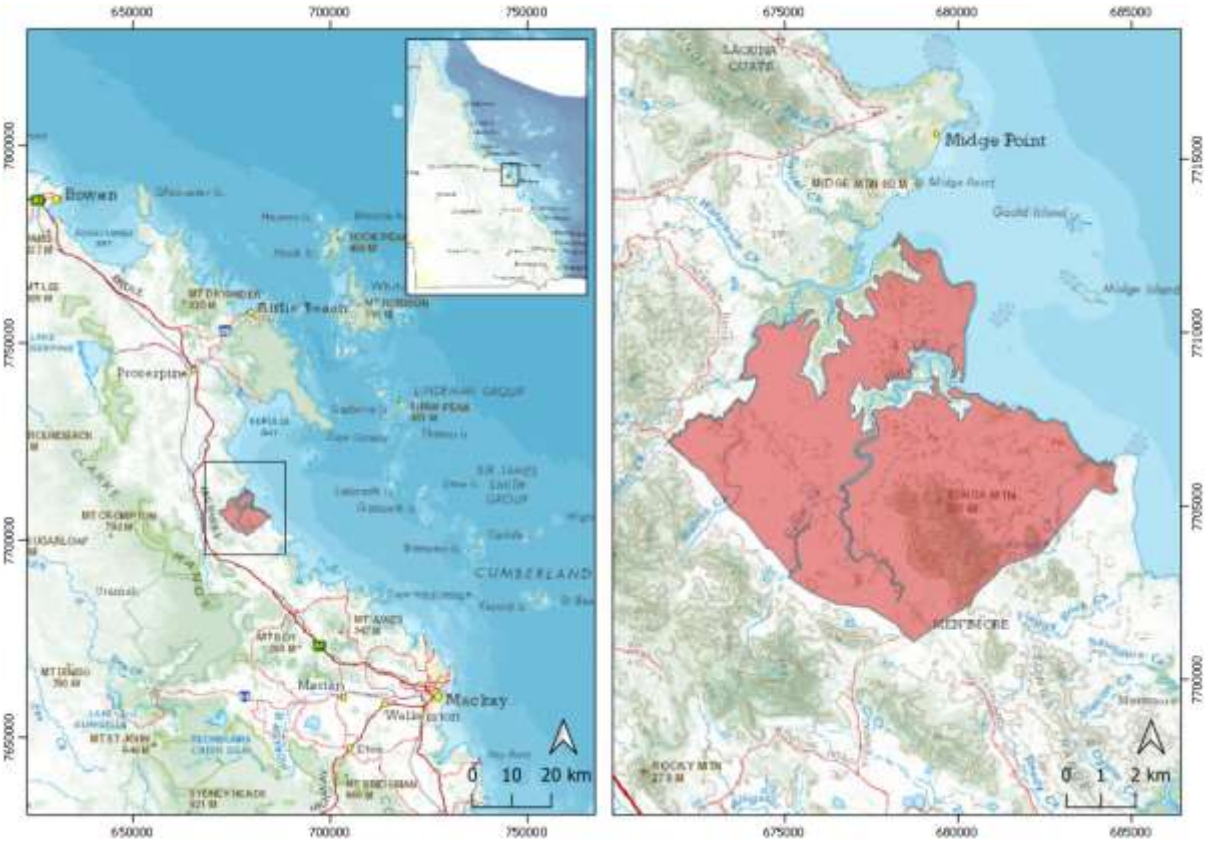

Figure 14 - Local, Regional and State Context map

The aquaculture development will predominantly be located within the property boundary of the lots, however there may be some functional requirement for infrastructure (such as intake pipes) to be outside the property boundary located on state land. The exact location of these intake pipes is yet to be determined and will be dependent on the outcome of the technical investigations to be undertaken. It is intended however to design the system such that where possible the intakes are located outside of the Great Barrier Reef World Heritage Area (GBRWHA) and the Great Barrier Reef Marine Park areas.

6 Environmental Considerations

6.1 Land Use and Built Environment

Description of existing environment

Climate

The project site is in the Central Queensland Coast Bioregion, a region characterised by a sub-tropical to tropical climate with a distinct wet and dry season. The nearest Bureau of Meteorology (BOM) weather station (station ID 033247) is located at Proserpine Airport, approximately 28km to the North West. Records of weather observations from the station are available from 1989 - 2020 (Commonweath of Australia, 2020).

Monthly mean temperatures range from a minimum of 11.2^{O}C in July to a maximum of 32.2 ^{O}C in December. **Figure 15** presents the mean minimum and mean maximum monthly temperatures.

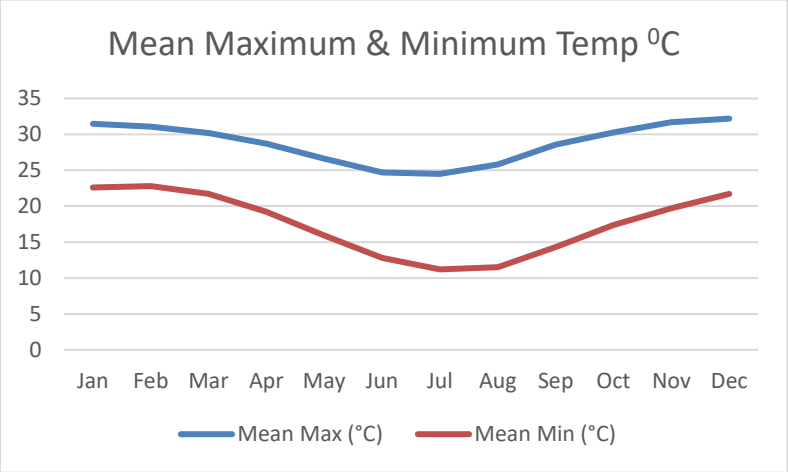

Figure 15 - Mean Maximum & Minimum Temperatures (station ID 033247)

Rainfall patterns in the region follow a distinct wet and dry season with up to 60% of annual rainfall falling between January and March. Mean annual rainfall for the site is 1,433.7mm with mean monthly falls presented in Figure 16 (Commonweath of Australia, 2020).

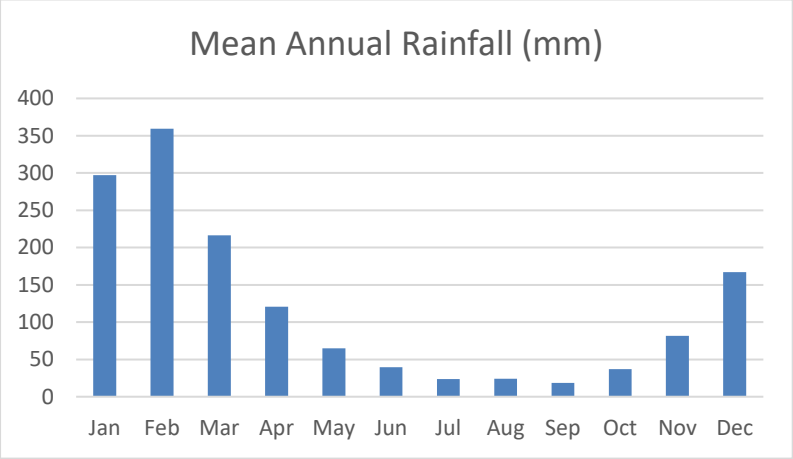

Figure 16 - Mean Annual Rainfall (station ID 033247)

The central Queensland coast is characterised by the prevailing south to winds often known as “the trade winds”. Annual prevailing wind direction at 09:00am are south to south-easterly turning to east to south-easterly by 03:00pm. Annual mean 09:00am and 03:00pm wind directions and speeds are presented in Figure 17 and Figure 18 respectively (Commonweath of Australia, 2020).

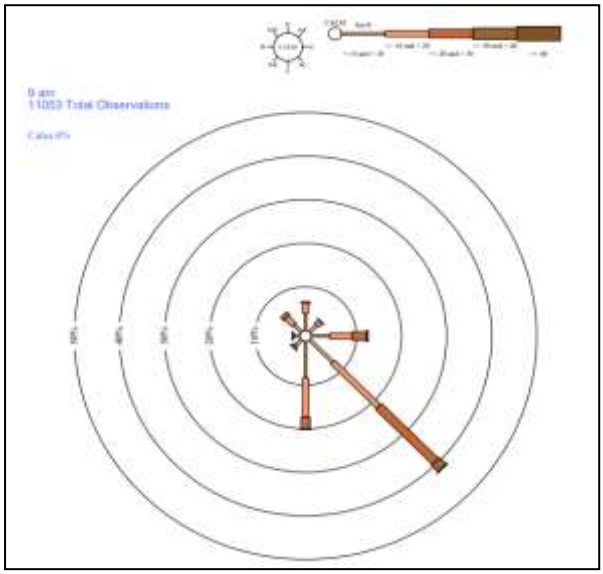

Figure 17 - Annual 09:00am prevailing wind direction and speed (station ID 033247)

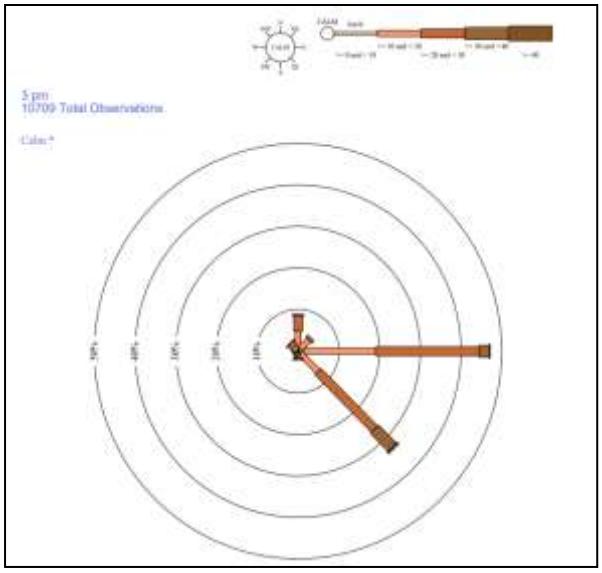

Figure 18 - Annual 03:00pm prevailing wind direction and speed (station ID 033247)

The climatic conditions of the central QLD coast do require consideration for both the construction and operational phases of an aquaculture facility. Long periods of high temperature, low rainfall and high wind speeds create challenges in maintaining pond salinity levels conducive to prawn health. High rainfall periods and associated flooding (Refer to Figure 16) require careful consideration in regard to site access, maintaining pond water quality and construction and maintenance methods. De Costi Seafoods are experienced in the operation of aquaculture facilities in both sub-tropical and tropical climates owning and operating prawn farms in Yamba, Mission Beach and Proserpine.

Topography

The project area is characterised by low grade slopes on undulating hills to steep mountainous terrain. The terrain ranges from its highest point at Tonga Mountain 240 m Australian Height Datum (AHD), to sea level. The area is characterised by an abundance of drainage features and watercourses formed due to the undulating and steep terrain of the area.

Major watercourses on the site include:

- Rosella Creek;
- Hervey Creek;
- Dempster Creek;
- Rebus Creek; and
- Cedar Creek.

The area's topography and watercourses can be seen in **Figure 19**.

The topography of the site includes level terrain suitable for the construction of aquaculture ponds and associated infrastructure. Harvey and Dempster Creek estuaries hold a large volume of high-quality water required by the proposal.

Figure 19 - Site topography and watercourses

Site Geology

Geology within the project site is dominated by rocks of the Campwyn Volcanics, covering approximately 5800 Ha. Quaternary sediments (Qa) are subdominant, totalling approximately 700 Ha. Minor amounts of marine (Qm) and beach (Qhcb) deposits exist in mangrove and coastal areas (State of Queensland, 2020).

Queries of the Queensland Globe (Queensland Government, 2020) indicate that no exploration or groundwater bores have been established within the project boundary. The closest groundwater

bore (ID 162290) was established approximately 300 m west of the project boundary in alluvial; material (Qa). Bore logs indicate that drilling intersected soil to a depth of 0.6 m, clay and gravel to 5 m as well as weathered to fresh basalt to 27.4 m. Site Geology is presented in **Figure 20**.

Figure 20 – Project Site Geology

Soils

Existing mapping of soils within the project site are limited. According to the Atlas of Australian Soils (CSIRO, 2013), the project site is characterised by 3 soil types. These soil types are outlined in Table 3.

Table 3 - Soil types within the project area

Code	Description
J4	Uniform fine, plastic solum, few peds, mottled horizon below A1 horizon
ME2	Gradational brown, A2 horizon nonbleached, acid smooth-ped whole col B horizon
Tb114	Duplex yellow-grey, hard setting A horizon, A2 horizon conspic bleached, acid pedal mottled B horizon

Acid Sulfate Soils

Acid Sulfate Soil (ASS) assessments have previously been conducted within the Mackay region between Shoal Point and Sandy Creek as well as the Proserpine area (Department of Environment & Science, 2020). No ASS assessment has been undertaken on the project site, however ASS is known to be present in coastal areas, particularly lower than 5 metres AHD. **Figure 19** depicts the sites topography and natural watercourses.

Contaminated Land

A search of the Environmental Management Register (EMR) and Contaminated Land Register (CLR) has not identified any contaminated or potentially contaminated land within the project site (Appendix 3). As the property has been used for beef production for the past 50 years, there is the potential that some areas of contaminated land exist associated with historical cattle dips.

If contaminated land is confirmed on the site, De Costi Seafoods are aware of the General Environmental Duty and Duty to Notify required under the Environmental Protection Act 1994.

Groundwater

According to Queensland Globe (Queensland Government, 2020), no existing or decommissioned groundwater bores exist within the project boundary. Groundwater bores in proximity to the site are summarised in Table 4.

Table 4 - Summary of nearby groundwater bores

ID	Easting	Northing	Distance from Site (metres)	SWL (MBGL)
162990	673717	7709627	300	N/A
162990	673462	7709627	500	N/A
162443	673125	7710161	1,100	15.70
162197	672092	7708873	1.600	10.00

Groundwater bore reports outline that bores were established in weathered to fresh basalt. The location of bores and material intersected indicates that the bores are potentially established within the Camila Beds. There are no available details regarding the Standing Water Level (SWL) of groundwater within the Campwyn Volcanics.

The main nationally recognised Environmental Values or uses of groundwater relevant to the project site are:

- Ecosystem protection (flora, fauna and habitat)
- Agricultural use (irrigation and stock watering)
- Recreational use
- Drinking water supply
- Cultural values

Land use

The project site is currently utilised almost entirely for grazing purposes, with the site being extensively cleared. The site is divided into 14 paddocks and has historically run up to 4000 head of cattle. Associated infrastructure includes two residential houses, two large machinery sheds, cattle yards, tanks and other agricultural equipment. Further information regarding land use and tenure can be seen in section 3.2.

The proposal will look to maximise the use of the property where the topography lends itself to the construction of aquaculture ponds. These areas can be seen in **Appendix 2** The proposal will also include the construction of a hatchery, processing plant, drainage channels, freshwater dams, water treatment ponds and upgrades to the internal road network.

Applicable Planning Instruments

The proposed project triggers planning instruments at the Local, State and Commonwealth levels of government. Consideration has been given to the range of required approvals needed for the proposal to be realised. The identified approvals process has been described in Section 5.

Potential Project Impacts

The potential environmental impacts of the project relating to the current land use and built environment have been assessed for both construction and operational impacts and include:

- Disturbance of soil that can result in sediment or dust transportation to the receiving environment, particularly during the wet season and high wind periods;
- Disturbance of Acid Sulfate Soil;
- Interference of shallow groundwater aquafers;
- Impacts to groundwater dependent ecosystems; and
- Minor changes to topography from the construction of ponds and associated infrastructure.

Management & Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project, the following measures will be considered and developed during the EIS process:

Erosion & Sediment Plan – An erosion and sediment control plan will be developed by a suitably qualified person addressing all stages of construction. The plan will be completed in accordance with best practice erosion and sediment control standards. The plan will be informed by a detailed geotechnical survey identifying any high-risk soils and/or locations.

Acid Sulfate Soil Assessment – An ASS survey completed according to the Australian Soil and Land Survey Handbook Third Edition[5] will be undertaken for the entire project footprint. Any potentially ASSs will be managed by the development and implementation of a site-specific Acid Sulfate Soil Management Plan (ASSMP). The plan will be developed in accordance with Queensland Acid Sulfate Soil Technical Manual – Soil Management Guidelines V4.0, 20141.

Groundwater Assessment – A geophysical survey completed to assess any ground water that may be potentially impacted by the proposed development. Based on the findings of this survey a groundwater impact assessment may be required and completed in accordance with the guideline - Using monitoring data to assess groundwater quality and potential environmental impacts (State of Queensland, 2017) . The relatively shallow depth of ponds (approximately 1.5 metres), reduces the risk of encountering groundwater. Ponds will be constructed in a manner that results in a very low permeability, ensuring no loss of saline water through the ponds occurs. The implementation of a Receiving Environmental Monitoring Plan (REMP) will include the monitoring of groundwater.

Master Plan Design – The proposed Master Plan has been designed and positioned with consideration to adjoining land uses. The minor alteration in topography caused by the development will not result in the loss of amenity including sight lines by nearby settlements or neighbours. A site remediation plan will also be considered should the project site look to be abandoned and require rehabilitation.

6.2 Terrestrial and Aquatic Ecology

Description of existing environment

Vegetation

Regional Ecosystems

Due to the extensive grazing history associated with the property, most of the native vegetation has been extensively cleared. Vegetation is predominantly non-remnant grasslands, consisting of both improved and unimproved pastures for cattle grazing.

A Property Map of Assessable Vegetation ("PMAV") No 2009/002950 was executed on the 3rd November 2009 pursuant to Section 70B of the Vegetation Management Act 1999 (Refer Appendix 3 The PMAV covers the entirety of:

- Lot 43 on Plan CI801;
- Lot 44 on Plan CI801;
- Lot 45 on Plan CI796; and

- Lot 1441 on Plan C124391.

A total of 13 Central Queensland Coast Regional Ecosystems (RE's) are mapped within the property. Of the mapped RE's, two (2) RE's (8.3.2 and 8.2.13) are mapped as "endangered and four (4) RE's (8.1.3, 8.2.1, 8.2.6, and 8.3.5) are mapped as "of concern". The remaining mapped RE's are listed as "least concern". Table 5 provides a summary of the vegetation communities mapped within the property.

Endangered and of concern vegetation communities are mainly confined to riparian areas along waterways and drainage features, or low-lying wetland areas of the property.

Most of the remaining remnant native vegetation is located on Lot 44 Plan CI801 and associated with the Tonga Range (Tonga Mountain). Isolated patches of remnant vegetation appear to be largely constrained to elevated hills or rocky outcrops where clearing would have been logistically difficult.

All marine and wetland areas appear to be largely intact and uncleared.

A summary of regulated vegetation categories and representative areas can be seen in **Table 6**.

Table 5 - Regional Vegetation Communities

Regional Ecosystem	Description	BD Status	Area (Ha)	% of AOI
8.1.1	Mangrove closed forest of marine clay plains and estuaries	No concern at present	13.03	0.44
8.1.2	Samphire open forbland on saltpans and plains adjacent to mangroves	Of concern	28.08	0.87
8.1.3	Sporobolus virginicus tussock grassland on marine sediments	Of concern	6.16	0.21
8.12.20a	Eucalyptus drepanophylla and/or E. platyphylla +/- Corymbia spp. +/- E. crebra woodland on low gently undulating landscapes on Mesozoic to Proterozoic igneous rock	No concern at present	73.68	2.47
8.12.3a	Evergreen to semi-evergreen, notophyll to microphyll, vine forest to vine thicket, of foothills and uplands on Mesozoic to Proterozoic igneous rocks	No concern at present	126.8	3.86
8.12.6a	Eucalyptus drepanophylla +/- E. platyphylla +/- Corymbia clarksoniana woodland on low to medium hills, on Mesozoic to Proterozoic igneous rocks	No concern at present	2.49	0.08
8.2.1	Casuarina equisetifolia low woodland and/or sparse herbland to open scrub on foredunes and beaches	Of concern	4.05	0.12
8.2.6a	Corymbia tessellaris +/- Acacia leptocarpa +/- Allocasuarina littoralis +/- Banksia	Of concern	11.03	0.37

	integrifolia +/- rainforest species open forest on parallel dunes			
8.3.2	Melaleuca viridiflora woodland on seasonally inundated alluvial plains with impeded drainage	Endangered	6.24	0.21
8.3.3a	Melaleuca leucadendra and/or M. fluviatilis and/or Casuarina cunninghamiana +/- Syncarpia glomulifera open forest, on creek banks	Of concern	12.04	0.4
8.3.5	Eucalyptus platyphylla and/or Lophostemon suaveolens and/or Corymbia clarksoniana woodland on alluvial plains	Endangered	2.09	0.07
8.3.6a	Eucalyptus tereticornis and/or Corymbia intermedia (or C. clarksoniana) and/or C. tessellaris +/- Lophostemon suaveolens open forest on alluvial levees and lower terraces	Of Concern	3.65	0.11

Table 6 - Summary of Vegetation Management Categories

Vegetation Category	43CI801	44CI801	45CI796	1441C124391
Category B	137.89	836.42	0.15	6.45
Category C	0	0	0	0
Category R	15.8	7.94	2.0	0.47
Category X	2829.14	2443.59	449.46	73.63

Matters of State Environmental Significance

A Matters of Sate Environmental Significance (MSES) desktop assessment was undertaken to identify where biodiversity values are potentially located on the property. This included downloading a MSES report from the Department of Environment and Science (Department of Environment and Science, 2018). It should be noted that the following matters have not been ground-truthed and it is proposed that detailed flora and fauna surveys will be conducted during the EIS process to ensure a realistic profile of MSES. A summary of MSES identified during the desktop analysis can be seen listed in Table 7.

Table 7 - Matters of State Environmental Significance

Matter of State Environmental Significance	Ha	%
Lot 43 CI801		
5 High Ecological Significance wetlands on the map of Referable Wetlands	10.69	0.4
7 Threatened species and Iconic species	81.82	2.7

8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	48.68	1.6
8c Regulated Vegetation - Category R (GBR riverine regrowth	15.8	0.5%
8d Regulated Vegetation - Essential habitat	38.0	1.3
8e Regulated Vegetation - intersecting a watercourse	26.0 km	N/A
Lot 44 CI801		
7 Threatened species and Iconic species	150.7	4.6
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	64.07	1.9
8c Regulated Vegetation - Category R (GBR riverine regrowth	7.94	0.2
8d Regulated Vegetation - Essential habitat	57.15	1.7
8e Regulated Vegetation - intersecting a watercourse *	44.8	N/A
Lot 45 CI796		
8c Regulated Vegetation - Category R (GBR riverine regrowth	2.0	0.4
8e Regulated Vegetation - intersecting a watercourse	6.0	N/A
Lot 1441 C124391		
8c Regulated Vegetation - Category R (GBR riverine regrowth	0.47	0.6
8e Regulated Vegetation - intersecting a watercourse	1.2	N/A

Threatened ecological communities (EPBC Act)

The Environment Protection and Biodiversity Conservation (EPBC) Protected Matters Search Tool (Department of Agriculture, 2015) identified two (2) listed threatened ecological communities as potentially being found on the property (Department of Agriculture, Water and the Environment, 2020). These include:

- Broad leaf tea-tree (Melaleuca viridiflora) woodlands in high rainfall coastal north Queensland; and
- Littoral Rainforest and Coastal Vine Thickets of Eastern Australia.

Additional information including the quality of this habitat will be determined once detailed flora and fauna surveys have been completed.

Marine Plants

Regional Ecosystems (RE) mapped for the property include 8.1.1, 8.1.2, 8.1.3 and contain marine plants which are defined in the Fisheries Act 1994 to include mangroves, seagrass, saltcouch, samphires, and algae growing on or adjacent to tidal lands.

Fauna

Desktop assessments of both Commonwealth listed, and state listed species of conservation significance, identified threatened fauna species (or their habitat) as likely to occur in the project area. Results of the protected matters search tool (Department of Agriculture, 2015) and other searches should be considered indicative only and may identify a wide variety of species that may not actually occur within the property boundary.

In addition to the protected matters search results, species identified as Endangered, Vulnerable or Near Threatened according the Nature Conservation Act 1992 that are relevant to the property were determined through an Atlas of Living Australia search (Atlas of Living Australia, 2020) and a Queensland Wildlife Online Search (Department of Environment and Science, 2018).

After undertaking species searches and an analysis of likelihood, it was determined that, in total, 174 fauna species are considered to have the potential to occur or have been previously recorded within or around the property. These include 2 reptile species (2 common native species), 16 mammal species (12 common native species, 3 conservation significant species) and 156 birds (138 common native species, 18 conservation significant species).

Of these species, the following species are considered to have the highest risk of being impacted by the project.

- Eastern Curlew (Numenius madagascariensis) (CE)
- Squatter Pigeon (Geophaps scripta scripta);
- Water Mouse (Xeromys myoides);
- Green Turtle (Chelonia mydas) (V)
- Flatback Turtle (Natator depressus) (V)

During the EIS process detailed flora and fauna surveys will be completed to determine the presence of the above listed species and any additional species that may be present on the site.

Pests

Limited information was available to conduct a desktop assessment for the presence of both pest plants and animals. A comprehensive flora and fauna survey will be conducted during the EIS process to ensure a profile of pest plants and animals on the project site is determined.

Potential Project Impacts

The potential environmental impacts of the proposal relating to aquatic and terrestrial ecology have been assessed for construction and operational impacts and include:

- Removal of vegetation including MSES and threatened ecological communities;
- Disturbance to Marine Plants;
- Disturbance or direct impacts to Fauna including Endangered, Vulnerable or Near Threatened species; and
- Introduction and spread of pest plants and or animals.

Management Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project, the following measures will be considered and developed during the EIS process:

Master Plan Design - The proposed Master Plan has been designed to minimise impacts to the natural environment by positioning the development in areas of existing disturbance. The opportunity exists to avoid listed endangered and of concern regional ecosystem vegetation communities within the property boundary.

Ecological Assessment – A detailed flora and fauna assessment of the construction footprint and potentially impacted areas will be undertaken. The assessment would focus on accurately mapping the spatial extent of on ground vegetation, threatened ecological communities, and essential habitat. The assessment will enable the development of a fauna impact assessment and guide the development of any biodiversity offset or exchange areas.

Any approved clearing of native vegetation will be undertaken in the presence of suitably qualified Fauna spotters/relocators. Due to the site being significantly cleared it is likely the development will have minimal impact on habitat for locally occurring species.

Improved Farming Practices –The implementation of improved grazing land management practices will result in the conservation of both terrestrial and aquatic ecosystems from the impacts of grazing cattle.

Receiving Environment Monitoring Plan – The development of a Receiving Environmental Monitoring Plan (REMP) will determine any impacts from the development to marine plants (mangroves, seagrass etc) and ensure the receiving environmental values are protected and maintained.

Environmental Management System – During operations the site will be managed to conserve the natural environment including, minimising any disturbance to native vegetation or fauna, undertaking/participating in regional pest management programs and ecological burning practices. Invasive plants and animals are predicted to be amongst the greatest threat to flora and fauna on the site. The establishment of an Environmental Management System will provide the required governance to ensure the ongoing protection of the natural environment on the site.

6.3 Water

Description of Existing Environment

Watercourses

The project site is located entirely within the Waterhole Creek sub catchment within the O'Connell River drainage basin (Basin 124 under the Environmental Protection (Water) Policy 2009). The site is characterised by an abundance of drainage features and watercourses formed due to the undulating and steep terrain of the area (**Figure 19**). Major watercourses on the site include:

- Rosella Creek;
- Hervey Creek;
- Dempster Creek;

- Rebus Creek; and
- Cedar Creek

These watercourses transport catchment runoff from a maximum elevation of 240 m AHD to sea level over a distance of 5-10km. Several large estuaries are present within the project site particularly at the eastern extent of Harvey and Dempster Creeks. These two estuaries receive the largest volume of runoff from the project site, where it then enters the Great Barrier Reef Marine Park.

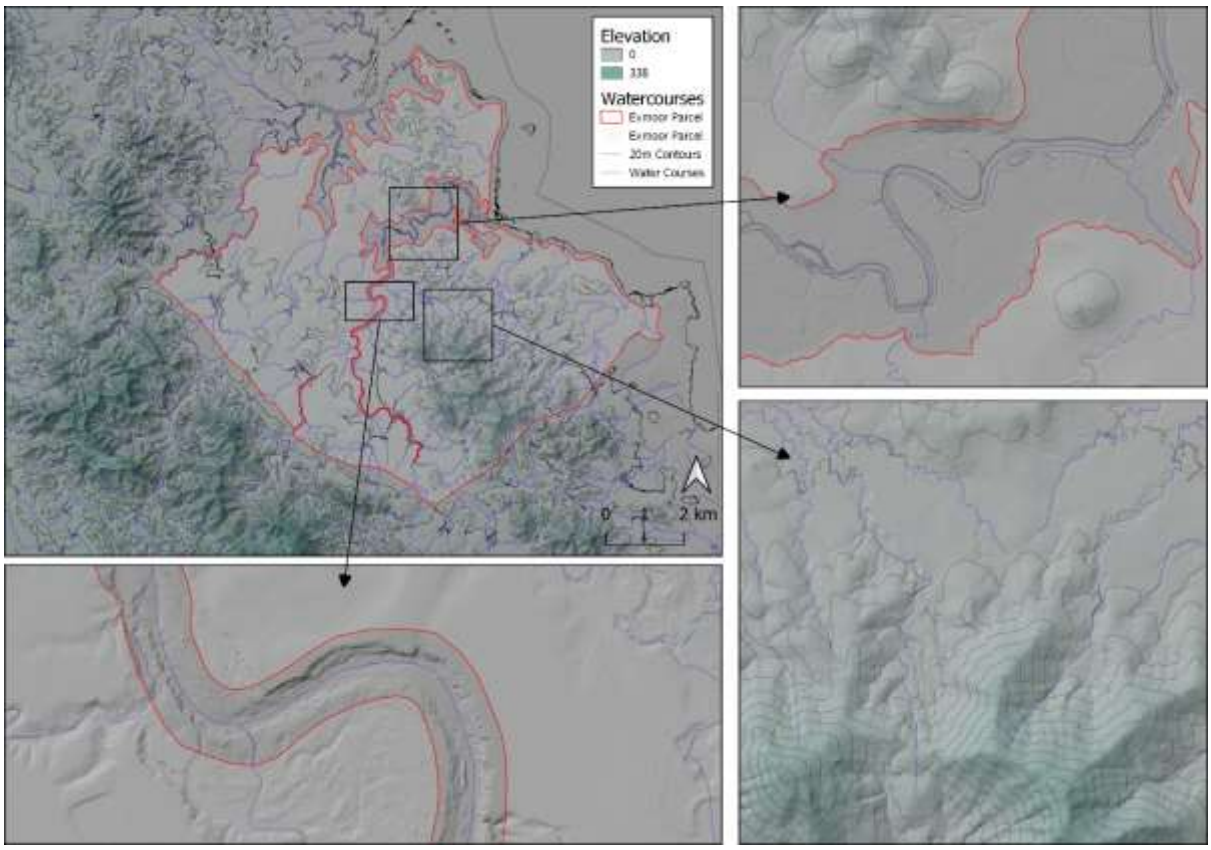

Figure 21 - Digital Elevation Model of the Project Site

Wetlands

A desktop assessment of the project site has been undertaken using the Queensland Wetland Map and the map of referable wetlands (Queensland Government, 2020). The following wetland types are mapped as occurring within the Project site:

- Riverine wetlands;
- Palustrine wetlands
- Lacustrine wetlands
- Marine wetlands
- Estuarine wetlands

No high ecological significance (HES) or general ecological significance (GES) wetlands are within 200 metres of the project property boundary. There are also no mapped Ramsar wetlands or wetlands listed in the Directory of Important Wetlands on the project site.

Waterway Barrier Works

Under the Planning Regulation 2017, works involving constructing or raising waterway barrier works must be undertaken in accordance with the relevant accepted development requirements or under a development approval (assessable development).

A large number of watercourses within the project site are identified as waterways under the Queensland waterway for waterway barrier works spatial data layer (Queensland Government, 2020). A small portion of these watercourses are also mapped as tidal waterways. These waterways can be seen in **Figure 22**.

It is anticipated that upgrades to the internal road network and other infrastructure (eg pipelines) will impact upon waterways for waterway barrier works and that the relevant Accepted Development Rules and Guidelines will be utilised where possible.

Figure 22 - Qld Waterway Barrier Works

Water Quality & Availability

The proposed development intends to extract and release water from both Harvey and Dempster Creeks (estuary areas) to enable the production of prawns. It is well known that untreated

aquaculture pond effluent is high in nitrogen, phosphorus and sediments. These pollutants have been identified within the Reef 2050 Water Quality Improvement Plan as key pollutants to manage.

With the project site being extensively cleared and utilised for cattle production, it is expected that this land use is providing a diffuse source of sediments and nutrients that is above that which would occur from natural ecosystems (e.g. forest and conservation areas). Sources of erosion derived pollutants are visible on the project site, with evidence of cattle accessing riparian and other sensitive areas.

A range of Commonwealth and State Government planning instruments are in place to protect both fresh, estuarine and marine water environments within and adjacent the project site. This includes the EPBC protected, World Heritage Listed Great Barrier Reef. These instruments and the protection measures that relate to the proposed development are presented below.

Reef 2050 Long-term Sustainability & Water Quality Improvement Plans

The Reef 2050 Long-term Sustainability Plan (Commonwealth of Australia, 2018) was developed to improve the Great Barrier Reef's (GBR) outstanding universal value every decade between 2018 and 2050. This plan identifies climate change, land-based run-off, coastal land use change and direct impacts (illegal fishing etc) as the highest risks to the GBR.

The Reef 2050 Water Quality Improvement Plan 2017-2022 (State of Queensland, 2018) outlines the Australian and Queensland Governments commitment to the Reef 2050 Long-term Sustainability Plan. This includes identifying management and monitoring requirements for all land-based pollution to improve the quality of water flowing into to the GBR.

Marine Environmental Values and Regional Guideline Values

The State Planning Policy (SPP) has mapped the marine environment adjacent to the site as being "slightly disturbed". The Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (EPP (Water and Wetland Biodiversity)) describes slightly disturbed marine areas as aquatic ecosystem that have unmodified biological indicators, but slightly modified physical, chemical and other indicators.

The EPP (Water & Wetland Biodiversity) sets Environmental values (EVs) and water quality guideline values for the Mackay-Whitsunday region. EVs established for estuarine and marine waters adjacent the project site includes:

- **Human consumption** - Human consumption of wild or stocked fish or crustaceans
- **Primary recreation** - Primary recreation with direct contact with water such as swimming or snorkelling
- **Secondary recreation** - Secondary recreation with indirect contact with water such as boating, canoeing or sailing
- **Visual appreciation** - Visual appreciation with no contact with water such as recreation, bushwalking, sight seeing
- **Cultural & Spiritual** - Cultural and spiritual values including the cultural values of traditional owners

Coastal water quality guideline values for the Central QLD Coast can be seen in **Table 8**.

Table 8 - Regional guideline values for physico-chemical indicators – Central Coast region coastal waters. (based on the GBRMPA and the QWQG guidelines)

Water Type	Physico-chemical indicators & their guideline1 values (slightly to moderately disturbed systems)														
	Ammn	Oxid N	Particulate N3	Total N	Filtrt P	Particulatn P3	Total P	Chl-a2	TSS	Turb	Secchi4	pH		DO (%satn)	
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(NTU)	(m)	lower	upper	lower	upper
Open Coastal	4	3	20	140	6	2.8	20	0.45	2	2	10	8.1	8.4	95	105
Midshelf	4	2	20	140	6	2.8	20	0.45	2	<1	10	8.1	8.4	95	105
Offshore	2	2	17	120	5	1.9	12	0.4	0.7	<1	17	8.1	8.4	95	105
Note 1	Guideline values for PN, PP, Chl a, Secchi and TSS should be compared to mean values rather than median values (see GBRMPA Guidelines, accessible at the following web link: http://www.gbrmpa.gov.au/corp_site/key_issues/water_quality/draft_water_quality_guidelines).														
Note 2	Chlorophyll values are ~40% higher in summer (0.63µg/L) and ~30% lower in winter (0.32µg/L) than mean annual values. Both the annual mean and these seasonal mean values should be regarded equally as guideline values for assessment purposes.														
Note 3	Seasonal (winter/summer) adjustments for TSS, PN and PP guidelines are approximately ±20% of the annual mean values.														
Note 4	Guideline trigger values for water clarity need to be decreased by 20% for areas with greater than 5m tidal ranges.														

Source: (Queensland, 2013)

Fresh & Estuarine Waters Environmental Values & Water Quality Objectives

In addition to marine environments the project site includes a significant number of fresh and estuarine environments, made up primarily of riverine wetlands. EVs and water quality objectives (WQOs) for fresh and estuarine waters have been determined under the EPP (Water & Wetland Biodiversity) for the Waterhole Creek sub-catchment. These EVs include:

- **Aquatic Ecosystems** - Water for freshwater aquatic ecosystem protection
- **Irrigation** - Irrigating crops such as cane, legumes, etc
- **Stock Watering** - Water for stock consumption
- **Farm Use** - Water for farm use such as in fruit packing or milking sheds, etc
- **Human consumption** - Human consumption of wild or stocked fish, crustaceans or shellfish
- **Primary recreation** - Primary recreation with direct contact with water such as swimming or snorkelling
- **Visual appreciation** - Visual appreciation with no contact with water such as recreation, bushwalking, sightseeing
- **Drinking** - Raw drinking water supplies for human consumption
- **Industrial** - Water for industrial use such as power generation, manufacturing plants
- **Cultural & Spiritual -** Cultural and spiritual values including the cultural values of traditional owners

WQOs set for Waterhole Creek sub-catchment can be seen in in **Table 9.**

Table 9 - Waterhole Creek Sub catchment – Water quality objectives to protect ecosystem environmental values for 20th, 50th and 80th percentiles

	DIN µg/L	PN µg/L	FRP µg/L	PP µg/L	DO % Sat	TSS mg/L	pH		EC µS/cm
20th	9	21	12	4	50*	0	6.5	8.5	320
50th	18	39	22	9	-	1	6.5	8.5	483
80th	46	62	28	13	120*	1	6.5	8.5	600

** During period of flow*

End-of-Basin Load Water Quality Objectives

In addition to the sub-catchment WQOs, the EPP (Water and Wetlands Biodiversity) has outlined end of basin load reef WQOs. These WQOs have been developed to support and protect reef aquatic ecosystems. The end-of-basin anthropogenic load WQOs for dissolved inorganic nitrogen and fine sediments to be achieved by 2025 for the O'Connell Basin can be seen below in **Table 10**.

Table 10**:** End-of-basin anthropogenic load targets.

NRM Region	River Basin Name	Anthropogenic Dissolved inorganic nitrogen (DIN) shown as tonnes per year	Anthropogenic Fine sediments (FS) shown as tonnes per year
Mackay Whitsunday	O'Connell	56	145,000

Source: (State of Queensland, 2019)

Water Resource Planning Areas

Central Queensland has a number of QLD water resource planning areas established under the Water Act 2000. The project site however, is located outside of a QLD water resource planning area.

Potential Project Impacts

The potential environmental impacts of the proposal relating to water have been assessed for construction and operational impacts and include:

- Reduction in water quality within aquatic environments due to soil and sediment entering watercourses during construction activities;
- Adverse changes to hydrology within waterways and estuaries due to the operational extraction and release of water to and from aquaculture ponds;
- Adverse changes to catchment hydrology increasing flood risk to surrounding properties;
- A decline in water quality (increases in nutrients and sediments) entering the GBRMP from pond effluent;
- Impacts to ecosystem health and values of the GBRMP due to physico-chemical impacts from the release of pond effluent;

- Infrastructure locations causing changes to site hydrology and increasing stream bed and bank erosion;
- Creation of barriers from water crossings and other infrastructure limiting the movement of diadromous fish species; and
- Changes in site hydrology due to the construction of freshwater dams.

Management & Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project, the following measures will be considered and developed during the EIS process:

Erosion & Sediment Plan – An erosion and sediment control plan will be developed and implemented by a suitably qualified person/s addressing all stages of construction. The plan will be completed in accordance with best practice erosion and sediment control standards (International Erosion Control Association). The plan will be informed by detailed geotechnical surveys identifying any high-risk soils and/or locations.

Estuary Hydrology Assessment - To determine the quantity of water that can be extracted and released from Harvey and Dempster Creek estuaries without causing adverse environmental impacts, a detailed hydraulic assessment is proposed. To do this a numerical model will be developed utilising the estuaries bathymetry, tidal heights, flow profiles and tidal prism characteristics.

Catchment Hydrology Assessment – A 2D catchment model will be developed to ensure catchment hydrology is not adversely impacted by the development and the development is designed for an appropriate level of flood risk.

Water Quality Determination – A mass balance pollutant model will be developed to quantify the total load and concentrations of pollutants within pond effluent and the effectiveness of treatment measures. The model will be calibrated using monitored data from De Costi Seafoods Proserpine Prawn Farm.

Effluent Water Quality Treatment – The treatment of pond effluent will be undertaken to minimise any impact to the receiving environment and environmental values.

Pollutant Dispersion Assessment – Dispersion modelling of water entering the receiving environment (estuaries) will be undertaken to ensure its physico-chemical characteristics do not adversely impact the estuarine and marine environment including the GBRMP.

Receiving Environment Monitoring Plan – The development of a REMP will determine any potential impacts relating to water from the project to ensure that receiving environmental values are protected and maintained. Monitoring would include surface and groundwater monitoring.

Fish Passage Preservation – Fish passage would be maintained with the construction of roads and other infrastructure crossing identified barrier works waterways, via engineering design that is fish friendly and aims to achieve accepted development requirements for barrier works.

Improved Land Use Management – The reduction in the area utilised for grazing cattle, improved stocking rates and the implementation of improved grazing land management practices will result in a reduction in nutrients and sediment generation from the property. This will improve water quality and conserve environmentally sensitive areas from the impacts of grazing cattle.

6.4 Noise

Description of existing environment

The surrounding environment is dominated by pastoral lands to the north, west and south with the coral sea located to the east. Current background noise emissions from the project site are described as being low. Background noise is confined to stock management (mustering and yard work) and a small number of vehicle movements associated with property maintenance activities (fencing etc).

In accordance with Environmental Protection Policy (Noise) 2008, sensitive receptors relative to the project site are confined to residential dwellings.

The Environmental Protection (Noise) Policy 2008 details environmental values which are to be protected or enhanced. These include:

> a) the qualities of the acoustic environment that are conducive to protecting the health and biodiversity of ecosystems; and
>
> b) the qualities of the acoustic environment that are conducive to human health and wellbeing, including by ensuring a suitable acoustic environment for individuals to do any of the following:
>
> > i. sleep;
> >
> > ii. study or learn;
> >
> > iii. be involved in recreation, including relaxation and conversation; and
> >
> > iv. the qualities of the acoustic environment that are conducive to protecting the amenity of the community.

A review of aerial photography and Land Parcel data derived from the Queensland Governments Queensland Globe (State of Queensland, 2020) portal determined that there are 8 sensitive receivers (residential dwellings) within a 2 km radius from the project. No other sensitive receivers were identified within a 2 km radius.

Schedule 1 of the EPP (Noise) 2008, details acoustic quality objectives to be achieved, to protect or enhance EVs. The noise objectives relating to dwellings can be seen in **Table 11.**

Table 11 - Acoustic Quality Objectives (Dwellings)

Sensitive Receiver	Time of Day	Acoustic Quality Objective			EV
Dwelling (Outdoors)	daytime and evening	50	55	65	health and wellbeing
Dwelling (Outdoors)	daytime and evening	35	40	45	health and wellbeing
	night-time	30	35	40	

Source - Schedule 1 of the EPP (Noise) 2008

Possible noise sources associated with construction and the day to day operations of the proposal have been broken into construction, stationary and mobile noise sources.

Construction Noise Measures

During the construction phase, the main sources of noise will be emitted by plant constructing ponds, bund walls processing facility and hatchery. This will include:

- Scrapers;
- Excavators;
- Bulldozers;
- Graders;
- Water trucks;
- Light vehicles;
- Trucks; and
- Cranes.

Stationary Noise Sources

The Project will involve the operation of aquaculture ponds and associated processing infrastructure. The main source of noise from the Project will be emitted by aquaculture infrastructure which includes (but may not be confined to):

- Intake water pumps and filters;
- Discharge water pumps and filters;
- Aeration paddles;
- Air-conditioning units;
- Compressors; and
- Generators.

Mobile Sources

Mobile sources of noise will be generated by day to day aquaculture activities. These sources include (but may not be confined to)

- Loading/unloading of trucks;
- Processing activities;
- Vehicle movements;
- Reversing alarms; and
- Site maintenance (e.g. repairs, grounds keeping etc.).

Potential Project Impacts

The potential environmental impacts of the proposal relating noise have been assessed for construction and operational impacts and include:

- A reduction in the acoustic environment due to construction and operational phases of the proposal, impacting the health and biodiversity of ecosystems and human health and wellbeing.

Management & Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project, a noise management plan will be considered and developed during the EIS process. The plan will be developed with appropriate background noise assessment and noise emission assessments from proposed activity. The objective is to ensure the release of sound to the environment from both construction and operational phases is managed so that adverse effects on environmental values including health and wellbeing and sensitive ecosystems are prevented or minimised. The plan will ensure the acoustic quality objectives to enhance or protect environmental values are appropriately maintained. The plan will employ the Environmental Protection Policy (Noise) 2008 Part 4, noise management hierarchy of avoid, minimise and manage.

6.5 Air

Description of current environment

No background air emissions have been determined at the project site. The current grazing land use is predicted to produce minimal air related emissions.

The Queensland Environmental Protection (Air) Policy 2008 prescribes environmental values of air as:

> a) the qualities of the air environment that are conducive to protecting the health and biodiversity of ecosystems; and
>
> b) the qualities of the air environment that are conducive to human health and wellbeing; and
>
> c) the qualities of the air environment that are conducive to protecting the aesthetics of the environment, including the appearance of buildings, structures, and other property; and
>
> d) the qualities of the air environment that are conducive to protecting agricultural use of the environment.

Review of aerial photography and Land Parcel data derived from the Queensland Governments Queensland Globe (State of Queensland, 2020) portal determined that there are 8 sensitive receivers (residential dwellings) within a 2 km radius from the project. No other sensitive receivers were identified within a 2 km radius.

Schedule 1 of the EPP (Air) 2008 outlines air quality objectives for the protection or enhancement of the Environmental Values. Air Quality objectives applicable to the project are summarised in Table 12.

Table 12 - Air Quality objectives

Indicator	Environmental Value	Air Quality Objectives		Period	Days
		µg/m3 at 0°C (except where noted)	ppm (volume/volume)		
Arsenic and compounds (measured as the total metal content in PM10)	Health and well-being	6 ng/m3		1 Year	
Benzene	Health and well-being	10	0.003	1 Year	
Benzo(a)pyrene (as a marker for polycyclic aromatic hydrocarbons)	Health and well-being	0.3ng/m^3		1 Year	
Cadmium and compounds (measured as the total metal content in PM10)	Health and well-being	5ng/m3		1 Year	
Carbon Monoxide	Health and well-being	11	9		
Nitrogen Dioxide	Health and biodiversity of ecosystems	250	0.12		1 day each year
	Health and well-being	62	0.03	1	
	Health and well-being	33	0.016	1	
	Health and well-being	25		24 Hours	
PM2.5		8		1 Year	
PM10		50		24 Hours	5 days each year
Total suspended particles		20km visibility in the air environment		1 Hour	

Source - Schedule 1 of the EPP (Air) 2008

Potential project impacts

A detailed assessment of sensitive receptors and air quality objectives required to be maintained will be completed during the EIS process.

Possible noise sources associated with construction and the day to day operations of the proposal have been broken into construction, stationary and mobile noise sources and described below.

Construction Air Pollutant Sources

During the construction phase, the main sources of air pollutants will be emitted by plant constructing ponds, bund walls processing facility and hatchery. This will include (but may not be confined to):

- Scrapers producing dust and engine exhaust;
- Excavators producing dust and engine exhaust;
- Bulldozers producing dust and engine exhaust;
- Graders producing dust and engine exhaust;
- Light vehicles producing dust and engine exhaust;
- Trucks producing dust and engine exhaust; and
- Cranes producing dust and engine exhaust.

Stationary Air Pollutant Sources

The Project will involve the operation of aquaculture ponds and associated processing infrastructure. The main source of air pollutants from the Project will be emitted by aquaculture infrastructure which includes:

- Air-conditioning unit exhaust; and
- Generators exhaust.

Mobile Pollutant Sources

Mobile sources of air pollutants will be generated by day to day aquaculture activities. These sources include (but may not be confined to)

- Light vehicles;
- Heavy vehicles; and
- Mobile plant (tractors, backhoes etc)

The potential environmental impacts of the proposal relating air have been assessed for construction and operational impacts and include:

- A reduction in the environmental value air due to construction and operational phases of the proposal, impacting the health and biodiversity of ecosystems and human health and wellbeing.

Management & Mitigation Measures

Subject to a full assessment of the potential impacts noted above, the following measures will be considered and developed during the EIS process:

Air Management Plan – A plan will be developed to ensure there are no discharge to air of contaminants that may cause adverse effect on the environment from construction or operation of the proposal. The plan will consider air quality assessments and the impact of project emissions. Where necessary, construction and operations will be tailored to protect the environmental values of the air environment. The plan will employ the Environmental Protection Policy (Noise) 2008 Part 4, noise management hierarchy of avoid, minimise and manage.

7 Traffic and Transport

The site is accessed via Exmoor Road, a local-government controlled road which intersects with Highway A1 – Bruce Highway at Bloomsbury.

Figure 23 - Bruce Highway and Exmoor Road intersection

Figure 24 - Exmoor Road Intersection

As mentioned previously, Tassal will undertake a traffic impact assessment and our experience in prawn farming operations will be used to model the traffic generated for the Exmoor Station project.

Potential road safety issues such as stopping distances, sight distances, 80 km/hr right turn, merging and queue times will be considered as well as applicable design standards such as Austroads and Council's Development Manual Standards.

There is no public transport or active transport within the development area, though there may be school bus routes along Exmoor Road to the local primary school.

8 Social

8.1 Description of Existing Environment

The Proserpine and Mackay regions in which the Exmoor Station project is situated is currently dominated by the resource and tourism industries, which can be largely fly-in fly-out and seasonal workforces.

The local communities in proximity to the development site are Bloomsbury and Midge Point. According to the Australian Bureau of Statistics, these two communities are home to approximately 500 residents each. The population make up of these towns can be described as follows:

Midge Point:

- A beachside community dominated by retirees and a number of holiday homes for local cane and cattle farmers which have been in the families for generations.
- has a tavern and a number of smaller shops
- is accessed from both Bloomsbury and the Laguna Quays turnoffs.

Bloomsbury:

- a small community spread over a significant area, due to the surrounds being dominated by cattle and sugar cane producers.
- Has a small primary school for local children;
- Has a service station which also contains a bottle shop, post office and agricultural supplies store.

The major centres closest to the development are Proserpine (to the north) and Mackay (to the South).

8.2 Potential impacts of the project

Social Impacts

While the capital investment into the Exmoor Station project will be largely limited to infrastructure onsite and within close proximity to the farm, the development will have far reaching benefits for employees on the project and the broader surrounding community.

Development and operation of Exmoor Station will lead to increased spending, employment and other economic stimulus directly in the Bloomsbury and Midge Point townships, but also the wider Mackay and Whitsunday region.

The Exmoor Station project will provide job security through 620 permanent positions within the community and surrounding regions, while providing long term certainty for investment in the region.

Tassal propose as part of the preparation of the EIS will produce a Social Impact Assessment and Management Plan in accordance with Department's Guide to Social Impact Assessments.

Potential project impacts

A broad, non-exhaustive list of potential impacts are described in Table 13.

Table 13 - Social Environment Impacts

Category	Opportunities		Challenges	
	Construction	Operations	Construction	Operations
Workforce	Estimated 100 local contractors to be engaged during construction	Approximately 620 FTE jobs in prawn farm operations	Competing for skilled and unskilled workers to complete project	Potential short-term gap in education and

	Diversification for mining sector-based workforce Increased employment for the region during the construction phase. Increased economic stimulus to the local and regional areas Boost in skills trades over the long-term development of the site.	Potential for 200 jobs for alternate seasonal workforce to sugarcane and other industries Increased training opportunities and professional development Focus on local knowledge recruitment and develop future workforce by establishing links with education and training providers Leverage workforce capacity across other sites within the Northern Queensland Prawn Precinct Positive lifestyle opportunity to work close to major population centres	Potential increase to regional labour hire costs during construction period Travel distance from Exmoor site to major centres of Proserpine and Mackay	training for required skill sets Workforce competition with other industries in the region Travel distance from Exmoor site to major centres of Proserpine and Mackay
Housing & accommodation	Potential to leverage local temporary housing supply in Midge Point, Laguna Quays and surrounding areas	Boost to regional communities through increased population Potential growth in regional mean housing prices Increased housing investment market confidence with long term growth demand	Accommodating and transporting workers during the construction phase Potential pressure on regional rental market with short term construction workers Increased pressure on water, sewer, electricity and telecommunication services Limited land supply in Bloomsbury and neighbouring communities	Potential initial supply issues regarding housing for permanent workforce Potential pressure on regional rental market with permanent workforce increases Increased pressure on water, sewer, electricity and telecommunication services Limited land supply in Bloomsbury and neighbouring communities

Local business and industry	Increased use of regional businesses for accommodation and transport Local and regional supply chain contributions by local suppliers Increased population leading to flow on effects to local and regional economy	Increased use of local businesses for accommodation and transport Local and regional supply chain contributions by local suppliers Increased population leading to flow on effects to local and regional economy Potential for support services to establish in regional communities leading to further flow on employment increases Cumulative impact of increased aquaculture industry in northern Queensland region Local business community would benefit through increased visitation to the region by support services Proximity to Whitsunday Trade Coast Airport may open new supply chains Potential for new international and domestic freight routes through Whitsunday Trade Coast Airport	Stretching supporting services and industry capabilities in the region Additional pressure on public and community infrastructure Limited land supply in Bloomsbury and neighbouring communities Ability to attract industry to regional locations	Stretching supporting services and industry capabilities in the region Additional pressure on public and community infrastructure Limited land supply in Bloomsbury and neighbouring communities Ability to attract industry to regional locations Freight and logistic challenges given remoteness of operations
Health & community wellbeing	Retention of skilled and unskilled workers in the region Long term job security for youth and indigenous in the region	Long term and sustainable growth in the local area and region through increased population Investment confidence and certainty with long term and sustainable	Potential lack of recreational and social outlets available prior to construction Lack of immediate medical and other emergency services in close vicinity	Potential lack of community infrastructure and services initially Lack of skilled workforce may require sourcing skilled workers

	Investment and partnerships with community groups Increased population supporting public and community services Increased numbers in schools Increased families in the region General sense of positivity in region through community cohesion	industry operating in the region Stronger schooling system with increased population of children needing an education Sustainable and permanent employment for local residents Career opportunities for younger people to stay in their communities Investment and partnerships with community groups	Lack of skilled workforce may require sourcing skilled workers from outside the region	from outside the region

Economic effects

Tassal's Exmoor Station project will provide substantial investment in the local and regional economies around northern Queensland. In turn, this investment will improve the economic diversity to the currently resource, sugar cane and cattle dominant industries operating in the area, while also providing increased social opportunities for the region.

The development of Exmoor Station into Australia's single largest prawn farming operation will provide the following significant economic benefits:

- An initial development horizon investment estimated at $172 million;
- Creation of an average of 100 construction-related jobs on-site and throughout the region, with a preference for choosing local businesses;
- Creation of 620 full-time equivalent jobs once fully developed and operational, with a preference for providing jobs to locals;
- In excess of 3,500 jobs in the region through flow-on industries;
- Significant increases in local and state governments revenue through rates, property transaction duties, land tax and payroll tax;
- Continued long-term investment on site during the staged development of the property;
- Long term and sustainable growth for the region, providing new and exciting career opportunities for residents living in the area and for those looking to return.

9 Cultural Heritage (indigenous and non-indigenous)

9.1 Native title considerations under the Native Title Act 1993 (Cth)

All lots that are the subject of this application are freehold title and therefore native title has been extinguished. However, the site is contained within the boundary of the claim of the Yuwibara People (QUD12/2019). A search of the National Native Title Tribunal has revealed that the claim relates to certain individual parcels of land, as well as the waters (the area below High Water Mark) of the entire coastline (from the from the northern tip of the local government area) including the coastline of the within the Mackay Regional Council local government area now being subject to non-exclusive Indigenous Land Use Agreements (ILUA).

Subject to the final design and location of farm infrastructure Tassal will undertake appropriate negotiations and consultation with the Native Title representative body.

Figure 25 below indicates the area of the ILUA.

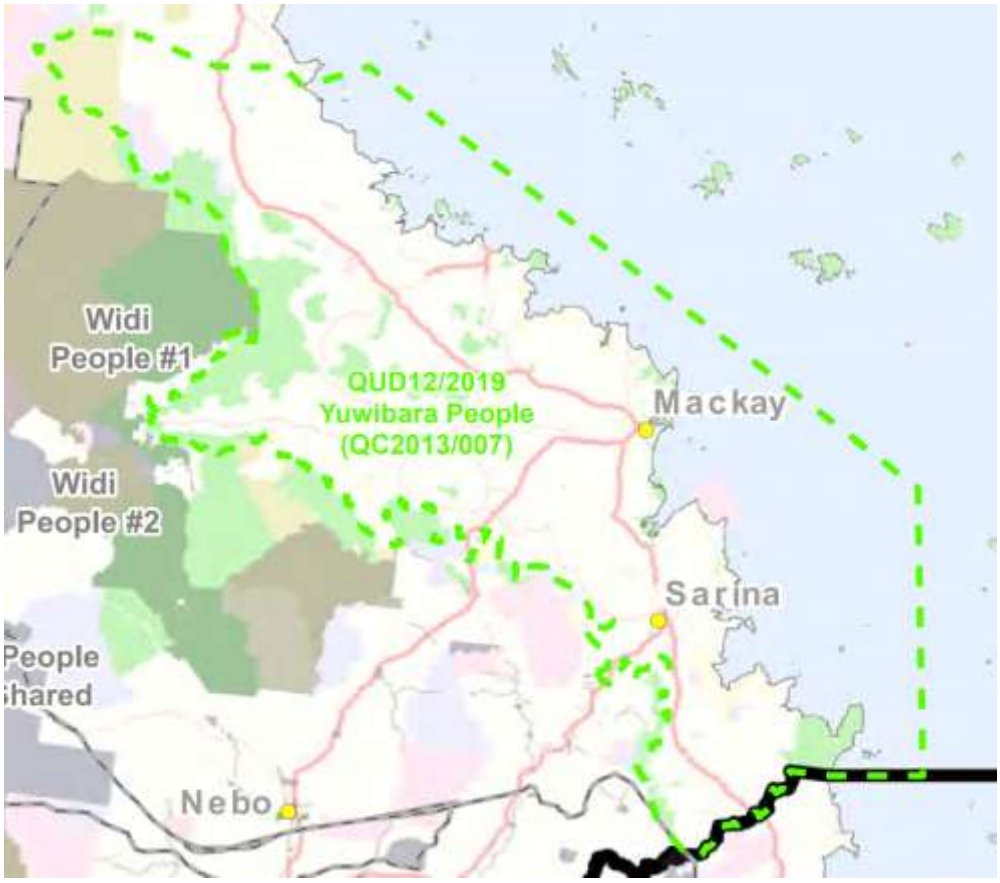

Figure 25 - Area of the ILUA in favour of the Yuwibara People

Appendix 5 contains a map of the coastline of Exmoor indicating areas of exclusive and non-exclusive use.

9.2 Cultural Heritage

The Aboriginal Cultural Heritage Act 2003 ("The ACHA") commenced on 16 April 2004. The Act binds all persons, including the State, and is intended to provide effective recognition, protection and conservation of Aboriginal cultural heritage.

Aboriginal cultural heritage values should not be confused with native title. As with non-Aboriginal heritage values, Aboriginal cultural heritage can exist on an area regardless of the nature of land tenure. The existence of Aboriginal cultural heritage in an area does not mean that native title exists over that area.

Adopting the Precautionary Approach referred to in the ACHA, Tassal will engage with the local aboriginal people, the Yuwibara people, via external consultants experienced in identifying items of cultural heritage by conducting a culture heritage study during the development of the EIS. The area of the study will be limited to the areas of the potential disturbance only, due to the scale of the site, and will be undertaken by suitably qualified persons. We will also ensure that *Care Guidelines* (Department of Aboriginal and Torres Strait Islander Partnerships, 2016) are provided to contractors and staff.

10 Hazard and Risk and Health and Safety

A desktop assessment of natural hazards and health and safety was undertaken and included the use of the State Planning Policy (SPP) Interactive Mapping System (IMS) (Department of State Development, Manufacturing, Infrustructure, and Planning, 2015). The assessment identified several state interest – natural hazards, outlined in the SPP (The State of Queensland, 2017).

10.1 Natural Hazard - Flooding

The tropical environment the project site sits within receives a mean annual rainfall of 1,433.7mm (Refer 6.1). This large volume of rain that falls primarily between January and March can result in severe flooding of the regions waterways.

A number of flood hazard areas have been identified within the project site (**Figure 26**). These flood hazard areas are located primarily within both the estuary and riverine wetland areas of Hervey Creek and Dempster Creek.

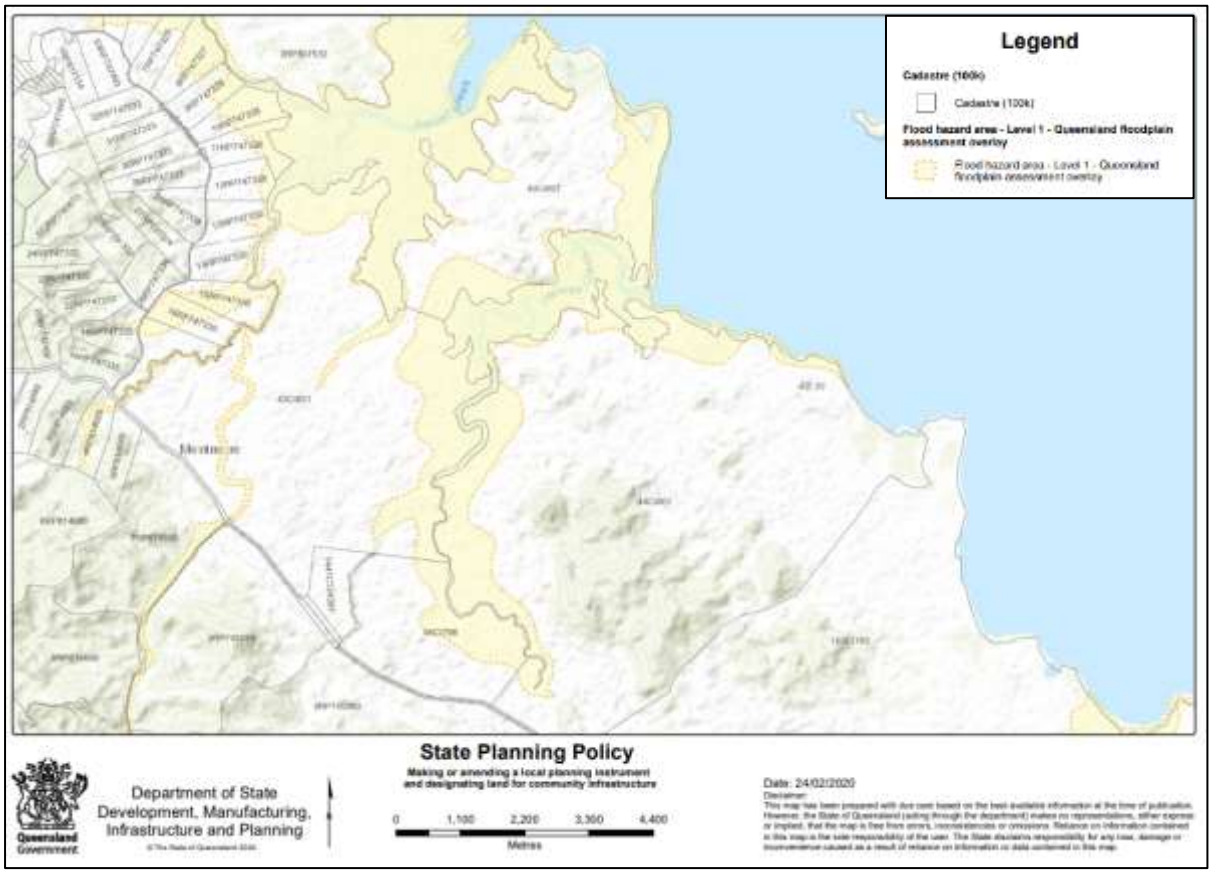

Figure 26: Flood Hazard Area

Potential Project Impacts

The impacts of the proposal relating to flooding have been assessed for construction and operational impacts and include:

- Harm to people, damage to property and infrastructure and detrimental impacts to the natural environment from increased water level heights and velocities.
- Adverse changes to catchment hydrology increasing flood risk to surrounding properties;

Management & Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project, the following measures will be considered and developed during the EIS process:

Catchment Hydrology Assessment – A 2D catchment flood model will be developed to ensure catchment hydrology is not adversely impacted by the development and the development is designed for an appropriate level of flood risk as outlined in State Code 17 (Aquaculture) of the State Development Assessments Provisions.

Emergency Response Plan - An Emergency Response Plan will be developed to align with Tassal's Zero Harm aspiration and to ensure the safety of everyone on this site in the event of natural disaster. This includes a cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic

eruption or other natural event. The plan will provide evacuation procedures, maps and designate roles and responsibilities.

10.2 Natural Hazard – Bushfire Prone Areas

As described in secretion 6.1, the project site has been extensively cleared of native vegetation. This is represented by the minimal area identified as being bushfire prone (**Figure 27**). The most significant area with a bushfire prone risk is associated with Tonga Mountain. Due to the steep terrain and limited access, Tonga Mountain has remained naturally vegetated.

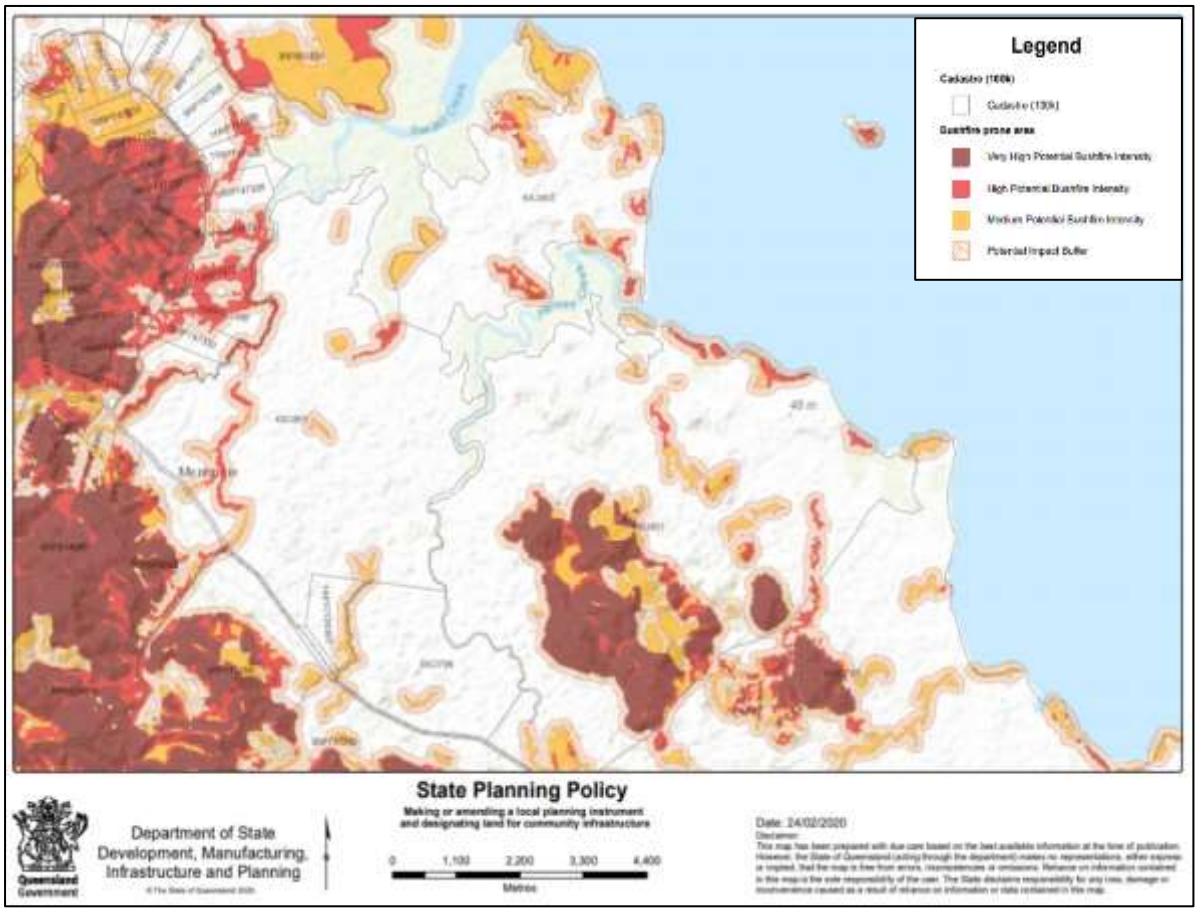

Figure 27**:** Bushfire Prone Areas

Potential Project Impacts

The impacts of the proposal relating to bushfire have been assessed for construction and operational impacts and include:

- Harm to people, damage to property and infrastructure and detrimental impacts to the natural environment due to uncontrolled fire.

Management & Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project, the following measures will be considered and developed during the EIS process:

Construction Design - The proposed Master Plan will be designed to minimise impacts to the natural environment by positioning the development in areas of existing disturbance. These areas of existing disturbance have a significantly reduced bushfire risk due to the lack of native vegetation present.

Bushfire Management – The development of a bushfire management plan will identify proactive actions to be undertaken to minimise the risk of bushfire to the community, staff and development's infrastructure. This would include fire breaks and possible ecologically sustainable hazard reduction burns.

Emergency Response Plan - An Emergency Response Plan will be developed to align with Tassal's Zero Harm aspiration and to ensure the safety of everyone on this site in the event of natural disaster. This includes a cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic eruption or other natural event. The plan will provide evacuation procedures, maps and designate roles and responsibilities.

10.3 Natural Hazard – Erosion Prone Areas

The project site includes areas mapped under the SPP IMS as being erosion prone (**Figure 28**). This includes areas that are at risk from both short-term and long-term erosion processes and include a sea level rise of 0.8 m by 2100. The primary areas identified as erosion prone on the site include the coastline and within the estuary areas of Hervey and Dempster Creeks.

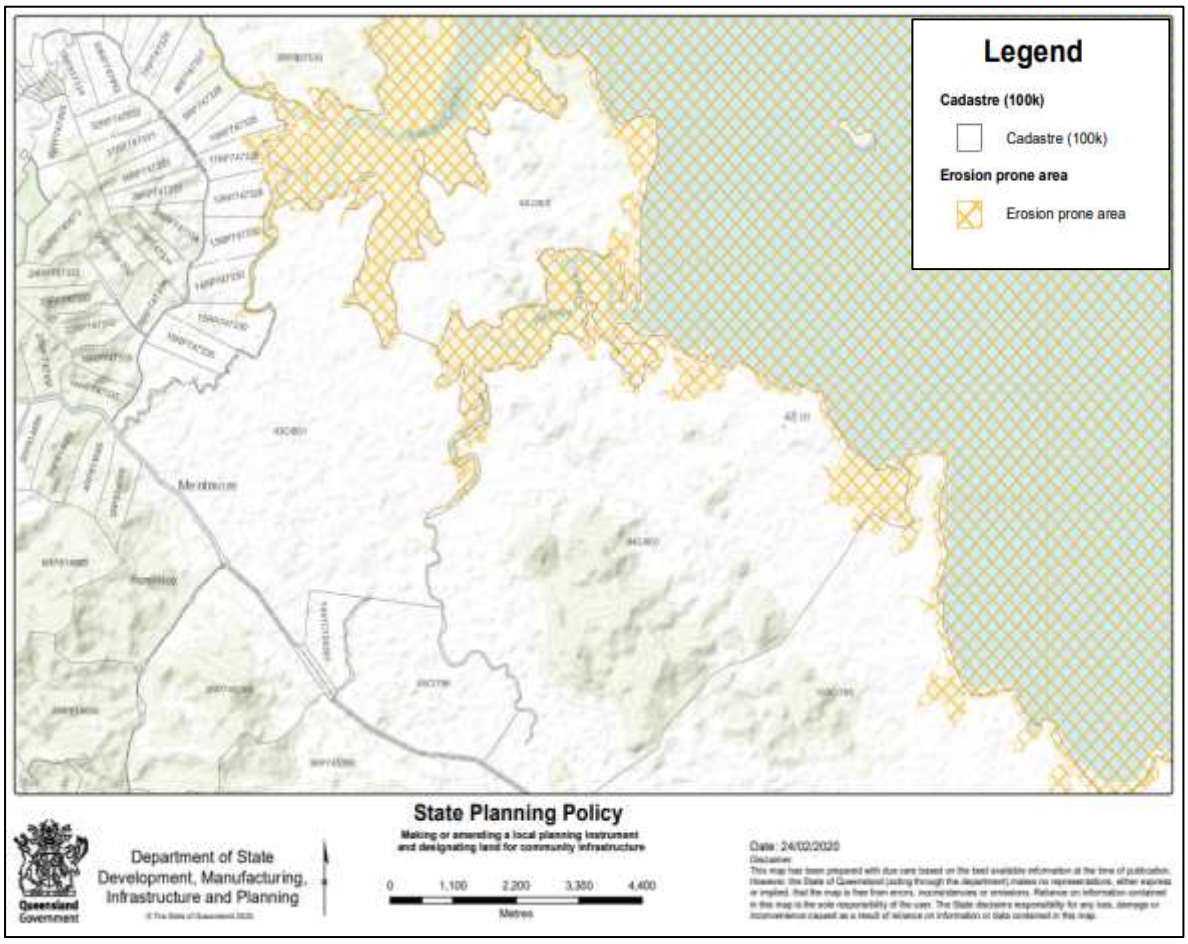

Figure 28**:** Erosion Prone Areas

Potential Project Impacts

The impacts of the proposal relating to erosion prone areas have been assessed for construction and operational impacts and include:

- Harm to people, damage to property and infrastructure and detrimental impacts to the natural environment from the loss of coastal land.
- Infrastructure located in areas that cause or exacerbate the erosion of beaches and dunes.

Management & Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project, the following measures will be considered and developed during the EIS process:

Construction Design - The proposed Master Plan has been designed to minimise impacts to the natural environment. Where possible, all infrastructure associated with the proposal has been located outside of erosion prone areas. The exception to this is the need to locate infrastructure associated with the extraction and discharge of water from within the estuary areas of Hervey and Dempster Creeks. The Master plan has also been designed to incorporate the impacts of climate change and a minimum sea level rise of 0.8 m by 2100.

Water Intake and Outlets – All inlet and outlets structures will be designed and engineered in a manner that does not increase the risk of coastal erosion and are resilient to coastal erosion processes including a minimum sea level rise of 0.8 m.

Emergency Response Plan - An Emergency Response Plan will be developed to align with Tassal's Zero Harm aspiration and to ensure the safety of everyone on this site in the event of natural disaster. This includes a cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic eruption or other natural event. The plan will provide evacuation procedures, maps and designate roles and responsibilities.

10.4 Natural Hazard – Storm Tide Inundation

Storm surges due to low pressure systems associated with tropical lows and cyclones that coincide with high astronomical tide periods can result in large volumes of water being pushed against the coast. This causes flooding of low-lying coastal areas and is referred to as storm tide inundation.

The SPP IMS has mapped both medium and high storm tide risk inundation areas within the project site (Figure 29). Descriptions of both medium and high storm tide risk areas are described below (The State of Queensland, 2013):

Medium Storm Tide Risk — the inundation depth is less than 1m with wave heights less than 0.9m, and the product of depth x velocity is less than 0.3m/s.

High Storm Tide Risk — most residential structures will incur moderate to severe damage. The inundation depth is 1m or more with braking waves of 0.9m or higher, and/or peak flows with a product of depth x velocity of 0.3m/s or greater.

The majority of storm tide inundation within the project site include the coastline and within the estuary areas of Hervey and Dempster Creeks (**Figure 29**).

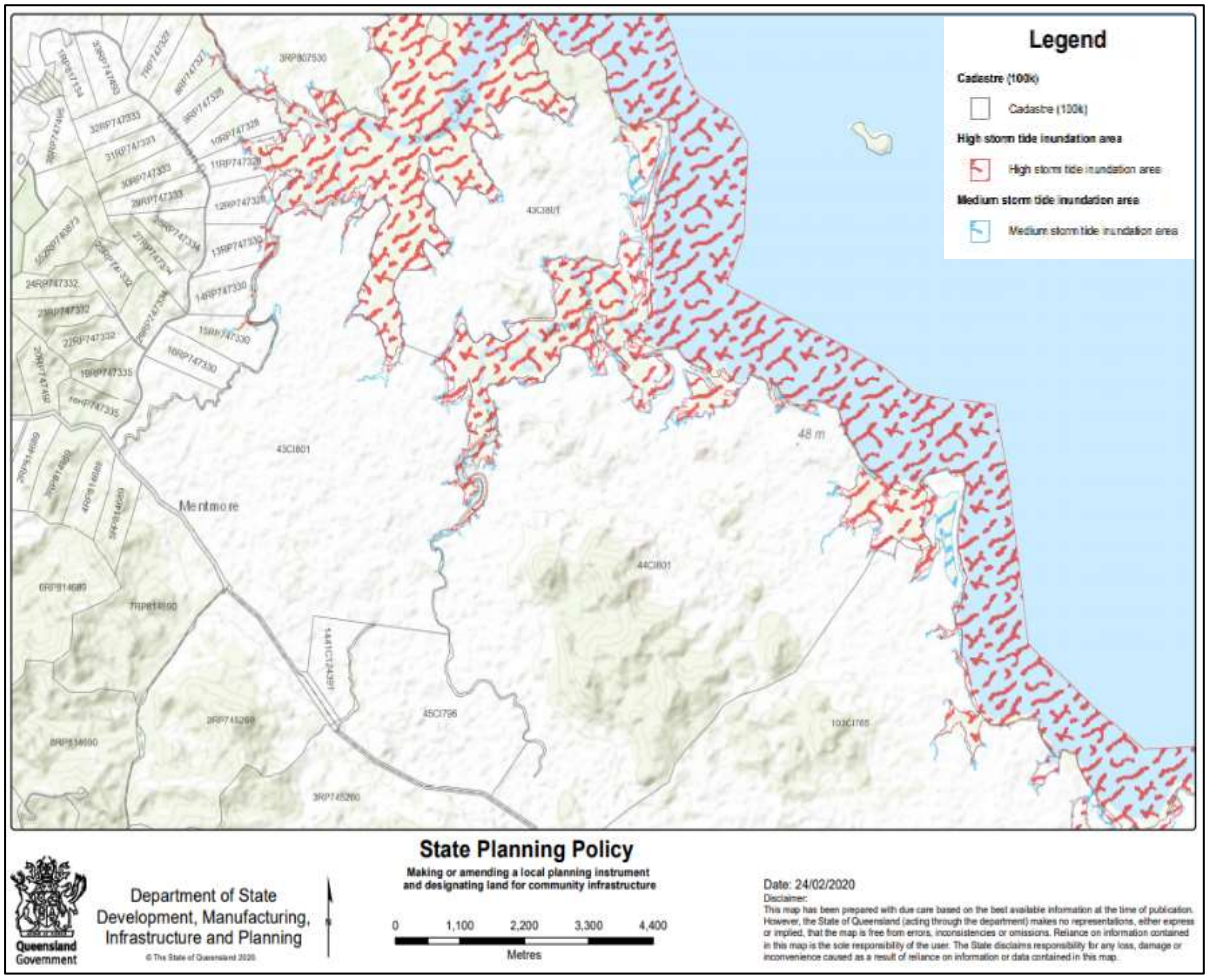

Figure 29: Storm Tide Inundation Area

The Department of Science, Innovation Technology, Innovation and the Arts have a storm tide gauge located at Laguna Quays approximately 7 km from the project site. Past storm tide events include those associated with Tropical Cyclone Debbie (2017) resulting in a maximum storm tide height of 0.91 m above HAT (Marine Science Australia, 2020).

Potential Project Impacts

The impacts of the proposal relating to storm tide inundation have been assessed for construction and operational impacts and include:

- Harm to people, damage to property and infrastructure and detrimental impacts to the natural environment from storm tide events.

Management & Mitigation Measures

To manage potential impacts associated with the project the following measures may be developed during the EIS process:

Construction Design - The proposed Master Plan has been designed to minimise impacts to the natural environment. Where possible, all infrastructure associated with the proposal has been located outside of storm tide inundation areas. All infrastructure that is within a mapped storm tide

inundation area would be suitably engineered to withstand the impacts of the surge and designed to incorporate a minimum sea level rise of 0.8 m by 2100.

Water Intake and Outlets – All inlet and outlets structures would be designed and engineered in a manner that is resilient to the impacts of storm tide inundation and a minimum sea level rise of 0.8 m.

Emergency Response Plan - An Emergency Response Plan will be developed to align with Tassal's Zero Harm aspiration and to ensure the safety of everyone on this site in the event of natural disaster. This includes a cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic eruption or other natural event. The plan will provide evacuation procedures, maps and designate roles and responsibilities.

10.5 Natural Hazard – Tropical Cyclone

The project site is in tropical Queensland and lies north of latitude 23.5 degrees. This location experiences tropical cyclones that can form in the Pacific Ocean and track south along the Queensland coastline, usually between December and April.

An average of 4.7 tropical cyclones affect the Queensland Coast each year. Previous Queensland cyclone tracks (1970 -2004) are presented in Figure 30 (Marine Science Australia, 2020). The project site has a history of being impacted by tropical cyclones, most recently from Severe Tropical Cyclone Debbie crossing the Queensland coast on the 28th March 2017 (Refer Figure 31). Severe Tropical Cyclone Debbie resulted in a storm surge of 2.6 m measured 7 km away from the project site at the Laguna Quays storm tide gauge (Bureau of Meteorology, 2018). Peak wind gusts of 263 km/h were recorded at Hamilton Island approximately 40 km northeast of the project site (Bureau of Meteorology, 2018).

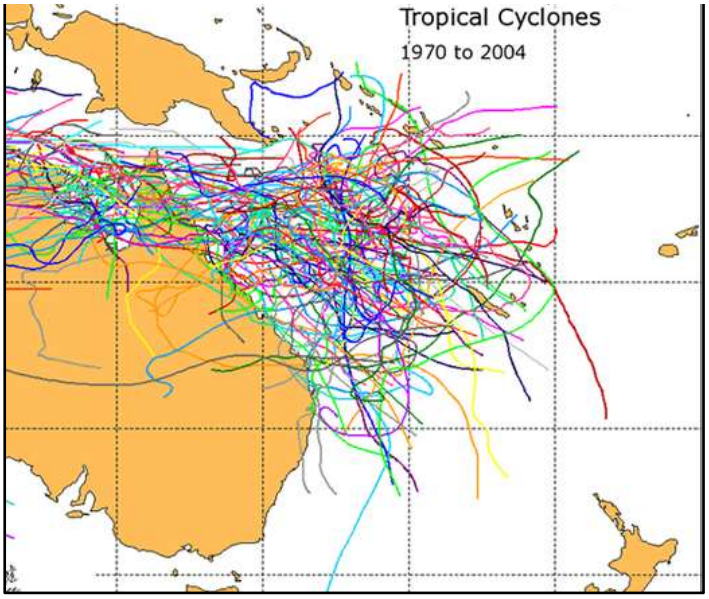

Figure 30: Tropical Cyclone Tracks QLD (1970-2004)

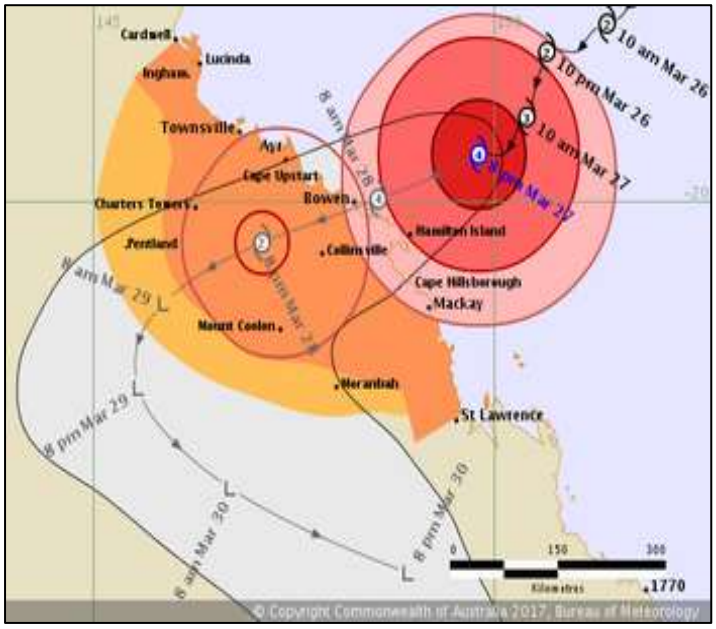

Figure 31: Severe Tropical Cyclone Debbie Track

Potential Project Impacts

The impacts of tropical cyclones to the proposal have been assessed for construction and operational impacts and include:

- Harm to people,
- damage to property and infrastructure; and
- detrimental impacts to the natural environment from high wind speeds, storm surge events and flooding.

Management & Mitigation Measures

Subject to a full assessment of the potential impacts associated with the project an Emergency Response Plan will be developed to align with Tassal's Zero Harm aspiration and to ensure the safety of everyone on this site in the event of natural disaster. This includes a cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic eruption or other natural event. The plan will provide evacuation procedures, maps and designate roles and responsibilities.

11 Costs & Benefits Summary

Tassal intend to develop the site progressively based on the early stage information available. As more detailed assessments are conducted, concluded and considered this development plan and the associated cost-benefit summary will also be updated and refined.

In preparing the cost benefit analysis, the following key assumptions are noted:

- Infrastructure and headworks include:

- the detailed environmental and social studies that will be required to support the Environmental Impact Study;
- Preliminary estimates for high voltage electricity to be provided to site;
- An allowance for roads through the site, but limited upgrade to existing roads to site.

- The electrical connection to the site is a major risk to the project both technically and financially. Tassal has obtained a range of options from Ergon Energy and included the costs for the minimal option in the feasibility. Tassal recognises that there may be better options and would also expect a broader community benefit from any connection upgrade. As such Tassal intends to work with government and broader stakeholders to determine the final design and cost, taking into account contributions from other beneficiaries of such an upgrade.
- Site development costs for ponds, hatcheries, water treatment systems, processing and general plant are based on our experience at Proserpine and hence may change as the unique aspects of the site, design considerations and emerging production trends emerge.
- Returns are based on target yields, market pricing views and expected costs of production and hence are subject to normal market fluctuations and/or structural shifts in the supply chain.

Recognising the early stage of scoping the development, Tassal has restricted the cost benefit analysis to the initial two stages to demonstrate the Initial Development Horizon feasibility.

Stage	Construction period	Farm production	Production hectares	Annual Biomass Target Tonnes p.a.	EBITDA (5 year ave) A$'000s	Capital cost A$'000s	Progressive IRR
Feasibility and headworks	FY20 - FY23					$ 50,160	
Stage 1	FY23 - FY24	FY25	260	3,640	$ 28,643	$ 140,524	13.1%
Stage 2	FY25	FY26	90	1,260	$ 7,007	$ 42,551	15.7%
Initial Development Horizon			**350**	**4,900**	**$ 35,650**	**$ 183,075**	**15.7%**

The initial development horizon provides a positive Internal Rate of Return above Tassal's weighted average cost of capital and with an initial investment prospect of $183 million represents an

incremental investment of approximately 20% of Tassal's current total assets which can be funded with an appropriate blend of debt and equity in line with the Group's current funding mix.

12 Community & Stakeholder Engagement

The Bloomsbury ADA was declared following a comprehensive government led stakeholder engagement process that foreshadowed this land use would be converted to aquaculture. While this provides a positive impetus, as the first aquaculture project on an ADA, Tassal is committed to a strategic and coordinated approach to stakeholder engagement throughout the design, approval, construction and operation phases of the Project.

Tassal recognises that early community engagement leads to better outcomes. That's why Tassal's operating and engagement principles include:

- ensuring community feedback is considered and where possible, incorporated;
- accepting that people who live, work and recreate around the site, value, use, care and have an interest in the area;
- building confidence that Tassal's systems are world best practice and commercially sustainable;
- ensuring safe staff, healthy fish, good performance and no harm to wildlife;
- investing in what's good for Tassal's business and its shareholders;
- considering and managing heritage and environmental issues and values;
- providing real, timely and balanced information about operations to relevant stakeholders; and
- developing long term constructive relationships with stakeholders.

Tassal is finalising an **engagement plan** for the Exmoor Station project that provides transparency on engagement activities, clear timelines, documents issues, and provides a stakeholder map. It is designed to:

- Facilitate engagement and collaboration with key governing and regulatory bodies;
- Facilitate engagement with potentially affected local stakeholders, including residents;
- Support approvals processes for the Project;
- Inform interested parties and the broader community about the Project;
- Manage and mitigate risks and impacts to local community.

The Plan is underpinned by a variety of **communication and engagement tools** including face-to-face meetings; kitchen meetings, information sessions; newsletters; e-mails; media releases; advertising; a project website; community information sessions; digital communications campaigns; and qualitative and quantitative research and sentiment trends. This provides a range of accessible opportunities for community participation, taking into consideration different ways in which people may choose to engage with us.

A comprehensive **stakeholder map** for the project has been developed and will continue to be updated. Support and identification of shared values will be key to a positive stakeholder outcome related to the project. There are community expectations that land based aquaculture operations and facilities, and indeed any development in Queensland, should not lead to unacceptable impacts

on the amenity of nearby or neighboring properties. Tassal's engagement approach will address typical amenity impacts including:

- Visual impact
- Noise
- Odour / Air quality
- Waste disposal
- Water quality
- Water access
- Vegetation removal
- Excavation
- Light spill
- Traffic, access and parking
- Predator control
- Cultural impacts
- Economic impacts
- Biological impacts

We will also be engaging **technical experts and consultants** to ensure we have the most current information available across: planning, cultural heritage, noise, visual, natural values, bushfire Hazard, visual, traffic, odour, noise, and geotechnical, groundwater, materials for construction for example.

Category	Activity	Design Stage	Approval Stage	Construction Stage	Operation Phase
One-on-one meetings	A project representative will offer one-on-one contact with all residents who reside within a radius of the site. Additional meetings will only occur if the resident contacts the Project representative by phone, email or mail and request a meeting.	X	X	X	X
Advertisements during the public consultation period	Advertisements providing the contact phone number, contact email address and an invitation to public meetings will be published in the local newspapers on a Wednesday and Saturday newspaper edition during		X		

	the public consultation period.				
Community feedback via email or letter	A mailing address and an email address will be publicised so that community feedback can be received.	X	X	X	X
Pop-up Information sessions	Public pop-up information sessions will be scheduled during the public consultation stage.		X		
Site visits to Proserpine	Site visits will be offered to residents to the Proserpine prawn farm for site comparison.	X	X		
Briefings of State and Federal politicians	Briefings will be offered to politicians on an as-needed basis to ensure line of sight	X	X	X	X

13 References & Data Sources

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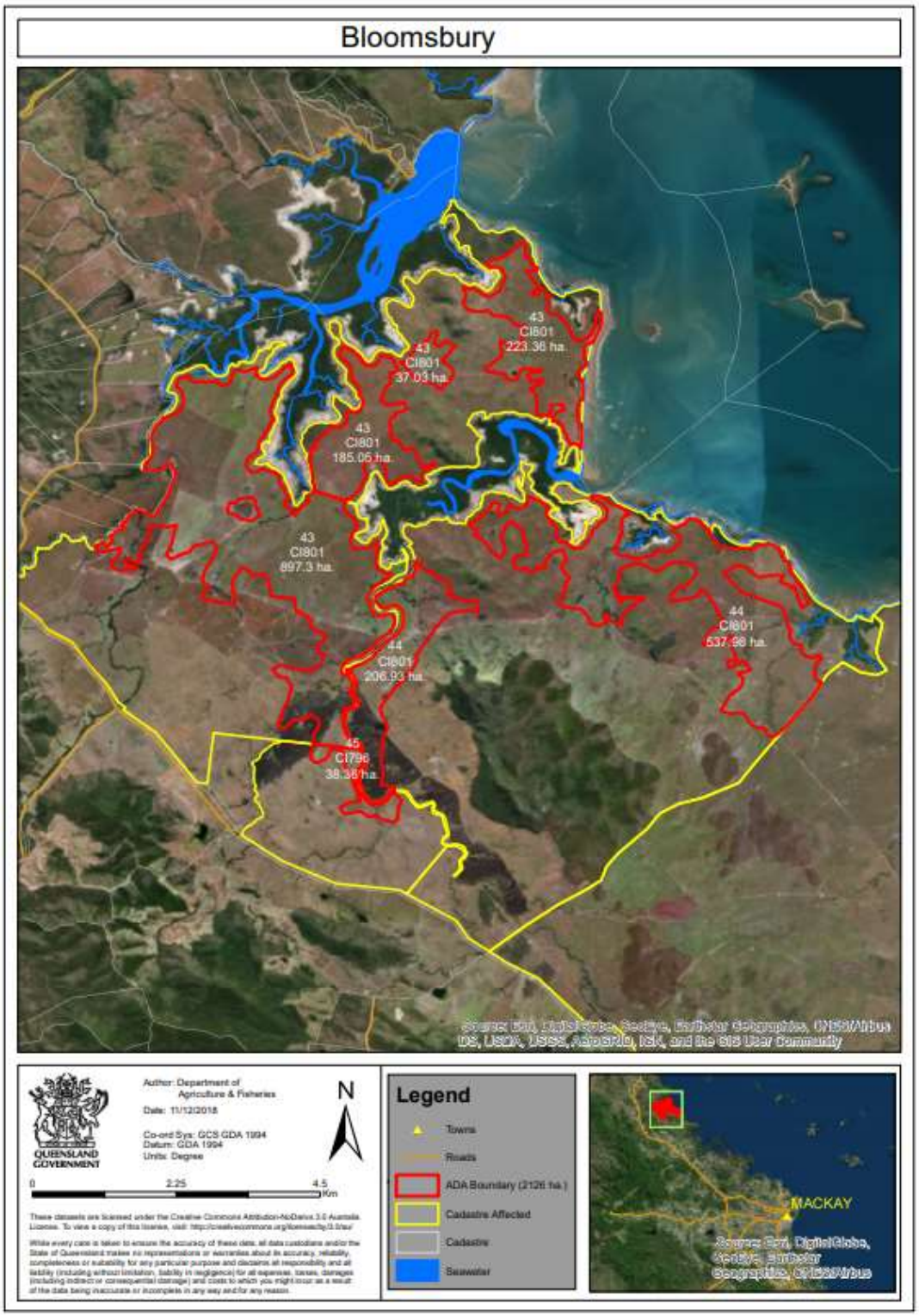
14 Glossary, acronyms and abbreviations

ADA	Aquaculture Development Area
BAP	Best Aquaculture Practice
Coordinated Project	Has the meaning given to it by the SDPWO Act.

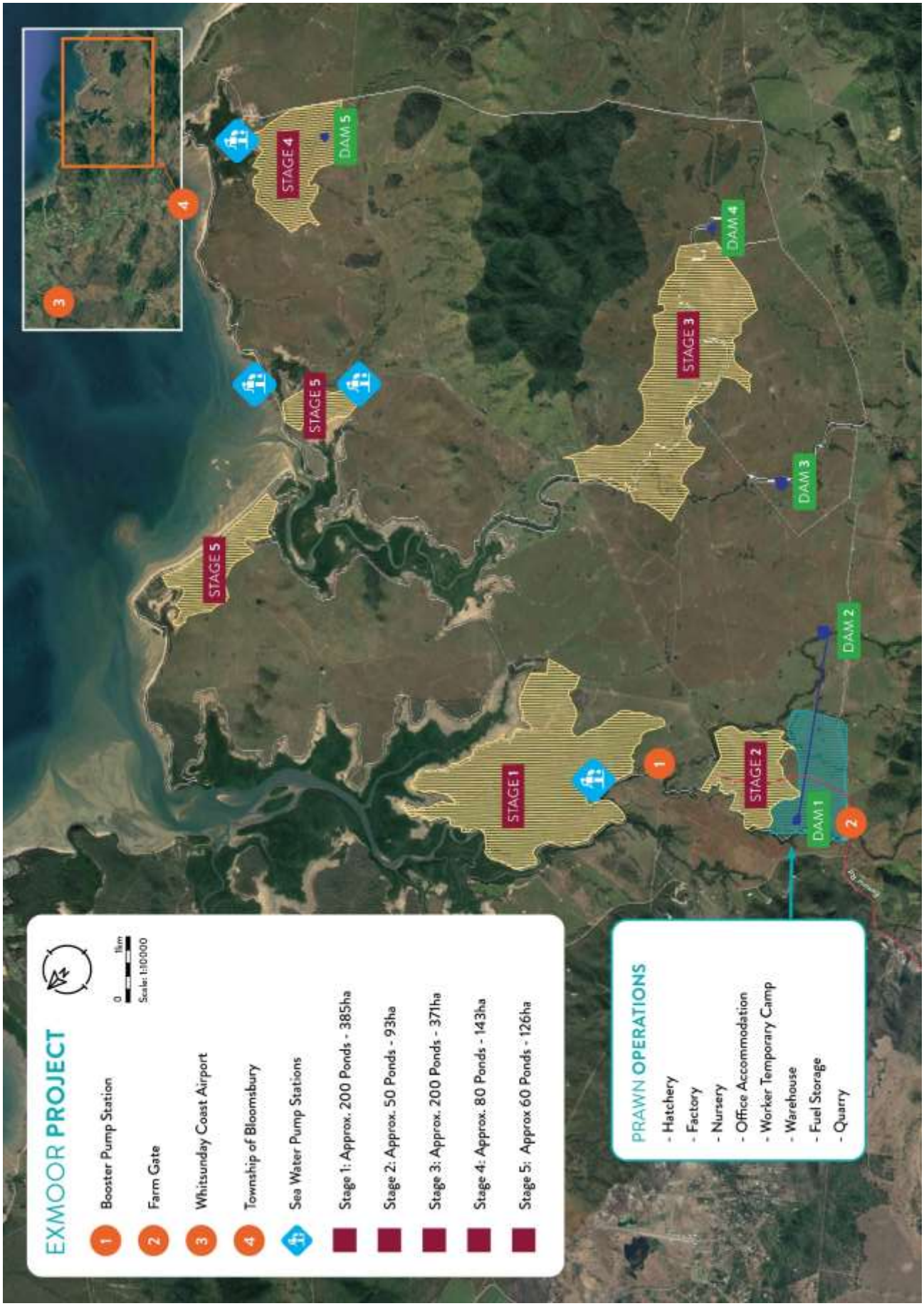
DAWE	Means the Commonwealth Department of Agriculture, Water and the Environment
DES	Means the State Department of Environment and Science
EIS	Means Environmental Impact Assessment required by the SDPWO Act
EPBC	Means the Environmental Protection and Biodiversity Conservation Act
GBRMP	Means Great Barrier Reef Marine Park
GBRMPA	Means the Great Barrier Reef Marine Park Authority
GBRWHA	Means Great Barrier Reef World Heritage Area
MRC	Means Mackay Regional Council
NQPPD	Means North Queensland Prawn Precinct Development
Prescribed Project	Has the meaning given to it by the SDPWO Act.
Reef Regulations	Means the Environmental Protection (Great Barrier Reef Protection Measures) and Other Legislation Amendment Regulation 2019
SDAP	State Development Assessment Provisions
SDPWO Act	Means the State Development and Public Works Organisation Act 1971
Tassal	Means Tassal Group and all subsidiaries

15 Appendices

Appendix 1 – Department of Agriculture & Fisheries map of Bloomsbury Aquaculture Development Area



Appendix 2 – Concept master plan



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Date Created: 10/09/1997

Previous Title: 40010905

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Dealing No: 719492189 02/07/2019

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ESTATE AND LAND

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3. LEASE No 719580657 22/08/2019 at 15:52
   [redacted]

ADMINISTRATIVE ADVICES

Dealing	Type	Lodgement Date	Status
712840060	VEG NOTICE VEGETATION MANAGEMENT ACT 1999	03/11/2009 15:49	CURRENT

UNREGISTERED DEALINGS - NIL

Caution - Charges do not necessarily appear in order of priority

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UNREGISTERED DEALINGS - NIL

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UNREGISTERED DEALINGS - NIL

Caution - Charges do not necessarily appear in order of priority

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UNREGISTERED DEALINGS - NIL

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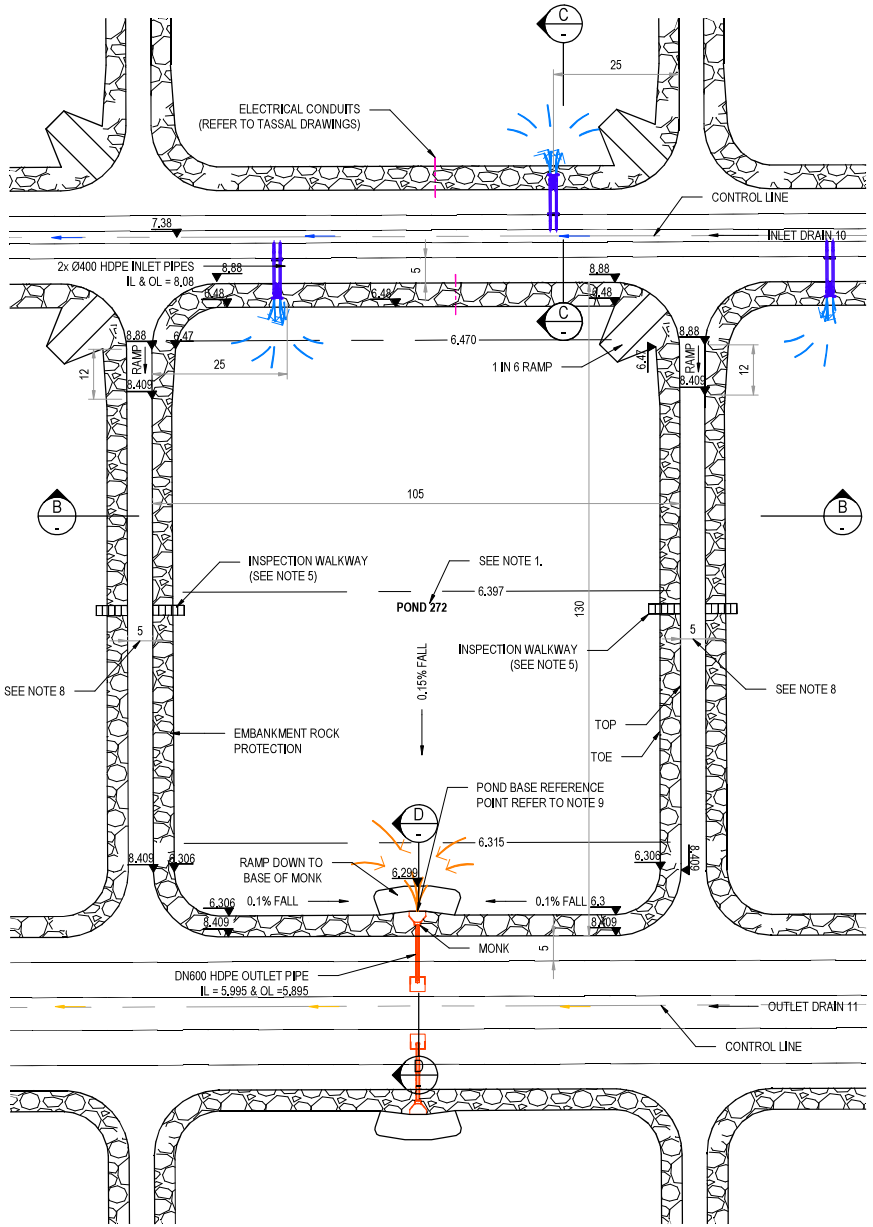
Appendix 4 – Typical Pond Construction Drawing



A PLAN PRODUCTION POND
SCALE 1:1000

NOTES:

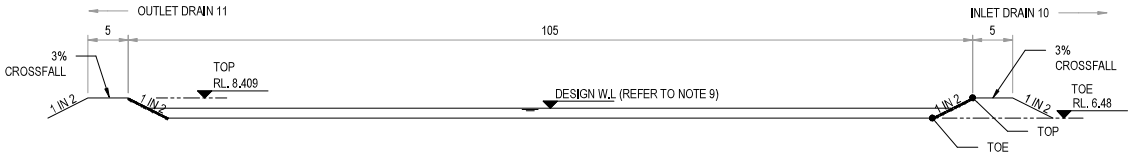
1. POND 274 HAS BEEN USED AS AN EXAMPLE OF THE LAYOUT OF A TYPICAL POND. RLs DISPLAYED ARE SPECIFIC TO POND 272. IT MAY VARY IN OTHER PONDS.
2. WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH REFERENCED TASSAL DRAWINGS.
3. REFER TO TASSAL DRG. NO. TIT-P-ST4-587 FOR INLET PIPE DETAILS.
4. REFER TO TASSAL DRG. NO. TIT-P-ST4-586, 588 & 589 FOR OUTLET PIPE CONCRETE INLET & OUTLET STRUCTURES.
5. REFER TO TASSAL DRG. NO. TIT-P-ST4-590 FOR INSPECTION WALKWAYS DETAILS.
6. EMBANKMENT ROCK PROTECTION TO BE 200mm THICK (NOM. SIZE 150mm). ALL OTHER ROCK PROTECTION TO BE 300mm THICK (NOM. SIZE 200mm).
7. REFER TASSAL DRG. NO. TIT-P-ST4-595 FOR LOCATION OF ELECTRICAL CONDUITS.
8. EMBANKMENT WIDTH 10m BETWEEN PRODUCTION PONDS 228-229, 246-247, 263-264, 280-281, 296-297, 311-312 & 326-327.
9. DESIGN WATER LEVEL IS CONTROLLED BY THE MONK STOP LOGS AND IS APPROXIMATELY 1.7m ABOVE THE POND BASE REFERENCE POINT ON TOP OF MONK FLOOR

LEGEND	
	INLET CHANNEL FLOW
	OUTLET CHANNEL FLOW
WL	WATER LEVEL
	RELATIVE LEVEL

Client Review/Approval

APPROVED ☐
APPROVED as Noted Amend and Proceed ☐
NOT APPROVED Amend as Noted and Resubmit ☐
Signed: _____ Dated: _____

NOT FOR CONSTRUCTION



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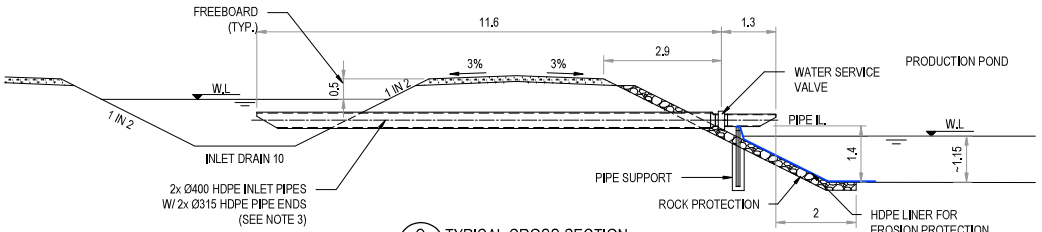
NTS



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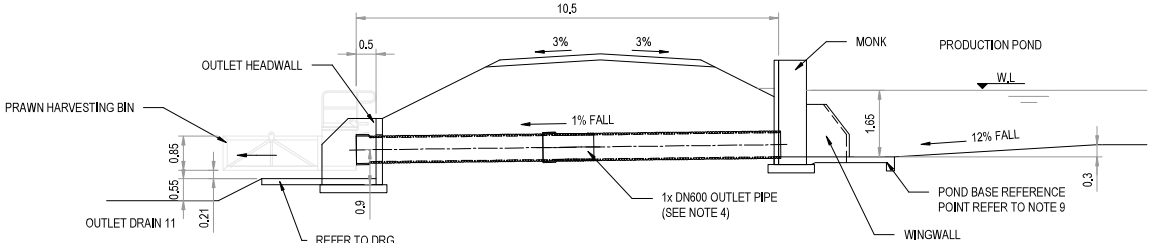

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NTS (REFER TO TIT-P-ST4-586 FOR STRUCTURAL DETAILS)

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VENDER PROJECT NUMBER - R1347

REV.	DESCRIPTION	APP.	DATE
C	FOR CLIENT REVIEW	GM	09/03/20
B	FOR CLIENT REVIEW	GM	24/02/20
A1	PRELIMINARY - FOR DISCUSSION	GM	20/02/20
A	FOR INTERNAL REVIEW	GM	17/02/20

TIT-P-ST4-ST0602 SECTIONS.dwg - 22 April 2020

	SIGNATURE	DATE
DRAWN K.ONTE		17/02/2020
DESIGNED G.MITCHELL		17/02/2020
APPROVED -	-	

TASSAL GROUP LIMITED.
TASSAL OPERATIONS PTY LTD.
ACN 106 324 127 ABN 38 106 324 127

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PHONE: 1300 66 0491 FACSIMILE: 1300 88 0179
EMAIL: tassal@tassal.com.au WEBSITE: www.tassal.com.au

PROJECT
PROSERPINE FARM - STAGE 4
15050 BRUCE HIGHWAY
GREGORY RIVER QLD 4800

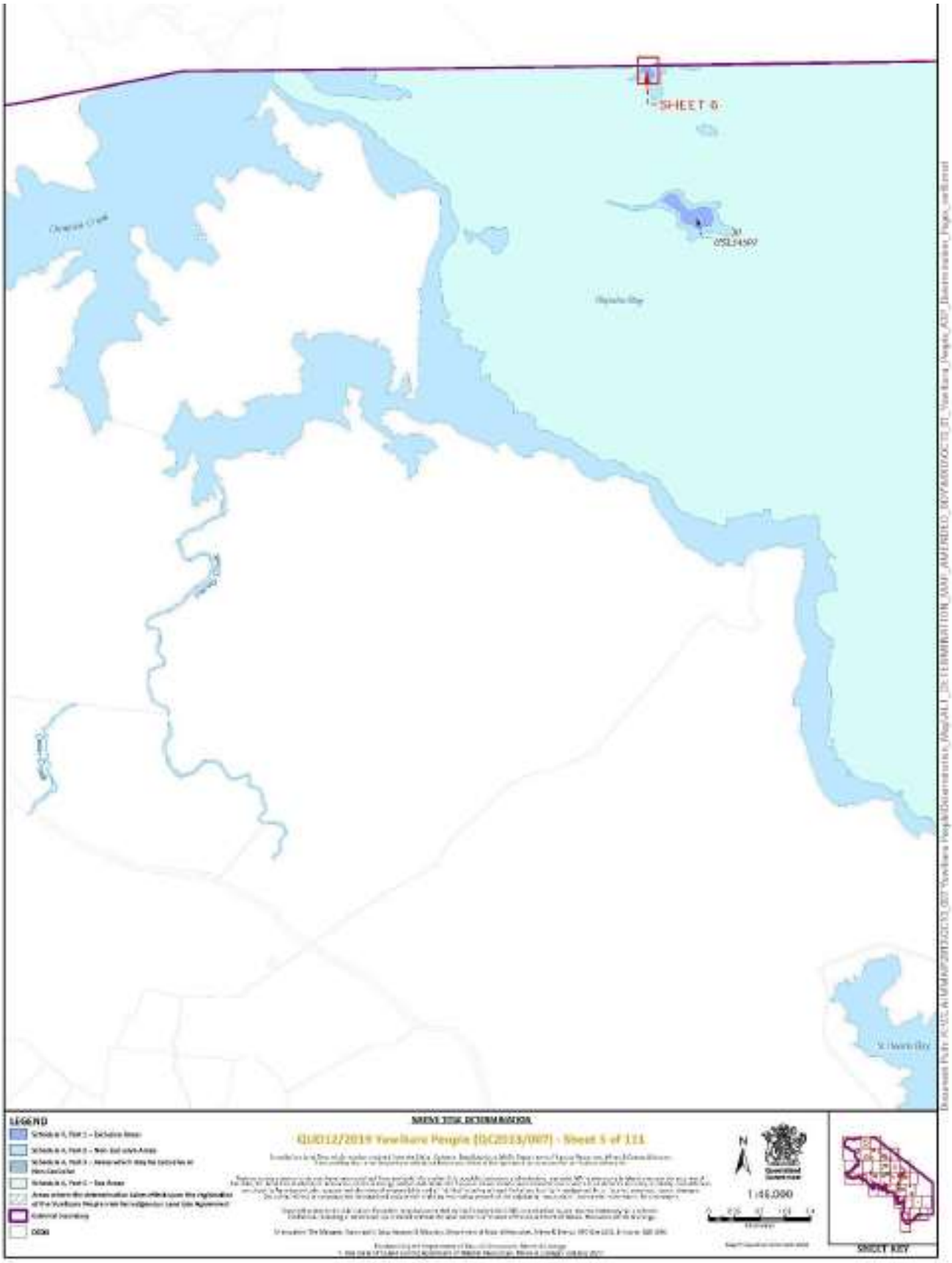
TITLE
STAGE 4
PRODUCTION PONDS
TYPICAL DIMENSIONED SETOUT PLAN

A3

STATUS
FOR CLIENT REVIEW
DO NOT SCALE OFF DRAWING

DRAWING No. TIT-P-ST4-520 REV. C

Appendix 5 – Native Title Claim Map



16 List of Figures

17 List of Tables