

PORT OF AIRLIE MARINA DEVELOPMENT

14. Infrastructure and Facilities

14.1 Boating

14.1.1 Existing Conditions

Airlie Beach is port for up to 600 commercial and private yachts, 200 of which are berthed in the only marina at Abell Point with the other 400 moored or at anchor in Pioneer Bay off Airlie Beach. The Whitsunday Sailing Club has on record over 800 applications for a berth in the proposed marina. The Whitsunday Marina Demand Study, commissioned by the Queensland Government, found that there is a potential demand for 550 marina berths in the region up to the year 2005 (see also **Section 3.1.2**). The demand study also rated the Boathaven Bay site as the most appropriate for a marina development of all of the potential sites in the region (see also **Section 3.3.1**).

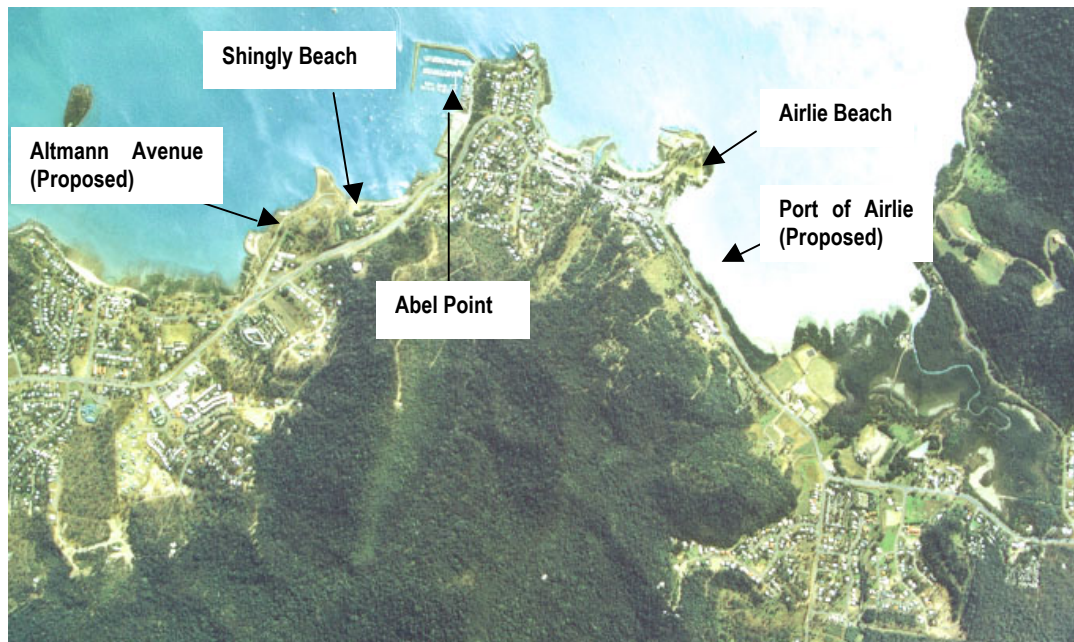
The majority of inter-island ferries, cruise and charter boats currently leave from Shute Harbour, 10 km east of Airlie Beach. Shute Harbour has negligible tourist accommodation and tourist facilities and further expansion of land based facilities is severely limited by the very steep coastal topography and the encircling Conway National Park. The facilities at Shute Harbour are understood to be in need of upgrading and refurbishing to continue to provide a high quality tourist gateway to the islands.

There are currently 3 public boat ramps in Airlie Beach, in the Abel Point Marina, at Shingly Beach and on the Airlie Headland in Boathaven Bay adjacent to the Whitsunday Sailing Club. The boat ramp at Able Point Marina is an all weather ramp, protected by the Abel Point Marina breakwater. The ramp is operated by the Whitsunday Shire Council and has parking for cars and boat trailers, although this appears to be overutilised. The boat ramp at Shingly Beach is a concrete ramp with no facilities and no formal parking. The boat ramp on Airlie Headland is unprotected and exposed to the open sea. There are a number of rocks just seaward of the ramp, which makes the approach quite dangerous. The ramp has no structured parking, although there is ample free parking on the headland.

There is also a boat ramp at Shute Harbour but car/trailer parking appears to be limited. A boat ramp has been proposed at Altman Avenue in Cannonvale. This will have 65 car parks, including some car/trailer parking.

Locations of existing and proposed boat ramps in the Airlie Beach/Cannonvale area are shown on **Figure 14-1**.

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■ Figure 14-1 Location of Existing and Proposed Boat Ramps

14.1.2 Potential Impacts

Airlie Beach is increasing reputation as a world leading yachting destination. The development will make a major contribution to the improvement of marine and tourist facilities in one of Australia's most important tourist destinations. The development will make a further 240 marina berths available to the public. In addition the marina will provide temporary moorings for up to 150 boats seeking shelter for severe storms and cyclones.

The marina channel may require the relocation of a small number of swing moorings that are currently on the line of the channel. The entrance channel to the marina will be 50m wide and 1,000m long and extend due north through the designated mooring zone between Airlie Beach and Mandalay Point, from the end of the proposed breakwater to the -3.5m contour (Chart Datum). The mooring zone provides for 288 moorings on a 91m by 100m grid and there will be ample space for moorings in the line of the channel to be relocated. In any case, the *Marina Demand Analysis (Whitsunday Region Interdepartmental Committee, Department of State Development and Department of Tourism, Racing and Fair Trading et al, 2001)* indicates that there are over 250 vacant moorings in the Pioneer Bay area at present. The development will not limit access to any other existing boat related infrastructure.

The development of the ferry terminal in the main tourist precinct on the Whitsunday coast will have significant beneficial impacts. The terminal will augment the existing limited facilities in Shute Harbour to meet the predicted growing demand in ferry passenger numbers over the next 10 years. The location of the terminal will result in large numbers of passengers walking from their accommodations to the terminal, and thus reducing the amount of traffic within the commercial/tourist precinct and on Shute Harbour Road. The passage of large ferries and passenger vessels into and out of the marina will be confined to the marina entrance channel because of the very shallow waters in Boathaven Bay and will not impact on the movement of smaller craft in the immediate vicinity of Airlie Beach.

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The development of an all-weather all-tide boat ramp in Airlie Beach will provide benefits to the boating community and particularly the amateur fishermen and is a requirement of Queensland Transport for the development. The boat ramp at Abel Point Marina is nearing capacity, with the car park full most days. The public boat ramp in the Port of Airlie will contribute to meeting future demands for safe and protected boat launching facilities in Airlie Beach. It is anticipated that the boat ramp will serve existing boat owners and users in the region and possibly increase usage of small boats slightly because of the increased ease of accessing the ramp and finding parking.

45 car/trailer parking spaces will be provided at the boat ramp. It is recognised that this may be insufficient to address long term demand for car/trailer parks. In the longer term, if the Stage 2 marina development goes ahead, the boat ramp and car/trailer parking will be relocated and additional parking spaces will be provided. Queensland Transport has indicated that a total of 100 car/trailer parking spaces would be appropriate in Stage 2.

It will be important that adequate queuing space be provided for boats awaiting retrieval. It is intended that this be provided using a pontoon. The detailed design of the pontoon has not been determined yet but will be to a standard capable of handling boat sizes and types and expected weather conditions without compromising performance. At least 20m of queuing space will be provided. Input will be sought from Queensland Transport on the final design of the pontoon and boat ramp as well as appropriate means to manage boat traffic using the pontoon and in its vicinity.

The potential for conflict between larger boats accessing the marina facilities area and smaller vessels using the boat ramp exists. Appropriate boat traffic management will be required to control conflict. This will include speed limits and possibly use of navigational markers to delineate approaches for different vessels. It should be noted that this location is likely to be temporary and, should a Stage 2 marina go ahead, the boat ramp and marina facilities area would be relocated (see also **Section 1.8**).

Preliminary discussions have been undertaken with the Regional Harbour Master (Mackay) regarding navigational aids. Input will be sought from Marine Safety Queensland in regard to appropriate navigational aids during the detailed design stage and prior to opening the facility to boat traffic.

Access to the existing boat ramp on the headland at Airlie Beach, and car parking at this facility will not be affected by construction. This boat ramp may become obsolete once the Port of Airlie boat ramp is in place, however decommissioning of this boat ramp will be a matter for Whitsunday Shire Council and Queensland Transport. However, operation of the existing boat ramp will not be compromised by the development and could continue to operate after completion of the development if this is desirable.

The existing facilities at Shute Harbour will not become obsolete. It is expected that some operators will continue to use Shute Harbour as it is closer to some of the destinations of tour boats and regular island ferries (although this is counteracted to some extent by the longer land travel component). Ultimately, it will be a commercial decision for boat operators to determine whether to remain at Shute Harbour or relocate to Port of Airlie. In addition, there is a need for cargo and supplies to be transported to the islands and this may continue to occur at Shute Harbour as cargo handling facilities will not be provided at Port of Airlie. Hence, the investment made at Shute Harbour is not likely to be wasted, but

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rather, the proposed Port of Airlie terminal will augment the existing Shute Harbour terminal and increase the choices for passengers in the area.

The Proponent has received letters of support from two key tour boat operators in the Whitsunday region, registering their intention to relocate to Port of Airlie (see **Appendix S**).

14.1.3 Recommendations

Consultation will be held with the boat owners who have moorings in the line of the entrance channel to provide compensation relocation of their mooring.

The majority of berths should be available for leasing or purchase by the general public. Given the demand for berths, a fair allocation system will need to be devised to ensure that prices are not unnecessarily high. Ownership of up to 28 of the berths will be transferred to the Whitsunday Sailing Club and attached to the proposed Marine Training Academy.

The Public boat ramp should be located away from the central marina activities to provide safe use and ease of access for local small boat owners. The ramp should be designed in accordance with appropriate standards and be provided with a central pontoon for holding boats during launching and retrieving operations as well as adequate car and trailer parking. The input of Queensland Transport and Marine Safety Queensland will be sought in designing the boat ramp, pontoon and other facilities in this area and any guidelines provided by these agencies will be adhered to.

14.2 Water Supply

14.2.1 Existing Conditions

The Whitsunday Shire Council's transmission main to Jubilee Pocket and Shute Harbour runs along Shute Harbour Road adjacent to the development site but may not be of sufficient capacity to meet the ultimate demands of the proposed development. Whitsunday Shire Council has also indicated that a new reservoir may be required at Mandalay or Jubilee Pocket to service proposed development in the area.

14.2.2 Potential Impacts

The Port of Airlie development will require connection to the Whitsunday Shire Council reticulated water supply.

The equivalent population of the proposed development has been calculated using the Whitsunday Shire Council's Water Undertaking Headworks - Planning Scheme Policy 00/01, to determine the required headworks charges. The equivalent population of the ultimate development is estimated at 1,717 persons as shown in **Appendix K**. Based on this equivalent population the expected average daily water supply demand from the ultimate development is 491ML/day. However the proposed development will be staged over a 6 year period from April 2003 and the incremental demands required as each component of the development is completed are shown in **Table 14-1**. Whitsunday Shire Council has indicated that available water supplies in the region are adequate for this development.

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■ Table 14-1 Water Supply Demands and Sewage Loadings

Component		Equivalent Population					
		2004	2005	2006	2007	2008	2009
A	Apartment Hotel						523
B	Harbour Serviced Apartments					69	
C	Sea Terminal	17					
D	Public Carpark & Bus Transit Facility	7					
E	Harbourfront Mixed Use		76				
F	Harbourfront Mixed Use		125				
G	Harbourfront Mixed Use & Public Carpark			200			
H	Harbourfront Residential				137		
J	Marine Industrial		50				
K	Public Boat Ramp						
L	Seaview Residential					67	
M	Seaview Res Villas			50			
N	Seaview Res Lots		25				
O	Marine Academy			42			
P	Marina Administration		35				
Q	Marina berths (1)	66	60				
	Ferries and Charter Vessels(2)						168
	TOTAL EPs (incremental)	90	371	292	137	136	691
	Cumulative		461	753	890	1026	1717
	Increase in ADD (m³/day)	26	132	215	254	293	491

The Whitsunday Shire Council has indicated that the existing transmission main along Shute Harbour Road may require augmentation and that a new reservoir may be required at Mandalay or Jubilee Pocket to meet the demands of the ultimate development and other proposed developments in the area. Discussions are currently being held with Whitsunday Shire Council on the requirements for external works, headworks charges, bought forward costs and the program of works required to connect the development to the water supply system.

14.2.3 Recommendations

Analysis of the network will be undertaken as a condition of the future Development Lease and the required headworks charges, external works, brought forward costs and program of external works will be included in a Deed of Agreement between the Proponent and Whitsunday Shire Council.

14.3 Wastewater

14.3.1 Existing Conditions

Whitsunday Shire Council owns and operates two sewage treatment plants at Cannonvale and Jubilee Pocket.

The Jubilee Pocket Sewage Treatment Plant (STP) is located in the industrial area on Shute Harbour Road to the south of the development. The treated effluent from the STP is pumped and discharged into Pioneer Bay adjacent to the existing boat ramp on the Airlie Headland just to the north of the proposed development. The continued discharge of the treated effluent at this point has the potential to significantly effect the water quality in the immediate vicinity of the outfall.

The Cannonvale STP is located adjacent to the White Creek delta 5km west of Airlie Beach with an ocean outfall off Bluff Point. Components of the STP are currently

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operating at capacity. In the immediate future the Whitsunday Shire Council will be required to upgrade the STP to meet future demands (with or without the development) and to improve effluent quality in accordance with EPA requirements by 2008.

The nearest point for the proposed development to connect to the Whitsunday Shire Council's sewage collection network is Sewage Pumping Station PS6 on Airlie Headland. From the pumping station a rising main transmits wastewater to the crest of the hill on Shute Harbour Road. From this point the gravity main transmits the wastewater to the Cannonvale Treatment Plant.

14.3.2 Potential Impacts

The sewage generation from the ultimate development in 2009 is estimated at 490Ml/day (ADF), based on a population of 1717 EP, with generation increasing incrementally over the 6 year development period as shown in **Table 14-1**.

Within the site, the sewage collection system will consist of gravity pipelines, located in the road reserves or in a service corridor around the marina basin (see also **Section 2.6.2**). The sewers will discharge into the development's main pumping station and be lifted via a rising main to join the existing Whitsunday Shire Council sewerage system and pumped via a rising main to the Cannonvale STP, some 5 km from the site.

Pump stations and rising mains within the development will be sized and designed to minimise the risk of overflows of sewage to marine waters using accepted strategies such as:

- ❑ Prevention of stormwater inflows;
- ❑ Storage within the system; and
- ❑ Duplication of pumping capacity.

Sewage and bilge pump out from boats, which constitutes less than 17% of the average daily sewage generation from the development, will be discharged into a holding tank at the marina facilities area. The sewage will then be pumped to the development's main sewage pumping station where it will be diluted by thorough mixing with sewage from the commercial and residential developments before being discharged into the Council's system. Bilge water will be pumped through an oil separator before being discharged into the holding tank at the marina facilities area.

Whitsunday Shire Council has confirmed that the pumping stations and the rising main to Cannonvale STP may require upgrading over time to provide adequate capacity for the additional flows from the development. It is expected that by the time the project has been fully developed the Whitsunday Shire Council will have completed the upgrading of Cannonvale STP to meet the EPA 2008 licensing requirements and therefore the wastewater impacts on the natural environment will be in accordance with acceptable water quality parameters.

Discussions are currently being held with Council on the requirements for external works, headworks charges, brought forward costs and program of external works required to enable the development to be connected to the councils sewage system.

It is expected that this will assist in bringing forward the planned upgrade of Cannonvale STP to meet both the incremental increased demands from the project and the EPA and GBRMPA effluent discharge standards which must be met by 2008.

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14.3.3 Recommendations

Appropriate headworks contributions will be made.

Analysis of the collection system and performance of the Cannonvale STP will be undertaken and the required external works, brought forward costs, headworks charges and program of external works to be undertaken by the proponent will be included in a Deed of Agreement between the Proponent and Whitsunday Shire Council.

14.4 Electricity

14.4.1 Existing Conditions

Energy supplier, Ergon Energy Corporation, has two 4MVA feeders running adjacent to the site. The feeders are currently heavily loaded and Ergon is currently planning to install a third feeder to meet future demands.

14.4.2 Potential Impacts

Information on the Port of Airlie development has been provided to Ergon to assist in the planning and implementation arrangements for the required upgrade. Ergon is planning to install a high voltage switching station in Airlie Esplanade, opposite the Airlie Beach Hotel and providing an underground 204v/11KV cable along Coconut Grove as a potential connection to the Port of Airlie development.

The proposed project will not have a significant impact on the electrical supply to existing consumers in Airlie Beach. Appropriate guidelines for energy efficient buildings will be incorporated into building design. All electrical installations will comply with AS 3004 and AS/NXS 3000. Earth leakage circuit breakers will be installed on all electrical circuits.

14.4.3 Recommendations

Further negotiations will be required with Ergon to ensure a secure and adequate electricity supply to the proposed development and to agree on any external works required to be financed by the developer.

Electrical reticulation throughout the development site should be underground.

14.5 Telecommunications

The availability of telecommunications services through the Airlie Beach exchange is considered to meet the demands of the proposed development.

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