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Disclaimer

This report has been prepared on instructions and in accordance with the Terms of Reference set by the Burdekin Shire Council and is intended to address the issues as defined therein. The data, analysis and findings contained in this report are, therefore, not appropriate for use in any other circumstance.

The report contains a series of observations and recommendations, which have been prepared on the basis of the best available information and advice able to be obtained within the project timeline. Due to the dynamic nature of the political environment and the dependency on government policy interpretation there are many variables involved, Ewareness can give no guarantee that these recommendations can be realized or achieved.

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1. Executive Summary

Debate and discussion on the provision of an all-tide access to the Burdekin River has been ongoing since the early 1990s.

There have been a number of existing boat ramp locations suggested as having potential for redevelopment however all have individual characteristics and constraints that make further development or expansion significantly difficult. Environmental, geographical and the complex hydrology of the Burdekin River Delta present significant challenges and affect every existing and potential site to varying degrees.

The Burdekin Shire Council (BSC) has commissioned a “pre-feasibility” study of Marine Recreational Facilities within Burdekin Shire. The purpose of the study was to provide the BSC and key stakeholders with a clear understanding of the options within the Shire for recreational marine facilities, with all-tide/weather access that may warrant more intensive investigation. The investigation did not contain within its scope geodetic investigation, assessment of hydrology or detailed bathymetric survey requirements.

A preliminary assessment of several identified sites examined their respective advantages and disadvantages with a view to identifying a site or sites with potential within the Shire. From the investigation of a total of 14 sites including a site external to the Shire (ultimately not considered due to location) only one site may have the potential to meet the BSC expectations and have the potential to provide an all-tide access.

The site identified known locally as Kierle’s Landing, is well located centrally within the Burdekin River Delta. The development of a medium-scale all-tide facility on the site could have potentially significant social, economic and environmental net benefit.

Any project of this type, given the environment of the Burdekin River Delta, must deliver a significant and sustainable net benefit if it is to receive consideration. It is obvious that the local regional community as well as tourists hold the recreational fishing resource of the Burdekin River and coastal waters in high regard. The recreational fishery of the Burdekin and nearby coastal waters is a virtually untapped economic resource in terms of tourism. Any all-tide facility will significantly enhance the access and enjoyment of the resource and deliver an opportunity for the BSC to further diversify the regional economy in terms of recreational fishing tourism.

Kierle’s Landing is centrally situated on the main channel of the Burdekin River approximately 18 kilometres south by road of the Ayr Post Office at the end of the mostly bitumen-sealed Sandhill Road. The site is unique amongst all others in terms of the potential to demonstrate the greatest community benefit, a positive environmental impact and potentially the best economic outcomes.

The land comprises State Land, gazetted Road Reserve and a Camping and Water Reserve in the Trusteeship of the BSC. Both it and adjoining freehold land is significantly eroded. The Burdekin Shire Rivers Improvement Trust has been working
to stabilise the erosion. The site is in a lower category of Fish Habitat Area Category B and virtually devoid of any mangroves and marine vegetation due to erosion.

Erosion of the land resource in the Burdekin Delta is a significant contributor to sedimentation and diminished water quality on the Great Barrier Reef. Given the need to stabilise the river bank in this location a unique opportunity exists to incorporate the construction of an all-tide access into erosion mitigation works to deliver an outstanding outcome for both the community and environment.

Realisation of this vision will require the coordination of a number of State and Federal Government Agencies as well as the Burdekin Shire Rivers Improvement Trust and local landholders. The potential in terms of achieving broad positive sustainability outcomes is enormous. A precedent in constructing an all-tide facility in an area constrained by a Fish Habitat designation in Queensland has been established recently at Burrum Heads on the Fraser Coast in 2014/2015. Therefore, the prospects of the subject proposal can be assumed to have a reasonable chance of success.

It is estimated that the facility, the subject of this investigation, comprising a two lane boat ramp, illuminated car park for up to 50 car and trailer units, hardstand storage, toilets and community park facilities would cost between $4.5million and $8 million. Early indications from the community consultation have been that the location would be broadly supported. However, should a decision be made to move to the next stage it will be necessary to consolidate the vision and develop a strategy to proceed. An uninformed engagement strategy could in the worst case scenario see the project development opportunity lost.

Moving forward the Burdekin Shire Council will need to obtain further detailed information and develop strategies through consultation to support the project and applications for funding. The demonstration of “Net Benefit” will be critical if the development is to be achieved.

Recommendations from the investigation include:

Going forward the following recommendations are put forward for consideration by the Burdekin Shire Council:

A. That the site known as Kierle’s Landing be considered as the prime location to provide an all-tide launching facility. There are no other locations that demonstrate the same potential within the scope of this investigation.

B. Any project undertaken in this area to provide an all-tide facility should be incorporated into works that mitigate and reduce further erosion of the river bank. It is therefore recommended that the Council partner with the Burdekin Shire Rivers Improvement Trust to alleviate erosion of the river bank.

C. Council carefully consider what is provided in terms of this potential infrastructure. The all-tide facility should be considered the core element of a precinct that might attract limited private sector investment on adjoining land to enhance the public facility.
D. The Council give some consideration in a review of the Town Plan to the possibility of complimentary development being allowed on freehold land adjoining the site. This development might include a possible caravan park/camping area incorporating hard stand area, provision of fuel, pay-for-use wash down area and conveniences including showers.

E. Any project to provide an all-tide facility should incorporate a realignment of the statutory boundaries of the Fish Habitat Area as well as cadastral boundaries of State Lland assets once the facility is constructed.

F. The Burdekin Shire Council should it proceed with the proposal immediately commence applications for funds to support this project.

G. Any funding application for this project include a Recreational Fishing Strategy that will support the sustainable and ongoing maintenance of facilities into the future and assist in the diversity of the local economy through promotion of the local recreational fishing resource.

H. A program of community awareness and education about the cost and value of providing both existing and new facilities and services be undertaken and incorporated in a broader recreational fishing strategy. The purpose being to increase the public surveillance and over time assist the Council in improved management and reduced vandalism of the infrastructure over the longer term.

2. Project Overview

EWARENESS was commissioned to provide the Burdekin Shire Council, key stakeholders and prospective investors with a clear understanding of the options within the Shire for recreational marine facilities, with all tide/weather access. Terms of reference APPENDIX A.

Marine facilities for the purpose of this pre-feasibility include:

- boat ramps suitable for a wide range of vessels
- hard stand area
- protected moorings
- wash-down area
- provision of fuel
- public car parking
- public conveniences including showers
- picnic/park facilities
- appropriate lighting
- possible caravan park/camping area
- possible marina, commercial and/or residential opportunities.

The investigation process involved:

- The identification and inspection of existing and potential locations along the coastline including:
- Interviewing community groups associated with various locations: APPENDIX B
• Interviewing local agencies involved with marine infrastructure and marine safety including Burdekin Shire Council Works Dept, Burdekin VMR, Marine Safety Queensland (Townsville)
• Consultation with Government Agencies on matters related to identified potential locations and develop scenarios for consideration
• Identification of potential funding sources that may provide $s for infrastructure development
• Presentation of options and report to Burdekin Shire Council for consideration.

Locations inspected included:

<table>
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<th>EXISTING CONCRETE RAMPS</th>
<th>FORMED LANDINGS</th>
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<td>• Kierle’s Landing</td>
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<tr>
<td>• Barratta Creek</td>
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<td>• Molongle Creek*</td>
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* Whitsunday Regional Council

3. Background

A review of Council records reveals that the provision of an all-tide facility within the Burdekin Shire has been a topic of discussion since the early 1990s. About this time, investigations by Department of Transport identified Oyster Creek at Wunjunga as a possible a boat ramp in the future. In addition, the Council actively pursued potential private companies to consider the Burdekin Shire as a potential site for a marina development without a site being identified.

The environment and the valuable fisheries resource have been under close scrutiny for some time. The State Government in the mid-1990s initiated the Coastal Wetlands Resources Investigation of the Burdekin Delta which was undertaken for the Declaration of Fish Habitat reserves as part of the Ocean’s Rescue 2000 program.

As an outcome of the Coastal Wetlands Resources Investigation, Fish Habitat Areas (plan FHA005 and FHA 007) APPENDIX C were created. These areas have varying levels of protection. The management features include the protection of valuable commercial, recreational and Indigenous fisheries resources, and management of diverse habitats in good condition near Ayr. Habitat values stated on the declaration include extensive mangrove communities, dense seagrass meadows and extensive salt pans. (NPSR, 2012)
The Burdekin Shire coastline abuts the Great Barrier Reef (GBR) Marine Park from low-tide mark along the mainland coast to 250km eastward. In response to continued UNESCO concerns regarding the health and sustainability of the GBR since 2012, there has been an intensive focus on its management. The 2050 Reef Plan is at the centre of a suite of arrangements instigated by the Australian and Queensland Governments in response to concerns addressing water quality, port development, shipping management, sea dumping and fisheries management.

In addition to the above the coastline of the Burdekin Shire is the subject of significant legislative planning constraints that will impact the development of any facility such as these proposed.

**Broader Planning Implications**

The Burdekin Shire, located in the dry tropics of northern Queensland, is included in various planning schemes with divergent goals at the national, state and regional levels. Listed below are plans relevant to any decision to construct an all-tide facility in the Burdekin River Delta:

- The geographic boundary of the Commonwealth Government’s Development of Northern Australia White Paper. The White Paper sets a vision for the 40% of Australia’s land mass lying north of the Tropic of Capricorn to become an economic powerhouse within 20 years by developing policies and ensuring appropriate infrastructure to rapidly grow the current sub-scale small economies to meet northern Australia’s full potential by 2035.
- The Reef 2050 Plan introduces a framework for managing the Great Barrier Reef from 2015 to 2050. It is central to the Australian Government’s response to the UNESCO World Heritage Committee.
- The Reef Water Quality Protection Plan sets a target of no negative impact by water entering the reef from broad-scale land use by 2020. The Plan is scheduled to be updated by 2018. At the State level, the Burdekin Shire is included in the NQ 2031: North Queensland Regional Economic Development Plan 2014-2031. The Burdekin is noted under the key theme of Growing Agriculture. No funding is associated with the Plan.
- At the regional level, the Townsville North Queensland Destination Tourism Plan (n.d.) developed by Tourism and Events Queensland, makes reference to the Burdekin Economic Development Strategic Plan. Specifically, although “the Burdekin is not well endowed with iconic tourism attractions, tourism is still a considerable opportunity area for the region” particularly the drive market (p.8). The Destination Tourism Plan provides no further exploration of tourism development potential in the Burdekin Shire.

4. **OBSERVATIONS**

All of the known potential and existing sites with the exception of one isolated location (without access) were inspected and community consultation undertaken during December 2015. The level of community pride and ownership for some of the locations was evident and proved a stark contrast to other locations.
Within the community a number of sites have been “tossed” around over time as being potential sites worthy of development. Debate has been for the most part uninformed of the factors affecting this type of development of an all-tide facility. As a consequence, the arguments for one site or another have been somewhat subjective in terms of promoting particular sites.

The launch sites within the Shire are widely distributed geographically with some quite isolated. Unfortunately, the geographic spread and isolation does contribute to a common feature affecting all of the sites inspected. There is a prevalence of vandalism of public infrastructure and private property by some users.

Common issues observed include:
- Rubbish disposal facilities misused and removed
- Theft from parked vehicles necessitating security camera monitoring
- Toilet facilities, signage and lighting vandalised
- Itinerant residents from time to time taking up residence

All of the above issues present a real challenge to the ongoing management and maintenance of these facilities.

While a strategy of withdrawal of infrastructure items may in the short term relieve the financial cost of maintenance it can lead to significant criticism about the perceived lack of facilities in the longer term. Obviously this damage is committed by the minority. A program of community awareness and education about the cost and value of these facilities and services could increase the public surveillance and over time assist the Council in improved management of the infrastructure.

Any proposed all-tide facility will be vulnerable to this type of unwanted attention.

**The Topical Sites**

From consultation it became apparent that from a “local knowledge” perspective some sites were favoured as having some potential. These included:

**JERONA**: located approximately 42 kilometres north of Ayr.
The site adjoins a local community and features a number of facilities provided by the Jerona Citizens Association and other parties. Barratta Creek is a relatively narrow waterway and in an area with significant environmental restrictions.

ALVA: situated approximately 14 kilometres northeast from Ayr

This location is exposed to the open ocean and has been subjected to significant changes due to this exposure.
OCEAN Creek situated approximately 13 Kilometres east of Ayr

The Ocean Creek Ramp is the primary launch point for vessels heading to the reef. The facility is programmed for an upgrade in 2016. The waterway is narrow and shallow at low tide.

GROPER Creek situated approximately 15 kilometres southeast of Home Hill

The site adjoins the Groper Creek community and the facility has been augmented by facilities built by the local fishing club. The land adjoining has been subject to significant flooding and the waterway suffers from siltation which has adversely affected navigation over time.
OYSTER Creek situated approximately 33 kilometres south of Home Hill at Wunjunga.

Currently this site is an earth landing and not a formed ramp. It is isolated yet has been identified as a potential ramp site by the Department of Transport in the past. Beach access is restricted and constrained due to recognised turtle nesting habitat.

MOLONGLE Creek situated approximately 70 kilometres south of Home Hill in Whitsunday Shire.

This site is outside the Burdekin Shire and outside of the scope of this investigation.

The location is the primary launch point for Cape Upstart and regularly used by the Volunteer Marine Rescue Burdekin to attend vessels at this popular location. The site is well managed by the Molongle Creek Boat Club.
The Possibility of a Marina

After inspecting the coastline of the Burdekin Shire it is obvious that there are significant challenges to any marina proposal. It is the opinion of the author of this report that from a private developer/investor perspective a Marina in the Burdekin is NOT an option that could or would be pursued. There are a number of factors that support this conclusion. Specifically, a project of that type and scale would not be considered due to the risk profile of such a development.

The major risk elements would include:
- The environment and significance of the recognised importance of the fisheries resource already subject to legislative protection.
- The geography and hydrology of the Burdekin River Delta.
- The relatively small population and associated low demand demonstrated by the type of local vessel ownership and low transient vessel traffic.
- The enormous $ cost of initial investigations with high risk of negative Government response to such a proposal given the environment, geography and hydrology.
- The lack of Project Finance appetite for “green field” high-risk low-return projects in the current market place.

The alternative?

To achieve an all-tide access a site needs to be identified that will allow such a facility to be created. The site needs inherent characteristics such as:
- Access to navigable water
- Minimal legislative restriction
- Minimal environmental impact
- Optimal sustainable benefit

From the inspections undertaken one site stood out as having potential to deliver the desired outcome for Council.
- The site is not without issues however these are somewhat less than any other site inspected.
- The proposed development of this site could deliver significant community and environmental benefit.
- Informal feedback from the community on the site is very positive.
- While bathymetric investigation is not within the scope of this investigation research and aerial photography suggest that this location has good access to navigable water.
It is recommended that Council carefully consider what is provided in terms of this potential infrastructure. The all-tide facility should be considered the core element of a precinct that might attract limited private sector investment on adjoining land to enhance the public facility.

For example, on the site being considered to have the most potential to locate the desired facility it may be possible to construct:

- An all-tide 2-lane Boat Ramp (15t cap) suitable for a wide range of vessels
- Up to 3 protected moorings
- Public car parking
- Picnic/park facilities and appropriate lighting

In moving forward with the project the Council could give some consideration in a review of the Town Plan to the possibility of complimentary development being allowed on freehold land adjoining the site. This development scale might include a possible caravan park/camping area incorporating hard stand area, provision of fuel, pay for use wash down area and conveniences including showers.

Without adjoining surveillance, the proposed site development of public facilities would be limited due to the issues of vandalism previously discussed.

5. SITE RECOMMENDATION

Of the sites assessed one stood out amongst those inspected as meeting criteria that could potentially deliver the all-tide facility. The site is known locally as Kierle’s Landing and while it is not an existing boat ramp it is used as a launching site from time to time. The site features characteristics that include:

- Good access with almost continuous bitumen road to Ayr. Note the access to Rita Island in times of flood is subject to closure at Anabranch Creek.
- Reasonable driving distance to Ayr.
- Adjacent to freehold land that may in the future have potential for limited development.
- Situated in a “B” classified Fish Habitat Area.
- Located on the Burdekin River main channel centrally within the delta.
- Broad informal community support for a facility at this location.
- Subject to erosion close to existing Burdekin Shire River Improvement Trust works.
- Fronts the main Burdekin River outlet channel to the ocean.
- While bathymetric investigation is not within the scope of this investigation, research and aerial photography suggest that this location appears to have access to navigable water.
- While all sites are subject to some flood inundation this site is located in the 20 to 50-year flood event category.

The consultant was unable to obtain detailed bathymetric survey data or hydrology information specific to this section of the river. However, this location did form part of the Town of Home Hill Flood Study conducted for the Burdekin Shire Council in 2003 by Sinclair Knight Merz and data was collected for this site as part of that study.
That investigation and report would no doubt be a valuable starting point for further research on these topics should the project progress.

AERIAL VIEW OF KIERLE'S LANDING RITA ISLAND

Kierle's Landing approximately 18 kilometres southeast of Ayr

A significant feature of this location is the extensive erosion that has occurred at this site. A large area of land has been washed away over time, contributing to the problem of sedimentation and diminished water quality on the Great Barrier Reef. It is noted that during an investigation of a response to erosion on the left bank of the Burdekin River on Rita Island, Crees et al. identified 1000 metres of bank instability near Kierle Road. The report highlights that sediment from bank erosion is damaging to instream habitat which may affect fish nurseries in the declared Fish Habitat Area (Crees, p.13). The report further identifies that the recreational values
of the popular boat ramp at Kierle’s Landing, three kilometres downstream, may be lost if further erosion causes damage to the facility. p. 14.

Further, in a 2013 Technical Report undertaken under the auspices of the National Environmental Research Program, Logan et al. conclude that “…any reduction in river loads that would lead to improved water clarity is likely to lead to significant ecosystem health benefits” in the Great Barrier Reef (p. 26).

It must be noted that in June 2015, Queensland’s Auditor-General tabled a report in Parliament that criticised the State Government’s response to reducing run-off into the reef as lacking urgency and purpose. The taskforce suggested a need for greater regulation on landholders and agriculturalists if targets to reduce nitrogen run-off by up to 80 per cent and sediment run-off by up to 50 per cent were to be met in key catchments such as the Wet Tropics and Burdekin by 2025.

It is a reasonable conclusion then, that sediment from erosion of the left bank of the Burdekin River is impacting fisheries nurseries in the declared Fish Habitat Area and contributes to reduced water clarity in the Great Barrier Reef ecosystem. Any project undertaken in this area to provide an all-tide facility should be incorporated into works that mitigate and reduce further erosion of the river bank. It is therefore recommended that the Council partner with the Burdekin Shire Rivers Improvement Trust to alleviate erosion of the river bank.

The following picture details the extent of the erosion occurring in this area.

When viewed from a broader scale the erosion is extensive. It is estimated that an area of between 180 and 220 hectares of land have been severely affected by erosion in this area. The full extent of the problem is displayed in the following image.
The erosion of this land has incurred another problem. The Burdekin Declared Fish Habitat Area (FHA) boundary at this location is tied to cadastral boundaries (rather than tidal limits, geographical features, etc.). The cadastral boundaries as shown on the Digital Cadastral Database (DCDB) do not appear to match the imagery for the location very well and it appears that there has been significant movement of the river bank over time. Research and consultation with officers of the Departments of Natural Resources, and Environment Sport and Racing has determined that the legislative boundaries of the Fish Habitat Area are extensively misaligned and now no longer effective being in midstream. The property boundaries being in the middle of the river as implied on the DCDB, suggest subject to verification by on ground survey that the boat ramp proposal may be outside the declared FHA.
From discussion with officers from the Department of Natural Resources and Mines the Burdekin Shire Council can realign the boundaries.

To do this Lot 150 on GS26 (the existing reserve in blue in the following diagram) should be subdivided to open road (shown in pink on the following overlay of the Qld Globe) and surrender the remainder of the Lot to the State (over the part shown in blue).

At the same time part of Sandhill Road (shown in cream) should be closed and also surrendered to the State. Once this occurs, the fish habitat boundary will then follow the new cadastral boundaries which will align with the current physical location of the tidal boundary of the Burdekin River.

From discussion, the Department is open to the suggestion that the Burdekin Shire Council could negotiate with the Department regarding the carrying out of the above surveys and who should pay the cost of these surveys as they could be carried out by Departmental staff rather than the Council employing private consulting surveyors.

It is recommended that any project to provide an all-tide facility should incorporate a realignment of the statutory boundaries of the Fish Habitat Area as well as cadastral boundaries of State Land assets once the facility is constructed.
6. **ROAD MAP FOR DEVELOPMENT**

The proposal to site an all-tide facility at Kierle’s Landing is a difficult proposition without a clear understanding of further information that is outside the scope of this study. However, on the basis of research available the proposal is plausible and possible with the best opportunity to provide the greatest “Net Benefit” to both the community and the environment.

If the proposal is to be funded appropriately the project will require the co-operation of multi-layers of Government working to deliver the biggest “Net Benefit” to the community.

It is imperative should the Burdekin Shire Council decide to progress to the next stage it must develop a clear and realistic vision of the facility proposed. This vision should be developed with input from a number of stakeholders including the following:

- The Burdekin Shire Council and its constituents
- Community Stakeholder organisations
- The Department of Transport and Main Roads
- Marine Safety Queensland
- The Department of Environment Sport and Recreation (Marine Resources)
- The Department of Natural Resources and Mines
- Great Barrier Reef Marine Park Authority
- Local Marine Advisory Committee
- The Volunteer Marine Rescue Burdekin
- Representatives of the local Traditional Owners.

Once a clear vision of the facility has been determined the Council will need to consolidate some vital information including:

- Initiation of a Recreational Fishing Strategy
- Detailed land and hydrographic/bathymetric survey
- Environmental and cultural heritage assessment studies
- A geotechnical study
- Analysis of water depth at ramp toe, length of ramp and length of approach road
- Review the existing Town Plan.

Using this information, the Council can then develop in consultation with the Department of Transport a concept based on accurate cost estimates. At this very early stage an estimate of the cost of construction is very much a guess. However, based on a similar project undertaken by the Fraser Coast Regional Council in 2014-2015 it is estimated that such a facility will ultimately cost in the order of $4.5 million to $8 million. Once again it is stressed that this is an estimate only and a firm cost will only be determined after further detailed investigation.

Depending on the advice from the Government Agency consultation process it may be necessary to:

- Undertake resurveys to resolve cadastral issues.
- Negotiate a Cultural Heritage agreement with the Traditional Owners.
• Review any Local Government associated bylaws or planning scheme implications.

Works in a declared Fish Habitat Areas (FHA) require a development approval under the Sustainable Planning Act 2009 and a Resource Allocation Authority under the Fisheries Act 1994. The Department of Agriculture and Fisheries (DAF) provides development assessment services on Department of National Parks, Sport and Racing’s (NPSR) behalf in declared FHAs. However, as the facility is currently outside the declared FHA this may not be required unless resurvey is completed prior to construction.

Funding of the project will be a critical issue. To be successful applications for major funding MUST be supported by focussed strategies with clearly defined objectives and measurable outcomes. Projects that demonstrate the most “SIGNIFICANT NET BENEFIT” will have the best chances of succeeding.

Net Benefit in terms of this proposal might be demonstrated by:
• The all-tide marine facility as an outcome of an initiative to stabilise major river bank erosion thus reducing sediment transfer to the GBR.
• The all-tide facility ensuring a central delta access point to the ocean in times of emergency.
• Coupled with a recreational fishing strategy an all-tide facility will enhance tourism, add to economic diversity and improve the community access to the Burdekin River and the open ocean in terms of recreation.

The importance of a Recreational Fishing Strategy to accompany any funding application cannot be dismissed. The value of this type of strategy is already being recognised by other Councils such as Rockhampton City Council as an important element in underpinning its application for funds from the Recreational Boating Facilities Infrastructure Fund in 2016.

This type of strategy can be developed in tandem with the actions being undertaken above and could be commenced immediately once the Council decides to proceed with determining a vision of the all tide facility.

7. POTENTIAL FUNDING SOURCES

The following potential funding programs are ranked in order of relevance.

<table>
<thead>
<tr>
<th>Name</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Marine Infrastructure Capital Maintenance Program (TMR)</td>
<td>Funding to improve, develop and maintain public recreational boating facilities. The Fund has been given a two-year extension commencing July 2016. The Queensland Government has committed $30 million to provide additional recreational boating infrastructure and to upgrade existing facilities. Funding has been fully allocated until June 2016 and the program is now due for review.</td>
</tr>
<tr>
<td>The National Stronger Regions Fund (C’wlth)</td>
<td>Administered by the Department of Infrastructure and Regional Development, a $1 billion five-year (2015-2020) initiative designed to support investment in priority economic and infrastructure</td>
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</tbody>
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projects, with a focus on strengthening economies by improving productivity, employment and workforce skills. Successful applications have matching funding. A significant outcome of approved projects should be sustainable economic benefits including job creation. **NOTE: Round 3 funding applications close 15 March 2016.**

<table>
<thead>
<tr>
<th>MARINE RECREATIONAL FACILITIES BURDEKIN SHIRE projects, with a focus on strengthening economies by improving productivity, employment and workforce skills. Successful applications have matching funding. A significant outcome of approved projects should be sustainable economic benefits including job creation. <strong>NOTE: Round 3 funding applications close 15 March 2016.</strong></th>
</tr>
</thead>
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<tr>
<td><strong>The $200 million Building our Regions, Regional Infrastructure Fund (Qld)</strong></td>
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<tr>
<td><strong>The Reef Trust (2015-2019)</strong></td>
</tr>
<tr>
<td><strong>The Reef Programme (C’wlth)</strong></td>
</tr>
<tr>
<td><strong>Office of Great Barrier Reef, Department of Environment and Heritage Protection (QLD)</strong></td>
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</tbody>
</table>

It is highly recommended that the Burdekin Shire Council should it proceed with the proposal immediately commence applications for these various funds to support this project.

### 8. THE OPPORTUNITY OF A RECREATIONAL FISHING STRATEGY

**Recreational Fishing in Context**

Any application for funding will need to demonstrate a significant and sustainable net benefit. A sustainable net benefit includes a combination of demonstrated social, economic and environmental benefits. While the mitigation of erosion will be a significant environmental benefit easily demonstrated the social and economic benefits may prove to be a challenge. A challenge best met through the development of a recreational fishing strategy for the Burdekin Shire area.
By way of background, recreational fishing, as part of the broader outdoor recreation umbrella, has important implications for both economic and social development. The Department of Agriculture and Water Resource’s *Recreational Fishing in Australia – 2011 and Beyond: A National Industry Development Strategy*, identifies actions in addressing opportunities and challenges into the future for recreational fishing at the national level.

The national strategy states that recreational fishing is an important component of the continued economic prosperity, health and well-being of Australian society. The Strategy identified that, in the year 2000,

> “over 3.4 million Australians engage in recreational fishing, spending $2.2 billion annually and generating employment in fishing-related businesses as well as retail, tourism and other industries (p.3).”

The national strategy is concerned primarily with fisheries management in Australia, and does not address associated capital works and maintenance of marine facilities. It does, however, identify other key principles including recreational fisheries’ contribution to the “health and wellbeing at the individual, family and community levels” and its valuable provision of “social and economic benefits” (p.9). For the Strategy’s Vision statement, see APPENDIX D.

Management of recreational fishing in Australia is undertaken by State and Territory Governments and there is limited exchange of information between jurisdictions resulting in inadequate accumulated data and industry knowledge at the national level. The National Recreational and Indigenous Fishing Survey (NRIFS), conducted in 2000/01, is the first attempt to articulate consistent and comparable non-commercial Australian fishery statistics. The survey identified 19.5% of Australians participated in recreational fishing. Further, 55% of all recreational vessels are used for fishing, and 70% of fishing vessels are in the 4-5m size category (p.52). Included in the survey statistics are categories of recreational fishers’ expenditure totalling approximately $1.86 billion during the time of the survey. (Appendix 5.16, p. 179). The survey acknowledges associated economic contribution, e.g. public capital works and maintenance of marine facilities.

In Queensland, the Department of Transport and Main Roads (TMR) currently provides funding for water infrastructure e.g. boat ramps and jetties. Local Authorities are responsible for funding land-based facilities, e.g. car parking, lighting, toilets, wash-down areas etc.

The 2011 Recreational Boating Facilities Demand Forecasting Study, Northern Region was developed to provide independent advice for priority site development, either facilities upgrade or new facilities, for North Queensland including the Burdekin Shire. The Burdekin Shire is included as one of four Local Government Areas within the Townsville Recreational Boating Catchment (RPC), and statistics are aggregated at the RPC level. Responses to the survey conducted as part of the study were received from only five of 30 Local Government areas covered by the study. The Burdekin Shire recorded the second highest response rate at 24.4%, yet none of the 11 stakeholder workshops that were undertaken were held in the Burdekin Shire. The report highlighted that 75% of all recreational boating activity
was for fishing and/or crabbing. The study is scheduled for a mid-life update during 2016. It is important for the BSC to participate in this update.

Recreational Fishing in the Burdekin Shire

The population of the Burdekin Shire at 30 June 2011 was 17,784, with recreational vessel registrations of 3,313, indicating an 18.6% ownership rate. As at June 2015, in the Burdekin Shire there were 3,517 recreational vessels registered with TMR, representing a 6% increase since 2011 (TMR, 2015). According to the Australian Bureau of Statistics (2011, updated 2013) the main employing industry (20%) is agriculture, forestry and fishing. In 2013, there were 1,147 businesses in this industry, up from 1,108 in 2012, an increase of 3.5% over the 12-month period. There is no official breakdown of this category of business and this report assumes the majority of the business is based on agriculture, specifically cane farming. However, a smaller proportion of businesses in this category are either dedicated entirely to, e.g. bait and tackle, marine vessel retailers or as part of their usual operations, e.g. fuel suppliers, rely on the local recreational fishers.

Under current arrangements, the Department of Transport and Main Roads (TMR) provides funding to improve, develop and maintain public recreational boating facilities under the Marine Infrastructure Capital Maintenance Program (MICMP). Successful projects are included in a four-year rolling program on a whole-of-state basis. There are 14 marine facilities at eight locations within the Burdekin APPENDIX E (10 boat ramps, two floating walkways, one jetty and one pontoon). The Ocean Creek ramp is programmed for an upgrade and the Plantation Creek old wharf boat ramp (general maintenance) is scheduled for delivery 2016/17.

Due to the high cost of continuing acts of vandalism as well as abuse of facilities such as rubbish bins, toilet facilities and other infrastructure the current on-shore facilities provided by Council are restricted. This has a negative impact on the utility and efficiency of the local recreational fishing industry and limits an extended tourism potential. There is a strong requirement for Council to put measures in place and develop an education and communications strategy for the industry to protect the infrastructure that is ultimately there for the benefit of all recreational fishers.

Recreational fishing, including the locations of launch and retrieval facilities, is given very limited space on the Burdekin Shire website. It is uncertain who the target audience of this boat ramp information is. It is assumed that residents with local knowledge would have no need to search for this information online, and the extent of information for non-residents/tourists seeking locations to launch a boat is limited. Furthermore, road signage and directions are woefully inadequate for visitors new to the Shire.
It was observed that at most locations signage indicates users should “seek local knowledge” about facilities, however no mention or direction was given as to where that local knowledge might be found. In any event a visiting angler would only become aware of this issue if they read the sign after they have arrived at the boat ramp.
The recreational fishing industry in the Burdekin Shire is similar to many regions throughout the country, i.e. it is considered a leisure activity, and there is no formal recognition of the industry as being a long-term, sustainable contributor to the local economy. There are no formal linkages to a healthy, physical and robust community. There is no recognition of the industry as a partner in the sustainable management of the Great Barrier Reef. At present, Council has limited capacity to measure linkages and outcomes. The industry remains solely infrastructure-based specifically in conjunction with TMR, for the maintenance of boat ramps.

The development of a Recreational Fishing Strategy is a demonstrable sign to funding providers that attempts are being made to harness the opportunity it provides economically, socially and environmentally.

Issues to be addressed by a local Recreational Fishing Strategy

As a recreational fishing destination, the Burdekin Shire is widely recognised outside the local community as a preferred destination given the wide variety and diversity of species and fishing experiences available.

However, little marketing or other effort is evident to promote the resource to targeted markets.

The issues include in no particular order:
- Marketing of the recreational fishing experience is non-existent.
- The true contribution to the regional economy is unknown.
- There are little or no linkages between recreational fishing industry and tourism.
- There is no data collection from related business.
- The cost of vandalism to on-shore facilities is significant.
- The current infrastructure needs to be supplemented by providing safe, convenient, all-tide facilities for launch and retrieval of recreational vessels.
- Reef 2050 Plan highlights water quality as a specific concern.
- FHA regulations confine the development of any new facilities to Part B locations.
- No mooring facilities.
- No rubbish bins, picnic facilities, fishing related facilities e.g. cleaning stations, all due to current level of vandalism.
- No line-marked car parks in close proximity to existing boat ramps, which contributes to poor traffic management at popular ramps and environmental degradation by vehicles and trailer parking being poorly contained in some locations.
- Lack of signage directing non-resident recreational fishers to boat ramps.
- Inadequate security measures such as lighting at some locations.
- Lack of access matting in beach areas to control and promote traffic movement.
- Launch and retrieval locations are given very limited space on the Burdekin Shire website, and are located under the Facilities and Recreation drop down menu.
Limited information and communication exchange between environmental authorities and recreational fishers.

- No tourism plan to feed into the marketing of recreational boating and fishing opportunities into the broader regional tourism asset base.
- Lack of recognition in the general recreational boating and fishing community of the full costs of vandalism of land based facilities.
- Road signage is poor to non-existent at some locations.
- Lack of digital linkages with external tourism, fishing and other related websites.
- Lack of knowledge surrounding the economic, community, and health and wellbeing benefits of recreational fishing.
- Limited resources at the local level to fully engage in planning processes at the regional, state and national level.

This list is not “all inclusive”, merely the result of observations during this assessment and would be used as a starting point in any future strategic planning initiative.

**Developing a Recreational Fishing Strategy**

Given the higher level planning structures, the wider benefits that recreational fishing can provide and recognising the current challenges, there is an opportunity to strategically develop the industry locally. The Burdekin Recreational Fishing Industry sits within the Australian Government’s planning zones for:

- Development of Northern Australia; and
- Reef 2050 Long-Term Sustainability Plan

The implication of this is that the industry falls within a larger development and management context with a time horizon of 30 years. This represents an opportunity to drive the industry into the future as an accountable economic and environmental contributor.

The industry also falls under the auspices of the Recreational Fishing in Australia – 2011 and beyond: a national industry development strategy, which recognises the social, health and wellbeing, and economic influence of the industry. There is a need to capture data at the local level.

It is envisaged that the proposed future recreational fishing industry in the Burdekin Shire could be supported by a strategy including 5 core elements:

1. **Infrastructure Development: Maintenance and Renewal**
2. **Tourism Development: Marketing and Communications**
3. **Planning: Strategic Partnerships and Contacts**
4. **Education:** to encourage better stewardship of the estuarine environment, the Great Barrier Reef and the infrastructure that enables access
5. **Data Capture:** to assist future decision making
Strategic initiatives that might be addressed in the strategy include:

I. Infrastructure Development: Maintenance and Renewal

- Development of Kierle’s Landing as an all-tide recreational boating facility with two-lane boat ramp and three mooring pylons, in conjunction with the erosion mitigation works of the Burdekin Shire Rivers Improvement Trust.
- Construction of a sealed 50 car and trailer unit car park.
- A review of the Town Plan to allow development of complimentary facilities such as hardstand storage, toilet and shower facilities, wash down area and picnic facilities on adjoining lands.

II. Tourism Development: Marketing and Communications

- Explore avenues for recreational fishing opportunities to be acknowledged in the Townsville North Queensland Destination Tourism Plan.
- Engage with TMR for tourism (recreational fishing) signage to be located on Bruce Highway, State and local roads and the main streets of centres within the Shire to improve awareness.
- Reinvigorate Council website to include linkages to regional tourism and other recreational fishing websites.
- Design and distribute printed brochures, including map of local launch sites in co-operation with local bait and tackle suppliers, vessel retailers and repair centres.
- Investigate ‘themes’ e.g. family fishing, grey nomads and fishing competitions and promote throughout the year.

III. Planning: Strategic Partnerships and Contacts


Responsible recreational fishing provides many positive benefits to the local community. Firstly, it provides local residents with a healthy and relaxing outdoor lifestyle affording opportunities to spend quality time with family and friends. Secondly, it is an avenue to contribute to environmental management of the Great Barrier Reef ecosystem and to pass on environmental principles to the next generation. Thirdly, it is an important economic driver, supporting businesses operating in the retail and consumable, mechanical and tourism spheres.

9. CONCLUSION and RECOMMENDATIONS

After inspecting the coastline in the Burdekin Shire it is obvious that there are significant challenges to any marina proposal. It is the opinion of the author of this report that from a private developer/investor perspective a Marina in the Burdekin is
NOT an option that could or would be pursued. There are a number of factors that support this conclusion. Specifically, a project of that type and scale would not be considered due to the risk profile of such a development.

The major risk elements would include:

- The environment and the significance of the recognised importance of the fisheries resource already subject to legislative protection.
- The geography and hydrology of the Burdekin River Delta.
- The relatively small population and associated low demand demonstrated by the type of local vessel ownership and low transient vessel traffic.
- The enormous $ cost of initial investigations with high risk of negative Government response to such a proposal given the environment, geography and hydrology.
- The lack of project finance appetite for green field high risk, low return projects in the current market place.

One site emerged amongst those inspected as meeting criteria that could potentially deliver the all tide facility. The site is known locally as Kierle’s Landing and while it is not an existing boat ramp, it is used as a launching site from time to time. The site features characteristics that include:

- Good access with almost continuous bitumen road to Ayr. Note the access to Rita Island in times of flood is subject to closure at Anabranch Creek.
- Reasonable driving distance to Ayr.
- Adjacent to freehold land that may in the future have potential for limited development.
- Situated in a “B” classified Fish Habitat Area.
- Located on the Burdekin River main channel centrally within the delta.
- Broad informal community support for a facility at this location.
- Subject to erosion close to existing Burdekin Shire Rivers Improvement Trust works.
- Fronts the main Burdekin River outlet channel to the ocean.
- While bathymetric investigation is not within the scope of this investigation, research and aerial photography suggest that this location has access to navigable water.

The consultant was unable to obtain detailed bathymetric survey data or hydrology information specific to this section of the river. However, this location did form part of the Town of Home Hill Flood Study conducted for the Burdekin Shire Council in 2003 by Sinclair Knight Merz and data was collected for this site as part of that study. That investigation and report would no doubt be a valuable starting point for further research on these topics should the project progress.

On the site being considered to have the most potential to locate the desired facility it may be possible to construct:

- An all-tide 2-lane boat ramp (15t cap) suitable for a wide range of vessels
- Up to 3 protected moorings
- Public car parking
- Picnic/park facilities and appropriate lighting.
The Council could give some consideration in a review of the Town Plan to the possibility of complimentary development being allowed on freehold land adjoining the site. This development would be limited and might include a possible caravan park/camping area incorporating hard stand area, provision of fuel, pay for use wash down area and conveniences including showers.

Going forward the following recommendations are put forward for consideration by the Burdekin Shire Council:

A. That the site known as Kierle’s Landing be considered as the best location to provide an all-tide launching facility. There are no other locations that demonstrate the same potential within the scope of this investigation.

B. Any project undertaken to provide an all-tide facility should be incorporated into works that mitigate and reduce further erosion of the river bank. It is therefore recommended that Council partner with the Burdekin Shire Rivers Improvement Trust to alleviate erosion of the river bank.

C. Council consider what is provided in terms of this potential infrastructure. The all-tide facility should be considered the core element of a precinct that might attract limited private sector investment on adjoining land to enhance the public facility.

D. Council consider a review of the Town Plan to include possible complimentary development on freehold land adjoining the site. This development might include a possible caravan park/camping area incorporating hard stand area, provision of fuel, pay-for-use wash-down area and conveniences including showers.

E. Any project to provide an all tide facility should incorporate a realignment of the statutory boundaries of the Fish Habitat Area as well as cadastral boundaries of State land assets once the facility is constructed.

F. The Burdekin Shire Council, should it proceed with the proposal, immediately commence applications for funds to support this project.

G. Any funding application for this project include a Recreational Fishing Strategy that supports a sustainable and ongoing maintenance of facilities into the future and assists in the diversity of the local economy through promotion of the local recreational fishing resource.

H. A program of community awareness and education of the cost and value of providing existing and new facilities and services be undertaken and incorporated in a recreational fishing strategy. The purpose being to increase public surveillance and assist the Council in improved management of the infrastructure.

Disclaimer

This report has been prepared on instructions and in accordance with the Terms of Reference set by the Burdekin Shire Council and is intended to address the issues as defined therein. The data, analysis and findings contained in this report are, therefore, not appropriate for use in any other circumstance.

The report contains a series of observations and recommendations, which have been prepared on the basis of the best available information and advice able to be obtained within the project timeline. Due to the dynamic nature of the political
environment and the dependency on government policy interpretation there are many variables involved, Ewareness can give no guarantee that these recommendations can be realised or achieved.

© EWARENESS 2016
10. **REFERENCE LIST**

Australian Bureau of Statistics (S) (LGA) Updated 29/6/2015 *Data by Region*  


Maritime Safety Queensland, Updated 26 August 2015, *Marine Infrastructure Capital and Maintenance Program*  

Perna, Colton, A report to the Natural Heritage Trust for projects 992077 and 2012148, November 2003, *Fish Habitat Assessment and Rehabilitation in the Burdekin Delta Distributary Streams*, Report No. 03/22, Australian Centre for Tropical Freshwater Research, James Cook University.  
<https://research.jcu.edu.au/tropwater/resources/03%2022%20Fish%20habitat%20Assessment%20and%20Rehab%20Burd%20Delta.pdf>

Queensland Department of Agriculture Fisheries and Forestry, 2013, *Code for Self-Assessable Development, Maintenance works on existing lawful structures (other than powerlines and on-farm drains) in a declared Fish Habitat Area or involving the removal, destruction or damage of marine plants*, Code number: MP02 January 2013

Queensland Department Agriculture Fisheries and Forestry, 2013, *Code for Self-Assessable Development, Minor impact works in a declared Fish Habitat Area or involving the removal, destruction or damage of marine plants*, Code number: MP06 January 2013


Queensland Department of Transport and Main Roads, September 2011, *Recreational Boating Facilities Demand Forecasting Study, Northern Region*.


APPENDIX A

PROJECT TERMS OF REFERENCE

INTRODUCTION
This Terms of Reference is provided to outline the requirements for a pre-feasibility study of marine recreational facilities in the Burdekin Shire. The Burdekin Shire Council (BSC) is seeking submissions from suitably qualified consultants, which accurately address the desired outcomes, as defined in this Terms of Reference. ThisTerms of Reference constitutes an invitation to treat, and as such, will form the basis of an Agreement with the selected Consultant. The successful Consultant will be notified in writing of their appointment.

BACKGROUND
The Burdekin Shire is one of the most attractive regions along the Queensland coast with lush green cane fields, fertile soils, fantastic fishing, spectacular wetlands and unspoilt beaches. Our Shire covers in excess of 5,000km² of land and is home to an estimated 17,784 people. Queensland Treasury forecasts the region’s population will reach approximately 19,500 by 2031. Residents enjoy relaxed coastal country living, a great tropical climate and easy access to North Queensland’s largest city, Townsville, which lies just 70km north of Ayr. The Burdekin’s most important asset is its water. The Burdekin River, combined with a massive underground aquifer and the Burdekin Falls Dam, make the district drought resistant.

About 3,400ha of the Burdekin is dedicated to horticultural use such as achachas, mangoes, melons, pumpkins, zucchinis, rice, soybeans, mung beans, sweet corn, beans, sorghum, maize and cotton. About 80,000ha is used to grow sugar cane. There is also an expanding aquaculture industry.

Our other key assets are our people and our laidback lifestyle. The warmth of local hospitality, combined with everything else the Burdekin has to offer, ensures visitors and residents alike enjoy their time in our beautiful region. Burdekin Shire Council is proactive in pursuing sustainable economic development to create wealth, employment, educational opportunities and enhance the lifestyle of our residents and visitors. Recreational fishing is an important pastime. While the Burdekin has many existing boat ramps, they are small and limited to small trailerable boats. In addition, access may be dependent on tidal movements.

PURPOSE OF THE ASSIGNMENT
The purpose of the consultancy is to provide the Burdekin Shire Council and key stakeholders and prospective investors with a clear understanding of the options within the Shire for recreational marine facilities, with all tide/weather access. The consultant will conduct a preliminary assessment of several identified sites showing their respective advantages and disadvantages.
Marine Facilities include:
- boat ramps suitable for a wide range of vessels
- hard stand area
- protected moorings
- wash down area
- provision of fuel
- public car parking
- public conveniences including showers
- picnic/park facilities
- appropriate lighting
- possible caravan park/camping area
- possible marina, commercial and/or residential opportunities

**TASKS TO BE CARRIED OUT**
- Investigate the coastline of the Burdekin Shire to identify 3 or 4 possible options for marine recreational facilities.
- Conduct a preliminary assessment of each site showing pros and cons of each site.
- Prepare a report for Council recommending a preferred site.
- Develop a road map for taking the preferred site from this preliminary stage through to development.

**DELIVERABLES EXPECTED**
Minimum deliverables expected include, but not limited to, the following:
- Findings from Initial meeting with Project Steering Committee and agreed scope
- Consultation with key stakeholders
- Draft preliminary assessment
- Presentation to steering committee
- Final report
- Presentation to steering committee
All items to be in approved hard copy and digital format.

**SCOPE OF ASSIGNMENT**
The tasks and expected deliverables detailed above are provided as a minimum requirement only and as such should not restrict the submission of additional appropriate and relevant activities that would enhance the assignment. For example, we should not limit the option of assessing a possible residential/retail precinct.
## APPENDIX B
### LOCAL CONSULTATION

<table>
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<tr>
<th>ORGANISATION</th>
<th>NAME</th>
<th>TITLE</th>
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<tr>
<td>Burdekin Shire Council</td>
<td>Mayor Bill Lowis</td>
<td>Mayor</td>
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<td></td>
<td>Cr Lyndy McCathie</td>
<td>Councillor</td>
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<td>Cr Pierina Dalle Court</td>
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<td></td>
<td>Matthew Magin</td>
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<td>Adrian Scott</td>
<td>Manager, Economic Development</td>
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<td></td>
<td>Shane Great</td>
<td>Manager, Planning &amp; Development</td>
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<td>Rebecca Love</td>
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<td>Matt King</td>
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<td>Baratta Creek Boating Club</td>
<td>Brian Kelliher</td>
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APPENDIX C Government Agencies consulted

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APPENDIX D Significant Fish Habitat Areas Burdekin Coastline.
APPENDIX E

A vision for Australia’s recreational fisheries

“All Australians have the opportunity to enjoy the benefits of a sustainable, healthy and diverse recreational fishing experience.” An extract from the Recreational fishing in Australia – 2011 and beyond: a national industry development strategy, (2011)

Key principles for recreational fisheries

1. Recreational fishing is a legitimate activity that contributes to Australians’ health and wellbeing at individual, family and community levels.
2. Healthy environments are fundamental to sustainable recreational fishing and fish resources.
3. Recreational fishers share in the stewardship of fish resources through partnerships in decision-making processes affecting recreational fishing.
4. The recreational fishing sector has the ability and desire to play a greater role in addressing issues affecting the industry.
5. Management decisions affecting recreational fishing should be based on sound scientific, ecological, social and economic information.
6. Recreational fishers and government should share the responsibility and costs of managing and enhancing recreational fishing.
7. Fish resource allocation should be based on providing an optimal range of social, economic and cultural benefits to the community.
8. Recreational fishers are encouraged to use best practices in all aspects of their fishing activities.
9. Recreational fishers and government should work in partnership to play a positive role in dealing with climate change.
10. Australian communities benefit by improving the range and quality of recreational fishing opportunities.
11. Responsible participation in recreational fishing provides valuable social and economic benefits and should be actively encouraged.
12. Recreational fishing can be a valuable addition to schools and other education programs on environmental studies, sustainable resource use, social responsibility and community health and wellbeing.
APPENDIX F  Boating Facility Locations
Excerpt from Queensland Government, Maritime Safety Qld, November 2015

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<td>Floating Wharf</td>
<td>Transport and Main Roads</td>
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<tr>
<td>Groper Creek Settlement</td>
<td>-20.51982</td>
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<tr>
<th>OTHER PUBLIC BOATING FACILITIES: BURDEKIN SHIRE, Locations and Owner</th>
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<tr>
<td>BOAT RAMP LOCATION</td>
</tr>
<tr>
<td>Cromarty Creek</td>
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<tr>
<td>Barramundi Creek</td>
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<tr>
<td>Jerona</td>
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<tr>
<td>Hell Hole Landing</td>
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<td>Groper Creek Settlement</td>
</tr>
<tr>
<td>Groper Creek Settlement</td>
</tr>
<tr>
<td>Wallace Landing</td>
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</tbody>
</table>

| FLOATING WALKWAY LOCATION                                           |
| Jerona                                                             | Burdekin Shire Council   |
| Plantation Creek                                                   | Burdekin Shire Council   |

| JETTY LOCATION                                                      |
| Groper Creek Settlement                                             | Transport and Main Roads |

| PONTON LOCATION                                                     |
| Barramundi Creek                                                    | Burdekin Shire Council   |
APPENDIX G: CONCEPT PLAN (Note this is a concept only. Final Design subject to change)

CONCEPT PLAN
KIERLES LANDING BOAT RAMP
CONCEPT FOR ADJOINING LAND: FOR DISCUSSION ONLY