

Saibai Island Master Plan

Prepared for

Department of Seniors, Disability Services and
Aboriginal and Torres Strait Islander Partnerships and
Torres Strait Island Regional Council



Saibai Island Master Plan

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Urban & Rural Strategies

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1 Introduction

1.1 Purpose

Torres Strait Island Regional Council (TSIRC), with the support of the Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP), has developed the Saibai Island Master Plan. The Saibai Island Master Plan is intended to be used by TSIRC, Prescribed Body Corporates (PBCs), State agencies, service providers and the broader community to inform planning decisions in relation to future development.

The Saibai Island Master Plan seeks to guide the future use of land on Saibai Island in a manner that is cognisant of community needs, demands and aspirations. The Saibai Island Master Plan identifies a range of future residential; industrial; commercial / tourism; community facilities; and recreation and open space development projects. The Master Plan has been prepared to ensure the orderly, efficient and effective use of land in a way that is reflective of relevant opportunities and constraints. The Master Plan seeks to coordinate the actions of a range of different stakeholders to maximise the benefits of new development projects to the community.

The Saibai Island Master Plan is a living document endorsed by TSIRC, intended to be progressively updated as new development occurs to reflect the changing needs and aspirations of the community.

1.2 Structure

The Saibai Island Master Plan includes the following elements:

- > A **Master Plan Map**, provided as **Appendix A**;
- > A **Vision**, provided in Chapter 2;
- > **Community Aspirations**, provided in Chapter 3;
- > **Master Plan Projects**, the details of which are articulated in Chapter 4; and
- > An **Action Plan**, provided in Chapter 6.

The Master Plan is also supported by a separate Technical Report.

The relationship between these elements is shown in **Figure 1-1**.

1.3 Relationship to the Zenadth Kes Planning Scheme

The Saibai Island Master Plan is intended to identify a high level strategic direction for the future development of Saibai Island having regard to all relevant planning considerations, including the *Zenadth Kes Planning Scheme* ('the Planning Scheme').

The Master Plan does not replace or alter the Planning Scheme as it relates to Saibai Island and does not change current development approval requirements. Projects or works identified by the Master Plan may require development approvals and/or changes to the Planning Scheme and these are identified in the Master Plan itself as appropriate.

The Planning Scheme forms part of the statutory town planning framework established under the *Planning Act 2016*, which provides for the regulation of development activity. The Master Plan is a non-statutory strategic planning document intended to guide decision making with regard to the long term development of Saibai Island. It may be appropriate in certain circumstances for TSIRC to amend the Planning Scheme to reflect findings of the Master Plan. Recommendations in this regard are made in the Master Plan.

1.4 Acknowledgement

Gogobithiay (land, sea and sky) is fundamental to the Torres Strait Islander way of life. Gogobithiay cannot be separated into land, sea and sky and it cannot exist without the Torres Strait people.

The Saibai Island Master Plan acknowledges the native title holders, the Saibai People, as the traditional custodians of Saibai Island. The Master Plan also acknowledges all community members.

Any person proposing to undertake development on Saibai should pay respect to the Saibai people custodianship of the island by seeking permission to use its resources and ensuring that development acknowledges the special and ongoing cultural relationship of the Saibai Island community with Gogobithiay.



Figure 1-1 Master Plan Elements

2 Vision

***Saibai Island** will develop as a consolidated centre servicing the needs of the local and regional community whilst supporting development projects that improve the social and economic quality of life of its residents.*

Further development will seek to identify a clear settlement pattern that consists of a central community focussed space at the core of the township. This core area will provide key day to day commercial, community and recreational services in locations that are easily accessible. The town is to be developed in a manner that improves community connection and sense of ownership. Emphasis is placed on the protection of the culture and history of the community.

Surrounding commercial and community areas, Saibai Island's population is accommodated in dedicated residential areas that provide a range of housing types that are aligned to the needs of residents. Residential areas on Saibai Island support a high level of amenity and a unique character linked to the values of the community.

Opportunities are to be explored to support local economic activity across Saibai Island, which may include marine industry, aquaculture, agriculture/cropping and tourism. Land in appropriate locations that is suitable for land uses which support the local economy should be protected for future development.

Accessibility to and around the township and island will be improved. Regional air and water-based transport connections should be consolidated to support improved access for the community and increase economic development opportunities. Local movement networks should be identified and improved, with a particular focus on the promotion of walking and cycling.

New development should seek to improve the quality of urban services provided to the community, including water and sewerage infrastructure, roads, lighting and telecommunications access.

3 Community Aspirations

- > The Saibai Island community will be provided with housing that meets its needs.
- > The Saibai Island community will be provided with access to key community services that support the day to day needs of its residents, including shopping/business, local markets, child care and health care.
- > The Saibai Island community will expand local business and enterprise opportunities, to support economic activity and local employment, particularly in the sectors of marine industry, aquaculture, agriculture/cropping and tourism.
- > The Saibai Island community will celebrate its culture, history and character and this will be reflected through the protection of existing facilities and features and new development such as arts and cultural centres.
- > The Saibai Island community will be easily accessed from the surrounding region by air and sea.
- > The Saibai Island community will increase physical activity, for both movement and recreation, through the use of dedicated facilities and networks.
- > The Saibai Island community will have access to quality urban infrastructure services.
- > The Saibai Island community will be responsive to the changing environment including sea level rise, tidal inundation and climate change.

4 Projects

4.1 Land Use Categories

The consideration of land uses as part of the Saibai Island Master Plan has been undertaken using a number of land use categories. An explanation of each land use category is provided below.

Residential	Commercial / Tourism	Recreation and Open Space
Residential land uses primarily relate to the provision of housing. Residential land may support a range of dwelling types of varying scale (for example, single low-rise homes, duplexes, and unit complexes). Open space is often integrated within residential areas to soften the built environment and provide land for passive and active recreation.	Commercial land uses typically involve business activities which may include the sale of goods (such as shops and cafes) or services (such as offices and medical centres). Tourism land uses also involve business activities, however these are focussed on providing goods, services, facilities and entertainment for tourists. Examples of tourism land uses include tourist parks, accommodation and businesses operating tours.	Recreation land uses support the provision of land for recreational activities, which may be organised or informal. This includes sporting facilities such as fields, courts, stadiums and arenas, rodeo grounds, walking / cycling paths and outdoor exercise equipment. Open space areas provide dedicated natural spaces throughout an urban area enhance the beauty and environmental quality of neighbourhoods. They may include formalised landscaping also comprise recreational opportunities. Recreation and open space areas are commonly collocated.
Industrial	Community Facilities	Other
Industrial land uses generally involve the manufacturing, processing, treatment or repair of goods. Industrial land uses involve varying degrees of intensity and severity, generally linked to their potential level of impact on nearby land uses associated with their emissions (such as air, noise and odour). Examples of industrial land uses include manufacturing plants, processing plants, mechanical workshops, transport depots, storage sheds and warehouses.	Community facilities land uses support the delivery of community services or provide community benefit. Community facilities include uses for health services, education (schools and colleges), arts and culture, religion, community support, civic infrastructure (water, sewer, waste, transport and other similar facilities), employment and training.	The “Other” land use category has been used to describe other uses and projects which commonly support the primary land uses. This may include infrastructure projects such as new roads or urban services and civic improvements such as beautification and landscaping.

4.2 Project Listing

Table 4-1 provides a listing of projects identified by the Master Plan. Further detail is provided in relation to each project as follows:

- > The land to which each project relates is identified by the Saibai Island Master Plan Map, a copy of which is provided as **Appendix A**.
- > Key details relating to each project are outlined in Section 4.3 of this report.
- > A summary of the Master Plan projects is provided in the project index included as **Appendix B**.
- > Detailed breakdowns of the infrastructure costings for each project are provided in **Appendix D**.

Table 4-1 Project Listing

RS1	Residential Investigation Area 1	CF1	Old Cemetery Protection Area	OT1	Investigation Area (Urban)
RS2	Residential Investigation Area 2	CF2	Landfill Protection and Expansion Area	OT2	Airport Upgrades
RS3	Residential Densification Area (North)	CF3	Cemetery Protection and Expansion Area	OT3	CBD Precinct Plan
RS4	Residential Densification Area (South)	CF4	Child Care Centre	OT4	Markets Precinct Plan
RS5	Residential Expansion Area	CF5	Market Garden / Food Security Area	OT5	Jetty and Boat Ramp Upgrades
ID1	Industrial Investigation Area	CF6	Place of Worship Protection	OT6	School Road Upgrade and Connection
CT1	Environmental Tourism	OS1	Path Network	OT7	Western Road Upgrade and Connection
		OS2	Potential Sporting Precinct	OT8	Water Treatment Plant Upgrade
		OS3	Potential Pedestrian Linkage	OT9	Sewerage Upgrades
		OS4	Covered Sports Court	OT10	Investigation Area (Urban Expansion)
				OT11	"Back of Island" Access
				OT12	Telecommunications Upgrades
				OT13	Carbon and Renewable Energy Opportunities

Note: Projects CT1, CF4, OT11, OT12 and OT13 are not shown on the Master Plan Map provided as **Appendix A**.

4.3 Project Detail

Residential Projects

The Master Plan has identified a range of residential projects in order to accommodate an anticipated demand for 38 additional dwellings. The Master Plan also includes projects that seek to diversify the housing products provided on Saibai Island. These key directions were identified as part of the technical analysis which is documented in the Saibai Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

RS1 Residential Investigation Area 1				
Summary An area of land to the south of the township, accessed from the west of School Road, has been identified as being potentially suitable for the long term demand of the community for residential land. Further investigation of this land would be required to identify the extent to which it could be developed, particularly with regard to potential inundation. Recommendations It may be necessary to identify the future land use intent of this land in the Planning Scheme, which would require an amendment to be undertaken.	New Lots	73 Lots (estimate)		
	Lot Size	850m ² (average)		
	Priority	Long Term		
	Infrastructure Cost	\$64,979,679		
	Associated Projects	RS2	OT6	
	Key Actions	1	7	8

RS2 Residential Investigation Area 2

Summary

An area of land to the south of the township, in a slightly elevated position, has been identified as being potentially suitable for the long term demand of the community for residential land. Further investigation of this land would be required to identify the extent to which it could be developed, particularly with regard to potential inundation. Specific consideration would also be required of the manner in which access was achieved to this land, with a new connection from School Road likely required. The Master Plan has also identified a potential pedestrian linkage (**OS3**) to the township.

Recommendations

It may be necessary to identify the future land use intent of this land in the Planning Scheme, which would require an amendment to be undertaken.

New Lots	78 Lots (estimate)		
Lot Size	850m ² (average)		
Priority	Long Term		
Infrastructure Cost	\$76,037,835		
Associated Projects	RS1	OS3	OT6
Key Actions	1	7	8

RS3 Residential Densification (North)

Summary

An area of land to the north of the airstrip has been identified as being suitable for accommodating residential uses of greater density. This may include “plug ins”, Dual Occupancies or Multiple Dwellings, which could involve the retention, alteration or extension of existing dwellings on this land. Development in this area will be progressive as opportunities exist and should seek to increase housing capacity and diversify the available housing products in the township, through the provision of smaller sized dwellings.

Recommendations

It may be necessary for the Planning Scheme to be amended to reflect the intention of this project.

New Lots	25 Lots (existing)		
Lot Size	593m ² – 1,723m ² (existing)		
Priority	Medium Term		
Infrastructure Cost	\$9,273,719		
Associated Projects	OS1	OT1	
Key Actions	7		

RS4 Residential Densification (South)

Summary

An area of land situated within the CBD has been identified as being suitable for accommodating residential uses of greater density. This may include “plug ins”, Dual Occupancies or Multiple Dwellings, which could involve the retention, alteration or extension of existing dwellings on this land. Development in this area will be progressive as opportunities exist and should seek to increase housing capacity and diversify the available housing products in the township, through the provision of smaller sized dwellings.

Recommendations

It may be necessary for the Planning Scheme to be amended to reflect the intention of this project.

New Lots	26 Lots (existing)	
Lot Size	66m ² – 1,754m ² (existing)	
Priority	Short Term	
Infrastructure Cost	\$7,375,973	
Associated Projects	OT3	OT4
Key Actions	7	

RS5 Residential Expansion Area

Summary

An area of land suitable for long-term residential expansion has been identified in the west of the township off Depot Road. The area is identified by the Planning Scheme for this purpose. Development of the area is likely to be formed by a residential subdivision, which should be encouraged to include a range of dwelling types and sizes to suit demand.

New Lots	27 Lots	
Lot Size	773m ² – 1,363m ²	
Priority	Long Term	
Infrastructure Cost	\$27,893,593	
Associated Projects	OS1	
Key Actions	-	

Industrial Projects

The Master Plan provides opportunities for industry, enterprise and other business development. This key direction was identified as part of the technical analysis which is documented in the Saibai Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

ID1 Industrial Investigation Area		
Summary An area of land surrounding the road currently accessing the landfill site has been identified as a location that could support future industrial development. The land is well located proximate to the jetty and boat ramp and should support the development of new industries, particularly those associated with the water (such as commercial fishing, boating and support industries).	New Lots	5 Lots
	Lot Size	3,366m ² – 4,576m ²
	Priority	Medium Term
	Infrastructure Cost	\$2,583,908
	Associated Projects	OT7
	Key Actions	4

Commercial / Tourism Projects

The Master Plan seeks to ensure that the community is provided with sufficient access to commercial land uses. The Master Plan also seeks to promote the development of uses and infrastructure associated with tourism, in appropriate locations. These key directions were identified as part of the technical analysis which is documented in the Saibai Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CT1 Environmental Tourism			
Summary Opportunity exists in various locations throughout the island for the environmental values of the area to be protected and enhanced for the benefit of tourist activities aimed at the appreciation of any unique environmental features or areas. Any tourism operations should occur in a manner that is sensitive to the fragility of the natural environment, to ensure it can be sustained over the long term.	New Lots		N/A
	Lot Size		N/A
	Priority		Medium Term
	Infrastructure Cost		N/A
	Associated Projects		
	Key Actions		46

Community Facilities Projects

The Master Plan seeks to promote the protection and expansion of key community facilities. The Master Plan also provides opportunities for the establishment of new community facilities where demand exists. These key direction were identified as part of the technical analysis which is documented in the Saibai Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CF1 Old Cemetery Protection Area				
Summary The old cemetery, located to the east of the township, should be subject to ongoing protection to ensure that the cultural and spiritual connection of the community with this land is maintained. Where appropriate, improvements such as access works and fencing may be provided, however any such works should be undertaken sensitively. As part of the protection of the area, the community value of the site should be documented.	New Lots	N/A		
	Lot Size	N/A		
	Priority	Ongoing		
	Infrastructure Cost	N/A		
	Associated Projects	-		
	Key Actions	3	6	9
CF2 Landfill Protection and Expansion Area				
Summary The landfill located in the west of the township is an important piece of infrastructure that should be protected from encroachment by incompatible development. Consistent with the Queensland Indigenous Waste Strategy, it is anticipated that the existing landfill site will be converted to a transfer station, as part of a regional waste solution. The site will need to be expanded as required to cater for this changed approach to waste management.	New Lots	N/A		
	Lot Size	N/A		
	Priority	Short Term		
	Infrastructure Cost	N/A		
	Associated Projects	ID1	OT7	
	Key Actions	3		

CF3 Cemetery Protection and Expansion Area

Summary

The cemetery, located to the west of the township, should be subject to ongoing protection to ensure that the cultural and spiritual connection of the community with this land is maintained. Where appropriate, improvements such as access works and fencing may be provided, however any such works should be undertaken sensitively. The future needs of the community should also be met through the use of additional land to the east of the existing cemetery (which is understood to have already been blessed for this purpose). Expansion of the cemetery will also likely require changed car parking arrangements and extension of the existing bund wall. As part of the protection of the area, the community value of the site should be documented.

New Lots

N/A

Lot Size

N/A

Priority

Ongoing

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

3

6

9

CF4 Child Care Centre

Summary

The community has identified a need for further child care facilities and services. The exact location of these facilities and services should be determined based on existing and future demand. It is likely that the colocation of these facilities with or near the school may be appropriate.

Child care has been acknowledged as a regional issue which comprises significant complexity with regard to legal compliance. On this basis it is anticipated that future child care services will be delivered as a coordinated service covering multiple islands or the entire region.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

6

CF5 Market Garden and Food Security Area

Summary

An area of land on School Road has been identified as being suitable for the development of market gardens or other cropping activities that can supply the community with fresh produce. Further investigation of this land should be undertaken to identify suitable areas for the establishment of these uses. The establishment of local agricultural uses will improve the food security of the community, improve community health and provide a potential source of economic activity through the trading of surplus food with neighbouring communities.

Recommendations

The viability of the market garden will be largely dependent on a reliable supply of freshwater. Future investigations of this project would be required to determine whether such supply exists or is capable of being reasonably provided.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

N/A

Associated Projects

OT6

Key Actions

1

6

8

CF6 Place of Worship Protection

Summary

Holy Trinity Church, located on Main Road, should be protected and maintained as an important asset to the local community. Further embellishment of the existing building and grounds may be appropriate where it is in keeping with the character and nature of the site.

New Lots

N/A

Lot Size

N/A

Priority

Ongoing

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

3

9

Recreation and Open Space Projects

The Master Plan seeks to provide improved opportunities for recreation, through the provision of an integrated network of active transport infrastructure and the identification of land for dedicated sporting facilities. These key directions were identified as part of the technical analysis which is documented in the Saibai Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

OS1 Path Network			
Summary A pathway network has been identified across Saibai Island, connecting the western and eastern parts of the township, whilst also providing a loop around the east of the airport. The pathway network will serve to improve connectivity whilst also supporting recreational opportunities. Development of the pathway should be combined with supporting infrastructure such as seats, lighting and landscaping to improve its contribution to the community. Recommendations It is recommended that all future active transport and recreational facilities be coordinated in their delivery.	New Lots	N/A	
	Lot Size	N/A	
	Priority	Short Term	
	Infrastructure Cost	\$781 per metre (concrete) \$500 per metre (gravel) \$250 per metre (earth)	
	Associated Projects	OS3	
	Key Actions	2	
OS2 Potential Sporting Precinct			
Summary A potential sporting precinct has been identified to the south-west of School Road adjoining the established CBD area. Further investigation is required to identify the specific facilities to be delivered, however the land is intended to support the provision of formalised facilities such as playing fields and courts, along with supporting infrastructure. Any development of the sporting precinct should be completed in a coordinated manner, with a focus on the shared use of supporting infrastructure. Recommendations It is recommended that all future active transport and recreational facilities be coordinated in their delivery.	New Lots	N/A	
	Lot Size	N/A	
	Priority	Medium Term	
	Infrastructure Cost	\$1,472,836	
	Associated Projects	OS4	
	Key Actions	2	6

OS3 Potential Pedestrian Linkage

Summary

A potential pedestrian linkage has been identified between future residential land (**RS2**) and the centre of the township to assist in the movement of people to key services in the CBD. This project would only be required to be considered if residential development in this location was to proceed. The pathway would need to be elevated on a bund to avoid impacts associated with inundation.

Recommendations

It is recommended that all future active transport and recreational facilities be coordinated in their delivery.

New Lots

N/A

Lot Size

N/A

Priority

Long Term

Infrastructure Cost

\$781 per metre (concrete)
\$500 per metre (gravel)
\$250 per metre (earth)

Associated Projects

RS2

Key Actions

2

8

OS4 Covered Sports Court

Summary

The community has identified the desire to roof the existing sports court to allow for its use in all weather.

Recommendations

It is recommended that all future active transport and recreational facilities be coordinated in their delivery.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

To Be Costed (design dependent)

Associated Projects

OS2

Key Actions

2

Other Projects

The Master Plan identifies a range of other projects intended to ensure the community is serviced with appropriately located facilities and infrastructure. These projects have been identified in response to direct community needs and include precinct plans, further investigations and new/upgraded infrastructure. These key directions were identified as part of the technical analysis which is documented in the Saibai Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

OT1 Investigation Area					
Summary The Master Plan identifies a large unused parcel of land within the township (Lot 6 on SP248241) as a location for future land uses. Any use of this site should be subject to specific investigations and be compatible with the constraints of the land and the context of the site, particularly the airstrip adjoining the site to the south. Recommendations This land is currently located in the Environmental Management and Conservation Zone under the Planning Scheme. Once the future land use intent of the land is identified, a Planning Scheme amendment will likely be required.	New Lots		N/A		
	Lot Size		2.4 hectares (existing)		
	Priority		Long Term		
	Infrastructure Cost		\$22,601,154		
	Associated Projects		OS1	OT2	
	Key Actions		1	6	7

OT2 Airport Upgrades			
Summary In order to improve access to Saibai Island and the utility of airport infrastructure, further upgrades to the airstrip should be investigated. The community has identified a specific desire to upgrade the airport for greater usage for regional aircraft movements, including through expanding the capacity of the runway to cater for larger aircraft, providing new terminal facilities and resolving existing drainage issues. Other upgrades may include storage and maintenance facilities; car parking and ancillary facilities and improving the interface with surrounding land, particularly any land that will be developed as part of the Master Plan (see specifically projects OT1 and OT3).	New Lots		N/A
	Lot Size		N/A
	Priority		Medium Term
	Infrastructure Cost		To Be Costed
	Associated Projects		OT1 OT3
	Key Actions		6

OT3 CBD Precinct Plan

Summary

The Master Plan has identified a large area of unused land (Lot 21 on SP267944) for future precinct planning. This land is strategically located in the vicinity of a range of key services and, with coordinated planning, can be progressively developed in a manner that will positively contribute to the amenity and character of Saibai Island to the benefit of the community. This location has the potential to accommodate a range of new community facilities which may include public parkland, recreational facilities, community gathering spaces, arts and cultural centres, tourist facilities, further child care facilities, government offices, retail services, aged care and retirement living, educational facilities and emergency services. Further planning of the land should also consider its interface with existing and future land uses.

A copy of a preliminary Precinct Plan is provided as **Appendix E**.

Recommendations

This land is currently located in the Environmental Management and Conservation Zone under the Planning Scheme. Once the future land use intent of the land is identified, a Planning Scheme amendment will likely be required.

New Lots	N/A		
Lot Size	2.85 hectares (existing)		
Priority	Medium Term		
Infrastructure Cost	N/A		
Associated Projects	OT2	OT4	
Key Actions	4	6	7

OT4 Markets Precinct Plan

Summary

Land proximate to the CBD on Main Road has been identified by the community as a key location for community markets, tourist activities and open space. These uses should be encouraged and embellished through a coordinated precinct plan, that seeks to support the ongoing success of this area through the provision of appropriate spaces and supporting infrastructure.

A copy of a preliminary Precinct Plan is provided as **Appendix E**.

New Lots	N/A		
Lot Size	N/A		
Priority	Medium Term		
Infrastructure Cost	N/A		
Associated Projects	OT3		
Key Actions	4	6	

OT5 Jetty and Boat Ramp Upgrade

Summary

The jetty and boat ramp located in the west of the township is a key arrival and departure location for people and goods. Further improvements in this location will support the efficient and safe use of this facility, whilst also expanding the ability for it to be used in a manner that supports economic activity. Upgrades may include in water works such as channel works and dredging, markers and a rockwall while on land works may include a freezer, parking, storage and setdown areas. The paving of existing and future vehicle areas is necessary to ensure efficient and effective use.

Jetty and boat ramp upgrades are a common project across all communities within the region. It is anticipated that required upgrades may be delivered as a regional work package which is progressively rolled out across each community.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

To Be Costed

Associated Projects

ID1

OT7

Key Actions

4

6

OT6 School Road Upgrade and Connection

Summary

School Road is identified as a vital connection for the community, particularly to the CBD. The road corridor should be upgraded as required to facilitate the efficient and safe movement of vehicles, bicycles and pedestrians. Specifically the paving of this road and removal of potholes is vital to its ongoing use by the community.

Upgrading should support access to potential development areas to the south of the township along with other parts of the island for cultural, economic and recreational purposes.

Recommendations

Further investigation of potential cultural, economic and recreational areas beyond the township should be undertaken to inform the planning of road upgrades.

New Lots

N/A

Lot Size

N/A

Priority

Long Term

Infrastructure Cost

\$38,741,286

Associated Projects

RS1

RS2

OT10

Key Actions

5

8

OT7 Western Road Upgrade and Connection

Summary

Western Road, being the road currently providing access to the landfill, will support a range of future development opportunities and should be upgraded as required to support increased demand, particularly from industrial traffic.

Upgrading should also support access to other parts of the island for cultural, economic and recreational purposes.

Recommendations

Further investigation of potential cultural, economic and recreational areas beyond the township should be undertaken to inform the planning of road upgrades.

New Lots

N/A

Lot Size

N/A

Priority

Long Term

Infrastructure Cost

\$5,341,495

Associated Projects

ID1

CF2

OT5

OT10

Key Actions

5

8

OT8 Water Treatment Plant Upgrade

Summary

The water supply network should be upgraded to meet current and future demand and treatment standards. Specific works are understood to be required at the water treatment plant covering the capturing, storage and treatment of raw water. Further detail of required upgrades is provided in Chapter 5 of the Master Plan.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

3

OT9 Sewerage Upgrades

Summary

The sewerage network should be upgraded to meet current and future demand and treatment standards. Specific works are understood to be required at the sewerage treatment plant and to resolve an existing conflict between the sewage treatment plant outfall and the emergency desalination plant sea water intake. Further detail of required upgrades is provided in Chapter 5 of the Master Plan.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

3

OT10 Investigation Area (Urban Expansion)

Summary

An area of land to the east of the township, accessed from the east of School Road, has been identified as an investigation area for potential future development. Investigations of this land would be required to identify the extent to which it could be developed, particularly with regard to potential inundation, and to determine a suitable land use given the long-term needs of the community.

Recommendations

It may be necessary to identify the future land use intent of this land in the Planning Scheme, which would require an amendment to be undertaken.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

7

OT11 “Back of Island” Access

Summary

A range of opportunities are available for recreational and community activities to occur in areas of the island outside the established township. These opportunities should be further investigated in consultation with the community. Access is a primary constraint and any planned areas should be coordinated with road upgrades (see projects **OT6** and **OT7**).

New Lots	N/A	
Lot Size	N/A	
Priority	Medium Term	
Infrastructure Cost	To Be Costed	
Associated Projects	OT6	OT7
Key Actions	5	6

OT12 Telecommunications Upgrades

Summary

The community’s access to telecommunications should be improved to ensure that coverage is available throughout the township, its immediate surrounds where activity occurs and within the surrounding ocean to allow ease of communication with vessels, particularly in an emergency. Various upgrades should be identified in consultation with service providers.

New Lots	N/A	
Lot Size	N/A	
Priority	Short Term	
Infrastructure Cost	To Be Costed	
Associated Projects	-	
Key Actions	6	

OT13 Carbon and Renewable Energy Opportunities

Summary

As explained in the Saibai Island Master Plan Technical Report, the Queensland Government has identified a target to be carbon neutral by 2050. A variety of opportunities exist across Saibai Island to implement carbon initiatives that can assist in achieving this target. Key opportunities including renewable energy installations (wind and solar), reductions in fossil fuel use, carbon burning and blue carbon. Further investigations should be undertaken to identify suitable initiatives and potential sites. These opportunities also provide the potential to generate employment for the local community.

New Lots	N/A
Lot Size	N/A
Priority	Medium Term
Infrastructure Cost	To Be Costed
Associated Projects	-
Key Actions	6

5 Infrastructure

In order to support future residential, industrial, commercial, tourism, community facilities, recreation and open space development on Saibai Island in accordance with the Master Plan, upgrades to existing infrastructure networks and new infrastructure will be required as detailed below. High level costings of supporting infrastructure are included in **Appendix D**.

5.1 Topography/Climate Change

Saibai Island is a mud island formed from fine grained marine sediments. The community is located on the highest point of the island with parts of the habitable area of the community below Highest Astronomical Tide (HAT) level and subject to inundation on king tides. All new development should be constructed above HAT level to protect residents and the community from inundation. The community is protected by a new armour rock seawall, reinforced concrete wave return wall and bund wall, to provide protection from erosion, storm surges and climate change sea level rises.

Costings of extensions to the bund walls required for future residential development is not included is those costings provided in **Appendix D**.

5.2 Roads

Existing roads within the community are constructed in concrete with other roads as formed sand tracks. For durability, new roads should be constructed six (6) metres wide in 150 mm thick fibre reinforced concrete. Roads to be provided with either a 300 mm wide concrete edge strip or mountable kerb and channel either side as appropriate.

5.3 Stormwater

The Queensland Urban Drainage Manual (QUDM) provides current criteria for the design of stormwater drainage in urban residential developments. QUDM generally requires systems for primary drainage in streets to carry 39% Annual Exceedance Probability (AEP) (1 in 2 yr. ARI) runoff, and 1% AEP (1:100 yr. ARI) runoff for major drainage paths and cross road culverts, to limit flooding of public and private property to acceptable levels.

Due to ground levels within the community it is not considered feasible to install underground drainage systems due to the outfall penetrations required through the seawall. Care needs to be exercised to ensure that the stormwater drainage system performs in accordance with the requirements of QUDM.

Stormwater runoff captured from newly developed areas is required to be treated to remove nutrients from the runoff prior to discharge to waterways. Runoff collected from new developments should be discharged over the seawall using dewatering pumps rather than outfall pipes penetrating the seawall or bund wall.

5.4 Water Supply

Raw water is sourced from direct rainfall capture stored in a concrete lined and covered raw water lagoon and is augmented by a permanent desalination plant. Seawater entering the desalination plant is often turbid due to wave action. The seawater intake is in shallow water preventing the plant from operating 24 hours a day and is located close to the sewerage effluent outfall. The supply of raw water for treatment is insufficient to meet current demand without further augmentation.

The pH of the raw water of 5.5 to 6.5 is less than the guideline recommended range of 6.5 to 8.5. Turbidity of the raw water supply with an average of <1.5 NTU to < 7.0 NTU and a maximum of 8 NTU to 21 NTU, exceed the recommended maximum turbidity value of 1.0 NTU. Levels of iron, and aluminium exceed recommended guideline values. The level of manganese is within guideline values.

The existing water treatment plant capacity is required to be increased from 250 kL per day to 430 kL per day to meet current and future demand. The current storage capacity for treated water is 130 kL, which is required to be increased to 1.43 ML to meet current and future demand.

The treatment plant is provided with SCADA to enable remote monitoring of plant operation.

The reticulation system is pressurised by variable speed drive (VSD) pumps, however the system is operated manually due to failure of the VSD pump controls. An emergency standby power generator is provided at the VSD pumps but not to the raw water pumps supplying the treatment plant.

Reticulation mains of adequate size are to be extended to all new development and be provided with fire hydrants and metered service connections.

Current per capita consumption of 386.4 litres per day exceeds the TSIRC's target consumption of 350 litres per person per day which may be achieved through demand and leak detection management.

The following upgrades to the existing water supply network will be required to support planned future development:

- > Extend the seawater intake into deeper water away from the sewerage effluent outfall to permit the desalination plant to run 24 hours a day and also to reduce turbidity;
- > Increase treatment plant capacity from 120 kL per day to 430 kL per day;
- > Provide an additional 1.2 ML of clear water storage;
- > Install coagulation/flocculation equipment to deduce turbidity of treated water to guideline levels;
- > Undertake leakage detection in the reticulation system to reduce wastage;
- > Install SCADA equipment to permit remote monitoring of system performance to enable prompt rectification of breakdowns that occur from time to time;
- > Install emergency power supply generator to the raw water pumps and treatment plant; and
- > Provide adequate training for operators.

5.5 Sewerage

The sewerage system comprises of gravity sewers, manholes, effluent pump stations, a lift station, rising mains and an "Environflow" treatment plant, which is used for treatment prior to the discharge of treated effluent to the ocean. The treatment plant capacity of 600 EP is adequate for the future estimated population of 667 persons. Effluent discharged from the treatment plant to the ocean currently does not meet licence discharge standards. The treatment plant is considered to be in poor condition. The plant requires upgrading or replacement to ensure satisfactory performance.

All new development is to be connected to the existing sewerage network and will require the installation of one or more additional pump stations and rising mains for the expansion of the residential area.

The following upgrades to the existing sewerage network will be required to support planned future development:

Funding has been provided for the design of an upgrade or replacement of the existing treatment plant;

- > Upgrade/replace the existing treatment plant (funding has been provided for the design of an upgrade or replacement of the existing treatment plant);
- > Replace corroded fixings to treatment plant stairways and walkways;
- > Replace failed blowers, aerators, and pumps in treatment plant;
- > Replace flow meters, switchboards, deteriorated pipework and pumping equipment where required;
- > Replace pumps in treatment plant effluent pump station;
- > Replace defective electrical wiring in treatment plant;
- > Repair/replace perimeter fencing;
- > Replace effluent outfall due to blockage and cutting of the pipe to maintain discharge of effluent;
- > Undertake CCTV inspections of sewers to locate points of saline water infiltration and undertake rectification;
- > Undertake treatment plant management to ensure effluent discharged meets licence requirements.
- > Install SCADA equipment to permit remote monitoring of system performance to enable prompt rectification of breakdowns that occur from time to time;
- > Install emergency power supply generators at all critical infrastructure; and
- > Provide adequate training for operators.

5.6 Electricity Supply and Street Lighting

Reticulated electricity to the community is provided from an unmanned isolated fully automated multi-unit diesel generators installed in a power station owned and operated by Ergon.

New development to be delivered under the Master Plan will need to be provided with underground electricity reticulation supplied from new transformers where required, installed to Ergon standards.

New street lighting shall comply with Ergon standards for urban residential developments.

5.7 Telecommunications

New development is to be provided with connections for landline and internet services supplied from underground cabling in the street, and mobile services where available, all installed by Telstra.

6 Action Plan

The Action Plan is summarised in **Table 6-1** and identifies future actions arising from the Master Plan. Actions listed in the Action Plan are identified as Key Actions for each project.

Table 6-1 Action Plan

1	Undertake further investigations in relation to specific land parcels The Master Plan has identified a number of locations that may be suitable for further development, subject to specific on-site investigations, which will likely identify developable and constrained land.	5	Investigate Cultural, Economic and Recreational Areas Further investigation of potential cultural, economic and recreational areas beyond the township should be undertaken.
2	Develop a Recreation Strategy A strategy should be developed to guide the provision of active travel and recreational infrastructure so that it may form part of a coordinated and integrated network. This is of particular importance for walking and cycling paths.	6	Consultation with Key Stakeholders The Master Plan identifies a number of conceptual opportunities which require consultation with stakeholders relevant to these projects, in order to determine more detailed design requirements to support the delivery of these projects.
3	Protection of Community Facilities and Infrastructure The Master Plan identifies a number of community facilities and infrastructure that are to be protected and maintained for the benefit of the community. The ongoing maintenance of these facilities should be prioritised, with further expansion or embellishment considered when necessary.	7	Planning Scheme Amendments In a number of instances it may be necessary for the Planning Scheme to be amended to reflect the Master Plan projects identified and ultimately support the delivery of these projects.
4	Encourage Economic Activity The Master Plan identifies a number of locations which will support economic activity, however there is a need to encourage businesses to take up the opportunities provided by this land, particularly relating to industry and tourism.	8	Coastal Inundations Investigations and Works Undertake specific investigations into coastal inundation required to identify land that may be suitable for future projects identified by the Master Plan, subject to specific mitigation and protection works.
		9	Documentation of Cultural Values The cultural and spiritual values of significant sites such as churches and cemeteries should be documented for the community.

APPENDIX

A

MASTER PLAN MAP



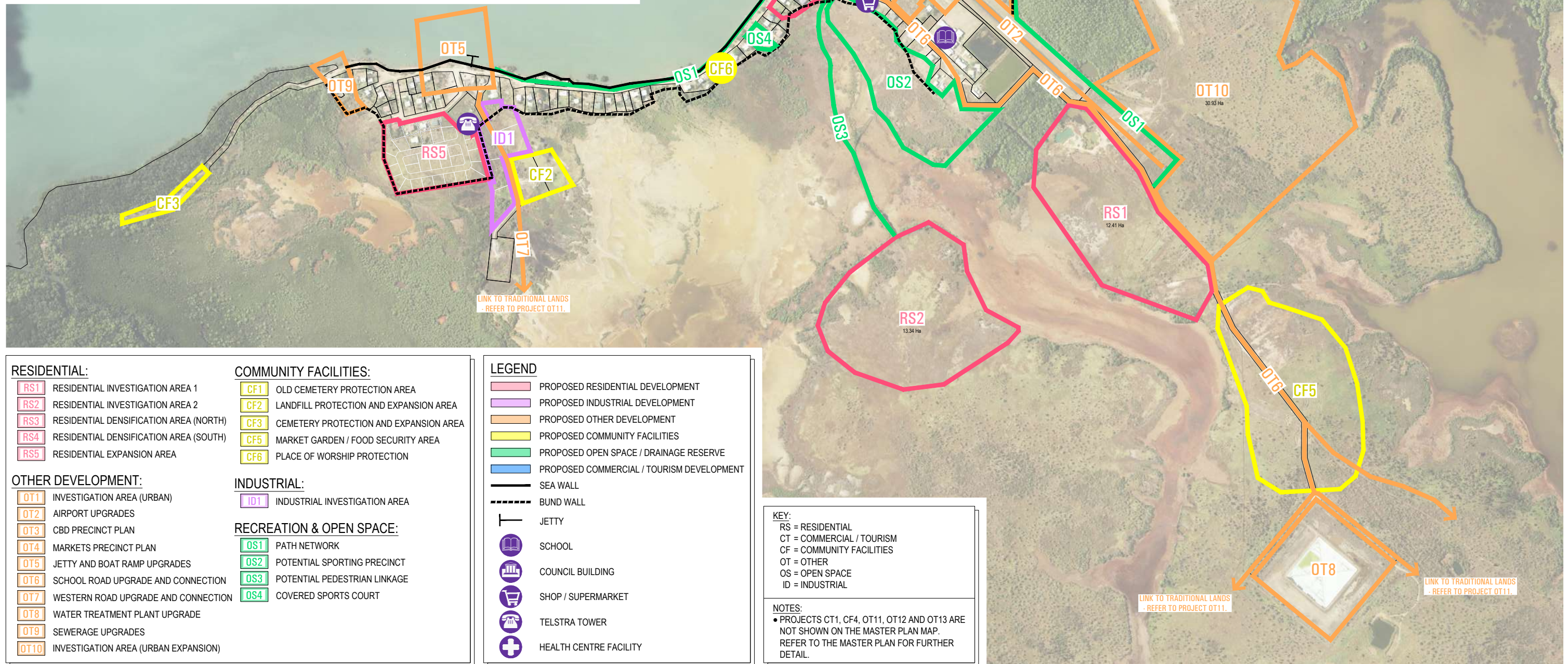


SAIBAI ISLAND MASTER PLAN

VERSION 003
12 October 2021

LOCALITY PLAN

SCALE 1:150,000



APPENDIX

B

MASTER PLAN PROJECT INDEX



SAIBAI ISLAND MASTER PLAN

PROJECT INDEX

The below table provides a summary of the projects identified in the Master Plan.

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
RS1	Residential Investigation Area 1	73 Lots (estimate)	850m ² (average)	Long Term	\$64,979,679	RS2, OT6	1, 7, 8
RS2	Residential Investigation Area 2	78 Lots (estimate)	850m ² (average)	Long Term	\$76,037,835	RS1, OS3, OT6	1, 7, 8
RS3	Residential Densification (North)	25 Lots (existing)	593m ² – 1,723m ² (existing)	Medium Term	\$9,273,719	OS1, OT1	7
RS4	Residential Densification (South)	26 Lots (existing)	66m ² – 1,754m ² (existing)	Short Term	\$7,375,973	OT3, OT4	7
RS5	Residential Expansion Area	27 Lots	773m ² – 1,363m ²	Long Term	\$27,893,593	OS1	-
ID1	Industrial Investigation Area	5 Lots	3,366m ² – 4,576m ²	Medium Term	\$2,583,908	OT7	4
CT1	Environmental Tourism	N/A	N/A	Medium Term	N/A	-	4, 6
CF1	Old Cemetery Protection Area	N/A	N/A	Ongoing	N/A	-	3, 6, 9
CF2	Landfill Protection and Expansion Area	N/A	N/A	Short Term	N/A	ID1, OT7	3
CF3	Cemetery Protection and Expansion Area	N/A	N/A	Ongoing	N/A	-	3, 6, 9
CF4	Child Care Centre	N/A	N/A	Short Term	N/A	-	6
CF5	Market Garden / Food Security Area	N/A	N/A	Medium Term	N/A	OT6	1, 6, 8
CF6	Place of Worship Protection	N/A	N/A	Ongoing	N/A	-	3, 9

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
OS1	Path Network	N/A	N/A	Short Term	\$781 per metre (concrete) \$500 per metre (gravel) \$250 per metre (earth)	OS3	2
OS2	Potential Sporting Precinct	N/A	N/A	Medium Term	\$1,472,836	OS4	2, 6
OS3	Potential Pedestrian Linkage	N/A	N/A	Long Term	\$781 per metre (concrete) \$500 per metre (gravel) \$250 per metre (earth)	RS2	2, 8
OS4	Covered Sports Courts	N/A	N/A	Short Term	To Be Costed (design dependent)	OS2	2
OT1	Investigation Area (Urban)	N/A	2.4 hectares (existing)	Long Term	\$22,601,154	OS1, OT2	1, 6, 7
OT2	Airport Upgrades	N/A	N/A	Medium Term	To Be Costed	OT1, OT3	6
OT3	CBD Precinct Plan	N/A	2.85 hectares (existing)	Medium Term	N/A	OT2, OT4	4, 6, 7
OT4	Markets Precinct Plan	N/A	N/A	Medium Term	N/A	OT3	4, 6
OT5	Jetty and Boat Ramp Upgrades	N/A	N/A	Short Term	To Be Costed	ID1, OT7	4, 6
OT6	School Road Upgrade and Connection	N/A	N/A	Long Term	\$38,741,286	RS1, RS2, OT10	5, 8
OT7	Western Road Upgrade and Connection	N/A	N/A	Long Term	\$5,341,495	ID1, CF2, OT5, OT10	5, 8
OT8	Water Treatment Plant Upgrade	N/A	N/A	Short Term	To Be Costed	-	3

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
OT9	Sewerage Upgrades	N/A	N/A	Short Term	To Be Costed	-	3
OT10	Investigation Area (Urban Expansion)	N/A	N/A	Medium Term	To Be Costed	-	7
OT11	“Back of Island” Access	N/A	N/A	Medium Term	To Be Costed	OT6, OT7	5, 6
OT12	Telecommunications Upgrades	N/A	N/A	Short Term	To Be Costed	-	6
OT13	Carbon and Renewable Energy Opportunities	N/A	N/A	Medium Term	To Be Costed	-	6

APPENDIX

C

ACTION PLAN SUMMARY



SAIBAI ISLAND MASTER PLAN

ACTION PLAN SUMMARY

The below table provides a summary of the relationship between the Action Plan and the projects identified in the Master Plan.

ID	Action	RS1	RS2	RS3	RS4	RS5	ID1	CT1	CF1	CF2	CF3	CF4	CF5	CF6	OS1	OS2	OS3	OS4
1	Undertake further investigations in relation to specific land parcels	RS1	RS2										CF5					
2	Develop a Recreation Strategy														OS1	OS2	OS3	OS4
3	Protection of Community Facilities and Infrastructure								CF1	CF2	CF3			CF6				
4	Encourage Economic Activity						ID1	CT1										
5	Investigate Cultural, Economic and Recreational Areas																	
6	Consultation with Key Stakeholders							CT1	CF1		CF3	CF4	CF5			OS2		
7	Planning Scheme Amendments	RS1	RS2	RS3	RS4													
8	Coastal Inundations Investigations and Works	RS1	RS2										CF5				OS3	
9	Documentation of Cultural Values								CF1		CF3			CF6				

ID	Action	OT1	OT2	OT3	OT4	OT5	OT6	OT7	OT8	OT9	OT10	OT11	OT12	OT13
1	Undertake further investigations in relation to specific land parcels	OT1												
2	Develop a Recreation Strategy													
3	Protection of Community Facilities and Infrastructure								OT8	OT9				
4	Encourage Economic Activity			OT3	OT4	OT5								
5	Investigate Cultural, Economic and Recreational Areas						OT6	OT7				OT11		
6	Consultation with Key Stakeholders	OT1	OT2	OT3	OT4	OT5						OT11	OT12	OT13
7	Planning Scheme Amendments	OT1		OT3							OT10			
8	Coastal Inundations Investigations and Works						OT6	OT7						
9	Documentation of Cultural Values													

APPENDIX

D

INFRASTRUCTURE COSTINGS



TORRES STRAIT MASTER PLANNING INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships



01SB SAIBAI ISLAND

Last Update:

12-Nov-21

Project			RS1		RS2		RS3		RS4		RS5	
Yield (Number of Lots)			73		78		25		26		27	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
HEADWORKS INFRASTRUCTURE UPGRADES												
Sewage Treatment Plant Upgrade	Item											
Water Treatment Plant Upgrade	Item											
Reservoirs Upgrade	Item											
DEVELOPMENT												
Earthworks												
Site clearing and disposal of material	Ha	\$ 17,500	12.41	\$ 217,175	13.34	\$ 233,450	0.8	\$ 14,000	2.75	\$ 48,125	4.9	\$ 85,750
Erosion and sediment control	m	\$ 50	900	\$ 45,000	1400	\$ 70,000	400	\$ 20,000	850	\$ 42,500	650	\$ 32,500
Strip topsoil and respread	m ³	\$ 38	12,400	\$ 465,000	13500	\$ 506,250	800	\$ 30,000	2700	\$ 101,250	4800	\$ 180,000
Cut to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Import filling to lots (Ex Cairns)	m ³	\$ 375	70,000	\$ 26,250,000	75000	\$ 28,125,000	0	\$ -	0	\$ -	24500	\$ 9,187,500
Cut in open drains to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Cut in roads and table drains to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Roadworks												
Concrete Road (7.0 m)	m	\$ 3,750	850	\$ 3,187,500	1500	\$ 5,625,000	400	\$ 1,500,000	600	\$ 2,250,000	780	\$ 2,925,000
Stormwater Drainage												
Concrete edge strips/K & C to road pavement	m	\$ 500	1700	\$ 850,000	3000	\$ 1,500,000	800	\$ 400,000	1200	\$ 600,000	1560	\$ 780,000
Concrete invert to table drain	m	\$ 1,875	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
1200 x 450 RCBC incl conc base/invert crossing	m	\$ 3,750	54	\$ 202,500	110	\$ 412,500	0	\$ -	11	\$ 41,250	54	\$ 202,500
Headwalls, Wingwalls and Aprons	m ³	\$ 4,500	20	\$ 90,000	45	\$ 202,500	0	\$ -	5	\$ 22,500	22	\$ 99,000
Bio-Basins	m ²	\$ 1,125	1250	\$ 1,406,250	1275	\$ 1,434,375	200	\$ 225,000	680	\$ 765,000	850	\$ 956,250
Bio basin concrete spillway	m ²	\$ 875	75	\$ 65,625	150	\$ 131,250	75	\$ 65,625	75	\$ 65,625	225	\$ 196,875
Bio basin concrete spillway	Item			\$ 100,000		\$ 100,000		\$ -				\$ 75,000
Water Reticulation												
100 dia. PVC pipe	m	\$ 500	600	\$ 300,000	750	\$ 375,000	450	\$ 225,000	600	\$ 300,000	950	\$ 475,000
150 dia. PVC pipe	m	\$ 625	500	\$ 312,500	550	\$ 343,750	0	\$ -	0	\$ -	0	\$ -
200 dia PVC pipe	m	\$ 813	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
SV's	No	\$ 3,750	8	\$ 30,000	11	\$ 41,250	1	\$ 3,750	4	\$ 15,000	22	\$ 82,500
Hydrants	No	\$ 5,688	15	\$ 85,313	11	\$ 62,563	6	\$ 34,125	8	\$ 45,500	8	\$ 45,500
Single house connections	No	\$ 2,500	73	\$ 182,500	78	\$ 195,000	25	\$ 62,500	26	\$ 65,000	27	\$ 67,500
Connect to existing main	No	\$ 7,500	1	\$ 7,500	1	\$ 7,500	1	\$ 7,500	4	\$ 30,000	2	\$ 15,000
VSD Pump Building	Item	\$ 375,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -

TORRES STRAIT MASTER PLANNING INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships



01SB SAIBAI ISLAND

Last Update:

12-Nov-21

Project			RS1		RS2		RS3		RS4		RS5	
Yield (Number of Lots)			73		78		25		26		27	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
Variable speed drive pump set	Item	\$ 250,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Standby generator	Item	\$ 125,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Sewerage Reticulation												
150 dia. PVC	m	\$ 500	1000	\$ 500,000	2050	\$ 1,025,000	375	\$ 187,500	0	\$ -	420	\$ 210,000
Manholes	No	\$ 12,500	15	\$ 187,500	40	\$ 500,000	6	\$ 75,000	2	\$ 25,000	15	\$ 187,500
Lot connections	No	\$ 1,875	73	\$ 136,875	78	\$ 146,250	25	\$ 46,875	0	\$ -	27	\$ 50,625
FRP Pump Station	Item	\$ 1,187,500	1	\$ 1,187,500	1	\$ 1,187,500	1	\$ 1,187,500	0	\$ -	0	\$ -
Standby Generator	Item	\$ 125,000	1	\$ 125,000	1	\$ 125,000	1	\$ 125,000	0	\$ -	0	\$ -
90 OD polyethylene pressure main	m	\$ 500	0	\$ -	0	\$ -	500	\$ 250,000	0	\$ -	0	\$ -
110 OD polyethylene pressure main	m	\$ 750	350	\$ 262,500	400	\$ 300,000	0	\$ -	0	\$ -	0	\$ -
140 OD polyethylene pressure main	m	\$ 875	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Electricity Supply												
Conduits, pits and pole bases	Lots	\$ 15,000	73	\$ 1,095,000	78	\$ 1,170,000	25	\$ 375,000	0	\$ -	27	\$ 405,000
Cabling and street lights	Lots	\$ 18,750	73	\$ 1,368,750	78	\$ 1,462,500	25	\$ 468,750	0	\$ -	17	\$ 318,750
Transformer	No	\$ 250,000	1	\$ 250,000	1	\$ 250,000	1	\$ 250,000	0	\$ -	0.5	\$ 125,000
Sub Totals				\$ 38,909,988	\$ 45,531,638	\$ 5,553,125	\$ 4,416,750	\$ 16,702,750				
Contingencies	Item	30%		\$ 11,672,996		\$ 13,659,491		\$ 1,665,938		\$ 1,325,025		\$ 5,010,825
Preliminaries												
Establishment, insurance, As-constructed	Item	22%		\$ 8,560,197		\$ 10,016,960		\$ 1,221,688		\$ 971,685		\$ 3,674,605
Project Management												
Survey, design, and construction administration	Item	15%		\$ 5,836,498		\$ 6,829,746		\$ 832,969		\$ 662,513		\$ 2,505,413
TOTALS				\$ 64,979,679	\$ 76,037,835	\$ 9,273,719	\$ 7,375,973	\$ 27,893,593				

TORRES STRAIT MASTER PLANNING

INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships

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Project			ID1		OS2		OT1		OT6		OT7	
Yield (Number of Lots)			5		N/A		1		N/A		N/A	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount

HEADWORKS INFRASTRUCTURE UPGRADES												
Sewage Treatment Plant Upgrade	Item											
Water Treatment Plant Upgrade	Item											
Reservoirs Upgrade	Item											
DEVELOPMENT												
Earthworks												
Site clearing and disposal of material	Ha	\$ 17,500	2.15	\$ 37,625	7.25	\$ 126,875	3.15	\$ 55,125	3.4	\$ 59,500	1.1	\$ 19,250
Erosion and sediment control	m	\$ 50	700	\$ 35,000	700	\$ 35,000	500	\$ 25,000	1700	\$ 85,000	550	\$ 27,500
Strip topsoil and respread	m ³	\$ 38	2150	\$ 80,625	7350	\$ 275,625	3150	\$ 118,125	3400	\$ 127,500	1100	\$ 41,250
Cut to fill on lots	m ³	\$ 50	0	\$ -	7500	\$ 375,000	0	\$ -	0	\$ -	0	\$ -
Import filling to lots (Ex Cairns)	m ³	\$ 375	0	\$ -	0	\$ -	25000	\$ 9,375,000	15000	\$ 5,625,000	0	\$ -
Cut in open drains to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Cut in roads and table drains to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Roadworks												
Concrete Road (7.0 m)	m	\$ 3,750	0	\$ -	0	\$ -	400	\$ 1,500,000	1700	\$ 6,375,000	550	\$ 2,062,500
Stormwater Drainage												
Concrete edge strips/K & C to road pavement	m	\$ 500	0	\$ -	0	\$ -	800	\$ 400,000	3400	\$ 1,700,000	1100	\$ 550,000
Concrete invert to table drain	m	\$ 1,875	0	\$ -	0	\$ -	0	\$ -	3400	\$ 6,375,000	0	\$ -
1200 x 450 RCBC incl conc base/invert crossing	m	\$ 3,750	0	\$ -	0	\$ -	11	\$ 41,250	32	\$ 120,000	22	\$ 82,500
Headwalls, Wingwalls and Aprons	m ³	\$ 4,500	0	\$ -	0	\$ -	5	\$ 22,500	16	\$ 72,000	9	\$ 40,500
Bio-Basins	m ²	\$ 1,125	530	\$ 596,250	0	\$ -	800	\$ 900,000	850	\$ 956,250	275	\$ 309,375
Bio basin concrete spillway	m ²	\$ 875	150	\$ 131,250	0	\$ -	150	\$ 131,250	225	\$ 196,875	75	\$ 65,625
Bio basin concrete spillway	Item											
Water Reticulation												
100 dia, PVC pipe	m	\$ 500	300	\$ 150,000	100	\$ 50,000	400	\$ 200,000	0	\$ -	0	\$ -
150 dia. PVC pipe	m	\$ 625	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
200 dia PVC pipe	m	\$ 813	0	\$ -	0	\$ -	0	\$ -	1700	\$ 1,381,250	0	\$ -
SV's	No	\$ 3,750	2	\$ 7,500	1	\$ 3,750	2	\$ 7,500	3	\$ 11,250	0	\$ -
Hydrants	No	\$ 5,688	4	\$ 22,750	1	\$ 5,688	6	\$ 34,125	20	\$ 113,750	0	\$ -
Single house connections	No	\$ 2,500	6	\$ 15,000	1	\$ 2,500	12	\$ 30,000	0	\$ -	0	\$ -
Connect to existing main	No	\$ 7,500	1	\$ 7,500	1	\$ 7,500	2	\$ 15,000	0	\$ -	0	\$ -
VSD Pump Building	Item	\$ 375,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -

TORRES STRAIT MASTER PLANNING

INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships

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Project			ID1		OS2		OT1		OT6		OT7	
Yield (Number of Lots)			5		N/A		1		N/A		N/A	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
Variable speed drive pump set	Item	\$ 250,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Standby generator	Item	\$ 125,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Sewerage Reticulation												
150 dia. PVC	m	\$ 500	300	\$ 150,000	0	\$ -	400	\$ 200,000	0	\$ -	0	\$ -
Manholes	No	\$ 12,500	3	\$ 37,500	0	\$ -	5	\$ 62,500	0	\$ -	0	\$ -
Lot connections	No	\$ 1,875	6	\$ 11,250	0	\$ -	6	\$ 11,250	0	\$ -	0	\$ -
FRP Pump Station	Item	\$ 1,187,500	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Standby Generator	Item	\$ 125,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
90 OD polyethylene pressure main	m	\$ 500	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
110 OD polyethylene pressure main	m	\$ 750	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
140 OD polyethylene pressure main	m	\$ 875	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Electricity Supply												
Conduits, pits and pole bases	Lots	\$ 15,000	6	\$ 90,000	0	\$ -	12	\$ 180,000	0	\$ -	0	\$ -
Cabling and street lights	Lots	\$ 18,750	6	\$ 112,500	0	\$ -	12	\$ 225,000	0	\$ -	0	\$ -
Transformer	No	\$ 250,000	0.25	\$ 62,500	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Sub Totals				\$ 1,547,250	\$ 881,938	\$ 13,533,625	\$ 23,198,375	\$ 3,198,500				
Contingencies	Item	30%		\$ 464,175		\$ 264,581		\$ 4,060,088		\$ 6,959,513		\$ 959,550
Preliminaries												
Establishment, insurance, As-constructed	Item	22%		\$ 340,395		\$ 194,026		\$ 2,977,398		\$ 5,103,643		\$ 703,670
Project Management												
Survey, design, and construction administration	Item	15%		\$ 232,088		\$ 132,291		\$ 2,030,044		\$ 3,479,756		\$ 479,775
TOTALS				\$ 2,583,908	\$ 1,472,836	\$ 22,601,154	\$ 38,741,286	\$ 5,341,495				

APPENDIX

E

PRECINCT PLANS





SAIBAI ISLAND MASTER PLAN

MARKETS PRECINCT PLAN

VERSION 001
29 June 2020

- LEGEND**
- 1 BUILDINGS / KIOSKS
 - 2 PEDESTRIAN PATH
 - 3 EXISTING SEA WALL
 - 4 EXISTING VEGETATION
 - 5 FORESHORE PARKLAND



1 BUILDINGS / KIOSKS



2 PEDESTRIAN PATH



5 FORESHORE PARKLAND



SAIBAI ISLAND MASTER PLAN

CBD PRECINCT PLAN

VERSION 002
12 October 2021



2 GATEWAY PATHWAY



6 COMMUNITY PARK



LEGEND

- 1 NEW AIRPORT ENTRANCE
- 2 GATEWAY PATHWAY
- 3 ARRIVAL ZONE
- 4 PEDESTRIAN BRIDGE
- 5 LAKE
- 6 COMMUNITY PARK
- 7 FUTURE SPORTING FIELDS
- 8 FUTURE BUILDINGS (USE TO BE DETERMINED)
- 9 PATHWAY NETWORK
- 10 AIRPORT TERMINAL

APPENDIX

F

ANALYTICAL TRANSLATION



SAIBAI ISLAND MASTER PLAN

ANALYTICAL TRANSLATION

#	Direction	Technical Report	Master Plan Projects	Notes
1.	The Master Plan will need to cater for increased demand for housing, as a result of a need to reduce overcrowding and cater for population growth.	4 Demographic Analysis 8.1 Aboriginal and Torres Strait Islander Housing Action Plan 2019-2023 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	RS1, RS2, RS3, RS4, RS5	
2.	The Master Plan should seek to diversify the available housing products, particularly the provision of smaller housing types such as units and townhouses. These dwelling types can be supported as infill housing, which will allow them to be well located proximate to key services and facilities.	4 Demographic Analysis 8.1 Aboriginal and Torres Strait Islander Housing Action Plan 2019-2023 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	RS4	
3.	The Master Plan should support the provision of accommodation for older people, including independent living and aged care.	4 Demographic Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT3	
4.	The Master Plan should consider select areas for potential housing.	5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	RS1, RS2, RS3, RS5	

#	Direction	Technical Report	Master Plan Projects	Notes
5.	The Master Plan should seek to facilitate the provision of active transport infrastructure (walking / cycling paths) to connect important parts of the community and promote healthy living through physical activity.	2.5 Services and Facilities 7.1 Initial Consultation 8.5 Healthy by Design / Walkability 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OS1	
6.	The Master Plan should seek to support the protection and embellishment (where appropriate) of key sacred and cultural sites identified by the community. This may include improving community access.	5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF1, CF3	
7.	The Master Plan should seek to protect places of worship, the current cemetery and the old cemetery and facilitate the identification of additional land to support future community needs.	2.5 Services and Facilities 7.1 Initial Consultation 8.12 TSIRC Corporate Plan 2020-2025	CF1, CF3, CF6	
8.	The Master Plan should support the protection and expansion (if required) of the existing landfill site.	2.5 Services and Facilities 6 Infrastructure Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF2	

#	Direction	Technical Report	Master Plan Projects	Notes
9.	The Master Plan should locate development in a manner that is reflective of the potential effects of coastal processes, particularly by responding to the location of the existing sea wall and bund.	5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.11 Torres Strait Regional Adaptation and Resilience Plan 2016-2021 8.12 TSIRC Corporate Plan 2020-2025	All projects	
10.	The Master Plan should investigate the provision of land for potential food production, which may include community or market gardens. Land suitable for this purpose potentially exists along School Road.	5 Planning Analysis 7.1 Initial Consultation 8.9 Food Security 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT4, CF5	
11.	The Master Plan should support the efficient use and embellishment of the jetty and boat ramp precinct. This will likely include supporting improvements to vessel access through new or improved marine infrastructure and the provision of new land based infrastructure, such as facilities that support commercial fishing.	2.5 Services and Facilities 5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025 8.13 Warpil – Fishing for Our Future	OT5	
12.	The Master Plan should support improved access to the island by air, through investigations into airport upgrades.	6 Infrastructure Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT2	

#	Direction	Technical Report	Master Plan Projects	Notes
13.	The Master Plan should support the ongoing use of land within the town for community markets, with supporting infrastructure provided where appropriate.	7.1 Initial Consultation 8.9 Food Security 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	OT4	
14.	The Master Plan should support the development of new recreational facilities, which may include sporting fields, a gym a pool or splash park. Any such facility should be appropriately located on accessible land near compatible land uses.	5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT3, OS2, OS4	
15.	The Master Plan should support the development of tourism opportunities that are compatible with the aspirations of the community.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	RS4, CT1, OT3, OT4	
16.	The Master Plan should support the identification of land that may be suitable for industrial development.	2.5 Services and Facilities 5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025 8.13 Warpil – Fishing for Our Future	ID1	
17.	The Master Plan should ensure that new commercial and community facilities are located in a manner that maximises ease of access for the community.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT3, OT4, OS1, OS3, OS4	

#	Direction	Technical Report	Master Plan Projects	Notes
18.	The Master Plan should investigate the future land use of large vacant parcels of land in strategic locations within the township	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	OT1, OT3	
19.	The Master Plan should include initiatives to overcome the significant distance between the east and the west of the township, which may include a combination of both land use and infrastructure projects.	2.5 Services and Facilities 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	OS1	
20.	The Master Plan should seek to consolidate the existing CBD area of the township.	2.5 Services and Facilities 5 Planning Analysis 7.1 Initial Consultation 7.2 Community Consultation 8.12 TSIRC Corporate Plan 2020-2025	RS4, OT3, OT4	
21.	The Master Plan should support the provision of additional child care facilities.	2.5 Services and Facilities 5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF4	
22.	The Master Plan should support the development of cultural centres and arts centres.	2.5 Services and Facilities 5 Planning Analysis 7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT3	

#	Direction	Technical Report	Master Plan Projects	Notes
23.	The Master Plan should investigate opportunities to improve community access to other areas of the island (beyond the township), particularly for recreation, economic and cultural purposes.	7.1 Initial Consultation	OT6, OT7, OS1, OS3, OS4	
24.	The Master Plan should investigate opportunities for carbon offsetting opportunities, both in land and sea areas.	7.1 Initial Consultation 8.2 Queensland Climate Transition Strategy 8.4 Carbon 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CT1, OT10, OT13	
25.	The Master Plan should identify potential opportunities for alternative energy projects.	7.1 Initial Consultation 8.2 Queensland Climate Transition Strategy 8.4 Carbon 8.8 Renewable Energy 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT10, OT13	
26.	The Master Plan should investigate opportunities to improve communications infrastructure (telephone and internet).	7.1 Initial Consultation 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT12	
27.	The Master Plan should support the provision of appropriate lighting in key locations in the town.	8.12 TSIRC Corporate Plan 2020-2025	OT3, OT4, OS1	

#	Direction	Technical Report	Master Plan Projects	Notes
28.	The Master Plan should facilitate upgrades to raw water infrastructure, including capturing, storage and treatment.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT8	
29.	The Master Plan should support the resolution of the conflict between the sewage treatment plant outfall and the emergency desalination plant sea water intake.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT9	
30.	The Master Plan should support the upgrading of the sewerage treatment plant.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT9	
31.	The Master Plan should investigate improving stormwater flows within the community, particularly west of the airport.	6 Infrastructure Analysis 8.7 Water Sensitive Urban Design 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT3	
32.	The Master Plan should seek to promote increased economic activity, with particular focus on sectors including aquaculture, pearl farming, barramundi farming, seafood industries (such as crab and crayfish) and boat repairs.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025 8.13 Warpil – Fishing for Our Future	OT5, ID1	
33.	The Master Plan should be updated to reflect the outcomes of community consultation activities undertaken.	7.2 Community Consultation	RS4, RS5, CF3, OT2, OT3, OT4, OT5, OT6, OT10, OS4	