

## 2

Draft : Environmental Impact Statement

**Chapter B1 Land**

<b>B1.1</b>	<b>Introduction</b>	<b>2</b>	<b>B1.5</b>	<b>Land uses within and in the Vicinity of the Cityport Local Area</b>	<b>28</b>
B1.1.1	Methodology and Assumptions	2	B1.5.1	Cairns Cruise Liner Terminal	28
B1.1.2	Immediate and Broad Study Areas	5	B1.5.2	Marlin Marina	29
<b>B1.2</b>	<b>Policy Context and Legislative Framework</b>	<b>7</b>	B1.5.3	East Trinity environmental reserve and residential area	30
B1.2.1	Ports North (Cairns Port Authority) Land Use Plan	7	B1.5.4	Cairns CBD	31
B1.2.2	Cairns Plan 2009	13	B1.5.5	The Esplanade Parkland	31
B1.2.3	Cairns City Centre Masterplan – 2011	16	B1.5.6	Infrastructure	31
B1.2.4	State Planning Policy	18	<b>B1.6</b>	<b>Sensitive Land Uses</b>	<b>31</b>
B1.2.5	Far North Queensland Regional Plan 2009-2031	18	<b>B1.7</b>	<b>Land and Planning Matters Impact Assessment</b>	<b>31</b>
B1.2.6	Observations of Planning Framework	19	B1.7.1	Terrestrial Geology and Soils	31
<b>B1.3</b>	<b>Existing Conditions, Values and Characteristics</b>	<b>19</b>	B1.7.2	Native Title	32
B1.3.1	Terrestrial Geology and Soils	19	B1.7.3	Land Tenure	32
B1.3.2	Native Title	22	B1.7.4	Land Use	32
B1.3.3	Land Tenure	22	B1.7.5	Mitigation Measures and Residual Impact	33
B1.3.4	Land Use	25	<b>B1.8</b>	<b>Conclusion</b>	<b>35</b>
<b>B1.4</b>	<b>Land uses within and in the vicinity of the Seaport Local Area</b>	<b>27</b>	<b>B1.9</b>	<b>References</b>	<b>36</b>
B1.4.1	Port of Cairns	27			
B1.4.2	Smith's Creek port-related uses	27			
B1.4.3	Portsmith-Woree Industrial Area	27			
B1.4.4	Navy Base	28			
B1.4.5	Pile Moorings – Eastern Side of Trinity Inlet	28			

## B1.1 Introduction

This chapter identifies the land and associated planning matters relevant to the Cairns Shipping Development Project (the project). The Port is a key land use in the city and the wider region, and has, and will continue to influence the type and form of development on surrounding land.

The chapter provides information on the following:

- Land use
- Land tenure
- Terrestrial topography, geology and soils
- Terrestrial land contamination/acid sulphate soils (ASS).

Terrestrial geology and soils has been integrated into this chapter as it relates to the land planning and management and represents a minor issue in the context of the project. Matters of sub-surface/marine sediment are addressed in **Chapter B4, Marine Sediment Quality**.

The land matters discussed in this section were established by comparing the existing uses and tenure arrangements with the regional and local land use planning framework, and by an identification of the characteristics of terrestrial soils and geology in regards to composition and potential acid sulfates and contamination. The planning provisions for land management and development assessment were established through a review of the statutory planning regime at a local, regional and state level.

This information was used to assess the potential land impacts of the project and outlines mitigation measures to minimise impacts where required.

Land subject to conservation or heritage legislative protection is further described in **Chapter B2, Nature Conservation Areas**. An overview of the EIS approval framework is described in **Chapter A1, Project Introduction**. Land use issues related to Native Title are addressed in **Chapter B13, Cultural Heritage**.

### B1.1.1 Methodology and Assumptions

The following section outlines the methodology, assumptions and any technical limitations relevant to this assessment of land and planning matters.

#### B1.1.1.1 Methodology

To gain an understanding of the existing land and planning matters for the project, the following activities were undertaken:

- A review of available and relevant information relating to land and planning matters, including:
  - Commonwealth and Queensland legislation
  - Commonwealth, Queensland and local government plans and policies
  - Ports North (formerly Cairns Port Authority) Land Use plans and policies
  - Regional and local area planning and mapping
  - Land tenure details and mapping
  - Queensland and local government studies and projects being conducted in the region
  - Information on geology and soils, as referenced
  - A search of the Department of Environment and Heritage Protection's (DEHP) Contaminated Land Register and Environmental Management Register.
- A site visit to confirm the existing character and land uses within the vicinity of the project.

To complete the assessment of impacts, the following activities were undertaken:

- Development of impact significance criteria (developed with consideration of the existing condition findings)
- A review of the project components
- Identification of the potential direct and indirect impacts to land and planning matters
- An assessment of potential impacts against the defined significance criteria specifically tailored to address land matters (including use, tenure, soils and geology) and planning provisions.

Subsequent to identifying the potential direct and indirect impacts and their significance, mitigation measures to address those impacts were proposed. The mitigation measures were based on the understanding of existing conditions, the plans and policies reviewed in this chapter and an understanding of project components and their impacts.

In order to undertake an assessment of the impact of the project on land use and planning matters, assessment significance criteria have been identified by the project team, as shown in **Tables B1.1.1.1a-c** below.

**Table B1.1.1.1a Description of significance criteria**

Impact Significance/ Consequence	Description of Significance
Very High	<ul style="list-style-type: none"> <li>• Irreversible and significant adverse change to the function or objectives of current land uses or values</li> <li>• Significant conflict with existing state planning policies</li> <li>• Permanent or total loss of income and livelihood to residents or commercial activities in the study area</li> <li>• Loss of a community facility of regional value</li> <li>• Disturbance of extensive areas of ASS or contamination that results in severe or broad scale damage to ecosystems, property or human health. Mitigation measures are unable to ameliorate most of the impact.</li> </ul>
High	<ul style="list-style-type: none"> <li>• Medium to long-term impact on the function or objectives of current land uses or values, although impact is reversible over time</li> <li>• Significant conflict with an aspect of existing state or local planning policy that may be overcome</li> <li>• Permanent displacement or relocation of a number of residences or businesses</li> <li>• Relocation of a community facility of local value to a less optimal location</li> <li>• Disturbance of extensive areas of ASS or contamination that results in severe yet localised damage to ecosystems or property. Minor and temporary health effects for staff or public ensue. Mitigation measures are able to ameliorate some of the impact.</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>• Short to medium-term impact on an existing land use or its values</li> <li>• Some conflict with an existing local planning policy, although the project generally meets overall objectives</li> <li>• Temporary disruption of land uses, with minimal loss of productivity or relocation of residences</li> <li>• Temporary loss of a community facility of local value</li> <li>• Disturbance of areas of ASS or contamination that results in perceptible damage to ecosystems or property. Mitigation measures are able to ameliorate most of the impact.</li> </ul>
Minor	<ul style="list-style-type: none"> <li>• Temporary and minor impact to existing land uses</li> <li>• Minor conflict with an existing local planning policy</li> <li>• Minor disruption to a community facility</li> <li>• Disturbance of areas of acid sulfate soils or soil contamination that results in perceptible and localised damage to ecosystems or property. Mitigation measures are able to ameliorate most of the impact.</li> </ul>

Impact Significance/ Consequence	Description of Significance
Negligible	<ul style="list-style-type: none"> <li>No change to existing land uses or values</li> <li>No conflict with an existing planning policy</li> <li>No disruption to use of a community facility</li> <li>No perceptible impact from disturbance of ASS or soil contamination.</li> </ul>
Positive	<ul style="list-style-type: none"> <li>Improvement in the ability to use land for its intended purposes, or development that meets the desired intent of strategic and statutory regulation.</li> <li>Improved access to a community facility</li> <li>Improved facilities and opportunities for commercial activity</li> <li>Remediation of contaminated land.</li> </ul>

Table B1.1.1.1b Risk Matrix

Likelihood	Significance				
	Negligible	Minor	Moderate	High	Very High
Highly Unlikely/ Rare	Negligible	Negligible	Low	Medium	High
Unlikely	Negligible	Low	Low	Medium	High
Possible	Negligible	Low	Medium	Medium	High
Likely	Negligible	Medium	Medium	High	Extreme
Almost Certain	Low	Medium	High	Extreme	Extreme

Table B1.1.1.1c Risk Rating Legend

<b>Extreme Risk</b>	An issue requiring change in project scope; almost certain to result in a 'significant' impact on a Matter of National or State Environmental Significance
<b>High Risk</b>	An issue requiring further detailed investigation and planning to manage and reduce risk; likely to result in a 'significant' impact on a Matter of National or State Environmental Significance
<b>Medium Risk</b>	An issue requiring project specific controls and procedures to manage
<b>Low Risk</b>	Manageable by standard mitigation and similar operating procedures
<b>Negligible Risk</b>	No additional management required

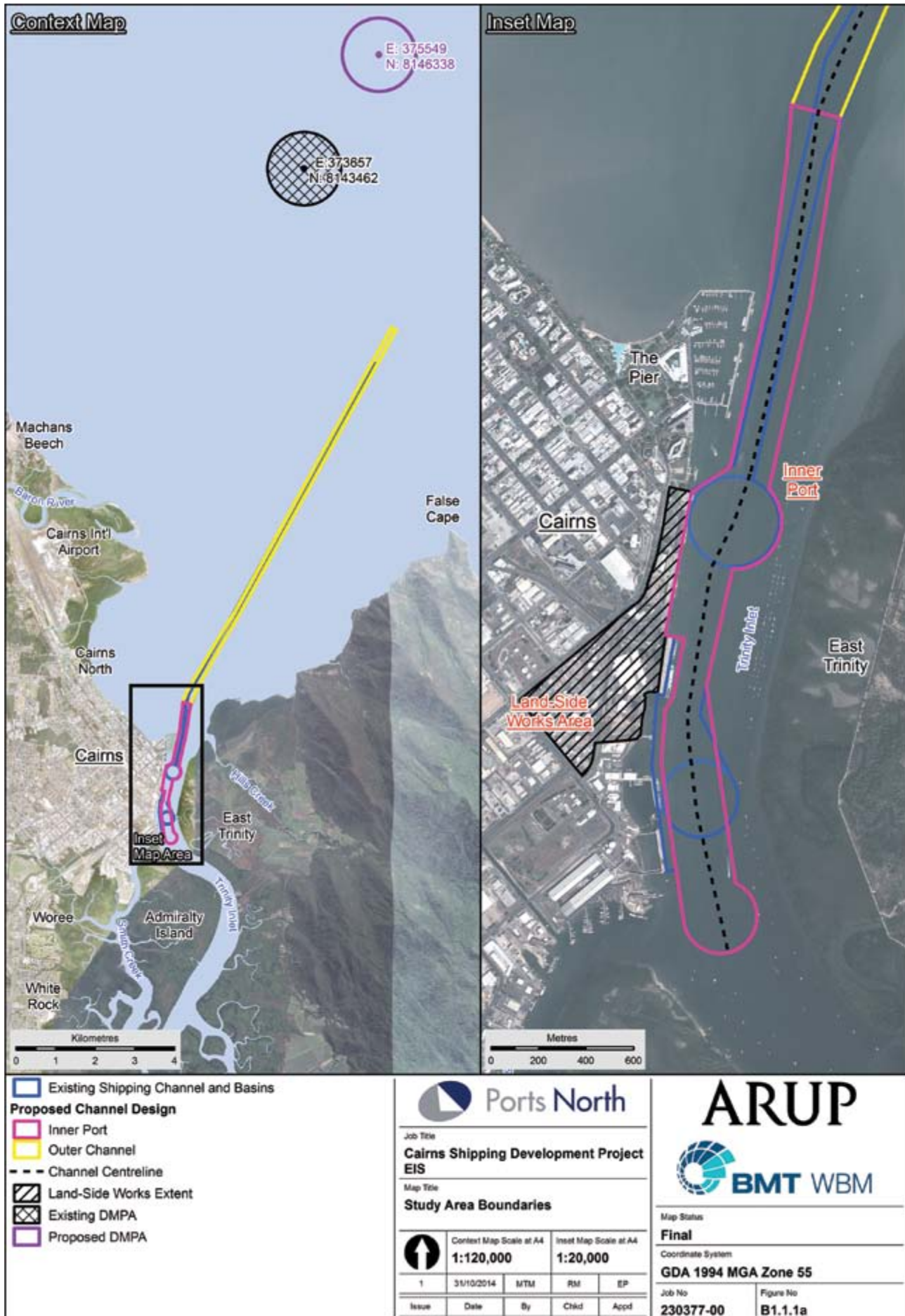
## B1.1.2 Immediate and Broad Study Areas

The project is located within and adjacent to the Cairns Regional Council (CRC) Local Government Area (LGA) and Ports North Strategic Port Land (including tidal waters). The project's landside and wharfside works are essential elements of Ports North approved Cityport Masterplan initiated by the former Cairns Port Authority in late 1900s to revitalise and integrate the unique tourism-port interface for Cairns. It would also provide a framework for future growth of this aspect of the port due to its importance to Cairns and the regional economy. The Land Use Plan was developed accordingly and included specific planning requirements for the Cityport precinct due to the importance of tourism to Ports North. Ports North's charter under Transport and Infrastructure Act notes tourism as a core matter and associated with the declaration of Strategic Port Land. Hence this project proposes to build on the significant success of the Cityport precinct to Cairns and also the broader regional economy as outlined further in this chapter.

This chapter focuses predominantly on a study area centred on the land-side works extent, which includes the wharf and land-side infrastructure upgrades (refer to **Figure B1.1.1a**). In the context of the subject of this chapter, the potential impacts associated with the project are expected to generally be contained within this footprint.

The chapter also considers the footprint of the project; including the shipping channel, swing basins, dredge material placement area (DMPA) (refer to **Figure B1.1.1a**) and, where relevant, key areas outside of the footprint, for example the Cairns CBD and East Trinity. This provides an understanding of the use, development and management of surrounding land and allows the identification of potential impacts to be considered in context.

Figure B1.1.1a Study Area Boundaries



## B1.2 Policy Context and Legislative Framework

Commonwealth, Queensland and local legislation and assessment frameworks relevant to the project are summarised in **Chapter A1, Project Introduction. Appendix C, Legislation and Approvals** also identifies the permits and approvals required for the project.

Of key relevance to the land matters discussed in this chapter are a range of statutory and non-statutory state and local area planning documents. They describe the planning outcomes sought for the area and provide insight into how the physical environment is expected to develop over the planning term. These provide an understanding of the existing situation and the form and extent of land use change and redevelopment expected for the next 20 years. Importantly they provide meaningful context for the assessment of potential impacts of the project. As such, this chapter provides further discussion of the Ports North Land Use Plan, the CRC Planning Scheme (Cairns Plan), the Cairns City Centre Master Plan, the State Planning Policy (specifically the Planning for Ports policy) and the Far North Queensland Regional Plan.

### B1.2.1 Ports North (Cairns Port Authority) Land Use Plan

The *Transport Infrastructure Act (TI Act)* stipulates that Strategic Port Land (SPL) is not subject to a local government planning scheme. SPL is land that is included in the Port Authority's current Land Use Plan (LUP) approved under Section 286(5) of the TI Act. **Figure B1.2.1a** identifies the extent of the land component included within the Cairns SPL. It does not display the water areas or smaller SPL land on the eastern shore of Trinity Inlet. Development within the SPL is regulated under Schedule 3 of the *Sustainable Planning Regulation 2009 (SP Reg)* and requires assessment against the LUP. As such, this Land Use Plan is the key planning document for the Cairns SPL parts of the study area. Ports North has control over land use planning and new development within the Cairns SPL and acts as the assessment manager for development applications.

The LUP specifies the current and future uses of the SPL. The LUP for Cairns SPL is comprised of the Seaport Local Area Plan and the Cityport Local Area Plan. The LUP contains a schedule of the land parcels included within the SPL and identifies the tenure and present and possible future uses of each parcel. Ports North has also developed a Cityport Masterplan. These plans are described below.

Figure B1.2.1a Extent of Strategic Port Land (source: Queensland Government, 2013)





### **B1.2.1.1 Seaport Local Area Plan, 2006 (amended March 2013)**

The Seaport Local Area Plan (SLAP) forms part of Ports North's LUP, providing the planning framework for the Seaport area within SPL. This plan covers the SPL south of Grafton Street and is generally designated for port and industrial related purposes.

The SLAP recognises that expansion of the Port of Cairns is required to meet the demand for passenger related facilities. The strategic vision for the Seaport is that future development within the area will:

- Enhance and maintain the operation and commercial viability of the port
- Maximise the availability of wharf space and support areas as well as the flexibility of their use
- Ensure there are adequate and suitable facilities to meet customer needs in the diversified trades supported by the Seaport
- Rehabilitate and upgrade the Seaport's ageing infrastructure to prolong its life and maintain it in serviceable condition suitable for customers' needs
- Ensure the efficient utilisation of land to cater for the anticipated growth in seaport customers
- Facilitate the development of port-related industries and activities in appropriate locations within the port area
- Encourage the clustering of like and interrelated industries and support facilities within particular locations to buffer key facilities from potentially incompatible land uses
- Promote logistical benefits from other infrastructure including road and rail
- Incorporate landscaping and other treatments to enhance the amenity of the port area
- Incorporate best-practice environmental management into all aspects of port planning, development and operations
- Ensure Trinity Inlet is maintained as an ecologically viable and sustainable estuarine system.

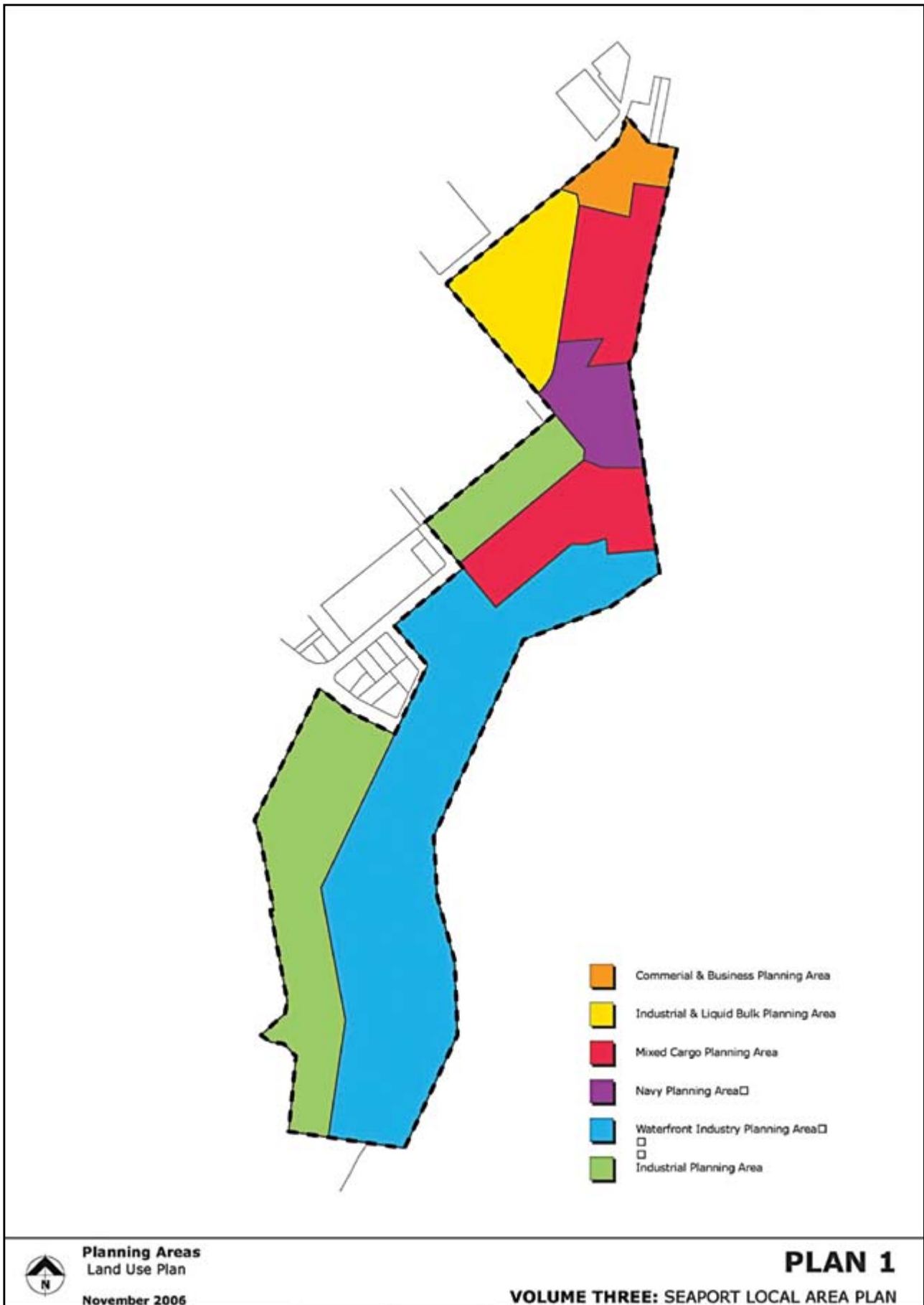
The Seaport area is divided into the following six planning areas (refer to **Figure B1.2.1.1a**) of which each has a planning code:

- Commercial and business planning area (roughly centred around the port)
- Industrial and liquid bulk planning area (encompassing the various fuel storage facilities)
- Mixed cargo planning area (adjoining the port and south of the navy base area)
- Navy planning area
- Waterfront industry planning area (south of the navy base area extending along the waterfront to the southern border of the Seaport Local Area)
- Industrial planning area (located along Comport Street, extending to the southern border of the Seaport Local Area).

The codes set out the development requirements to be satisfied by future development within each of the planning areas.

Some of the land-based infrastructure required to service proposed cruise ship operations (for example, fuel supply storage and distribution pipeline) will be located within the SLAP area and may trigger the requirement for approval in accordance with the requirements of Port North's LUP.

Figure B1.2.1.1a Seaport Local Area Plan – Land Use Plan (Ports North, 2006, amended March 2013)



### B1.2.1.2 City Port Local Area Plan, 2006 (amended March 2013)

Similar to the SLAP, the Cityport Local Area Plan (CLAP) is used by Ports North to regulate future development within the Cityport area and ensure that future development reinforces the vision and preferred character for the area.

Cityport is located at the seaward extremity of the western shore of Trinity Inlet, with the Cairns CBD to the west, the Cairns Esplanade to the north and the commercial port facilities to the south. It includes both water and land, of which the land area is approximately 33 hectares. Cityport comprises the whole waterfront from the Seaport in the south (adjacent to White's Shed) to beyond the existing reclamation edge which aligns with Shields Street. One area on the western side of Wharf Street is also included, being the Cairns Port Authority offices.

The Cityport area is intended to consolidate port operations and provide for the integration of the CBD with the Cairns waterfront to create an urban waterfront with a focus on uses that maximise the community and tourism values of the area. Cityport provides international cruise terminal and reef fleet tourist vessel facilities, reinforcing Cairns's reputation as the gateway to Far North Queensland and the Great Barrier Reef. As such, facilities for embarkation and disembarkation of passengers for cruise ships are a key land use of the precinct. Through redevelopment over time, Ports North intends that this area will have ongoing benefits for residents, the commercial community and tourists alike.

The Cityport area is divided into 11 precincts (refer to **Figure B1.2.1.2a**) in which each has a preferred land use as identified by the CLAP, summarised as follows:

**Precinct 2** – primarily a business and commercial precinct, with short-term accommodation and other uses which complement the nearby Cairns Convention Centre.

**Precinct 3** – primarily a mixed-use residential, tourism and commercial precinct, with large outdoor spaces providing for meeting places and recreation. This precinct contains the heritage-listed wharves (listed on the Queensland Heritage Register under the *Queensland Heritage Act.*), so development in the area will have to be sensitive to the area's heritage values and to be undertaken in accordance with Cairns Cityport Wharf Area Conservation and Management Plan. Further, future development in this precinct will be subject to approval by the Queensland Heritage Council.

**Precinct 4** – a tourist activity and accommodation precinct, with a focus on the waterfront location, boardwalk and links to the Cairns CBD.

**Precinct 5** – primarily a tourist area providing short-term accommodation, support facilities, large outdoor spaces, pedestrian plaza and links to the Cairns CBD.

**Precinct 6** – a predominantly residential precinct, with ground level retail and entertainment uses which complement the residential intent for the precinct and encourage activation of Wharf Street.

**Precinct 7** – lower scale and density residential and tourism accommodation and restaurants, retail and recreational uses that provide primarily for hotel guests

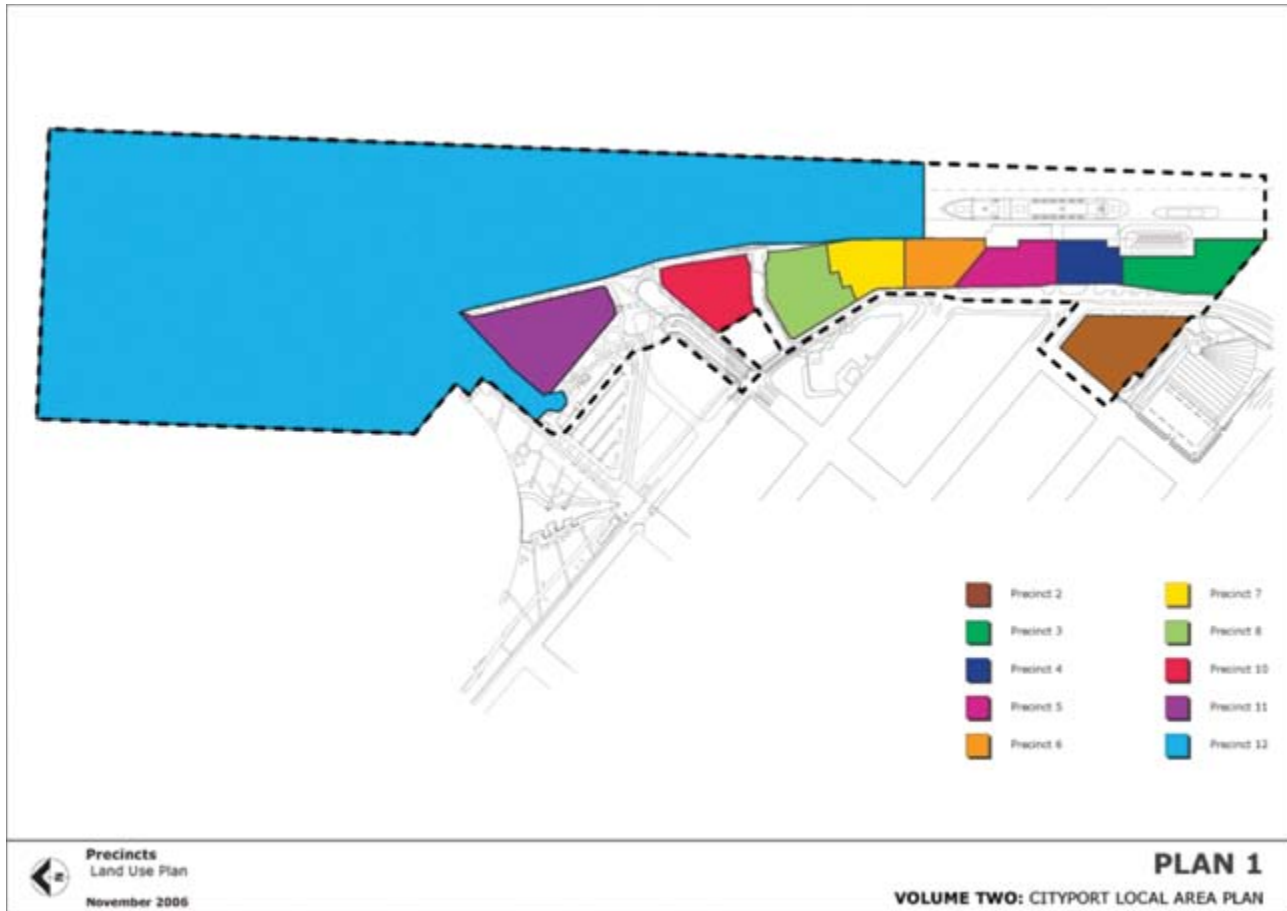
**Precinct 8** – centred around the Hilton Hotel and primarily a tourist accommodation precinct. No major development in this precinct is envisaged.

**Precinct 10** – this tourist precinct is a prominent redevelopment area and is centred around the Reef Fleet Terminal and associated uses. The existing buildings within this precinct are likely to be replaced within the medium to long term. A waterfront promenade will link this precinct to adjoining areas and a continuous awning will be provided around the Reef Fleet Terminal. The Reef Fleet Terminal building is two storeys and other buildings should be a maximum of 12 storeys.

**Precinct 11** – a mixed-use precinct of retail, commercial, tourist and accommodation uses, this precinct is centred around the Radisson Hotel and The Pier shopping complex.

**Precinct 12** – fronting Marlin Marina, this is a mixed-use precinct with a range of tourism, commercial, public open space and marina related uses.

**Figure B1.2.1.2a Cityport Local Area Plan – Land Use Plan and Cityport Masterplan  
(Ports North, 2006, amended in March 2013)**



### B1.2.1.3 Cityport Masterplan

Ports North has developed the Cityport Masterplan which sets out a vision to revitalise the waterfront to attract visitors and residents to the public foreshore. Cruise shipping is central to achieving this vision. The Masterplan aims to provide a world class waterfront facility with a mix of hotels, residential apartments, tourist apartments, coffee shops, restaurants, bars and offices.

The Masterplan provides a conceptual design layout (refer to **Figure B1.2.1.3a**) for future development consistent with the desired development intent outlined in the CLAP. Ports North has commenced development of this precinct and will progressively release land parcels within Cityport to be developed in accordance with the Masterplan.

**Figure B1.2.1.3a Cityport Local Area Plan – Land Use Plan and Cityport Masterplan (Conics, 2006)**



## B1.2.2 Cairns Plan 2009

The *Cairns Plan 2009* details the CRC's intention for the City of Cairns and applies to the entire City, with the exception of areas identified as Strategic Port Land (SPL) pursuant to Section 172 of the Transport Infrastructure Act (TI Act). Development within SPL is not subject to the Cairns Plan.

The *Cairns Plan* divides the City into 12 districts, each of which is subject to a detailed District Plan, which provides information on the preferred pattern of development. Land-based components of the project are located within the North Cairns and Portsmith-Woree Industrial districts, as shown in **Figure B1.2.2a**. The Cairns Plan also divides the City into 19 Planning Areas (referred in this EIS as zones), which identify the preferred dominant land uses.

The Industry zone comprises a large proportion of the Portsmith-Woree District and immediately adjoins the SPL. Land fronting Trinity Inlet is zoned Conservation and adjoins the SPL. The direction from the Cairns Plan is that this district continues to function as a major industrial area and employment node incorporating a range of general industrial activities. Industries associated with the Port of Cairns and maritime activities, rail and road freight are likely to have a major role.

The Cairns CBD North Precinct (see **Figure B1.2.2b**) is located to the west of Trinity Inlet and is mainly zoned City Centre with some areas zoned for Community Facilities. The City Centre zone provides for the city's widest range of higher order and specialised forms of retail, business, administrative, community, entertainment, leisure facilities and cultural activities. The community zone provides for the establishment of community facilities including schools, churches, major public depots, government facilities and community centres.

The CBD is intended to accommodate the widest range of higher order and specialised forms of retail, business, administrative, community and indoor entertainment and leisure facilities, as well as provide a focus for cultural activities.

It is noted that as land in the Cityport area of the SPL is developed and granted freehold title, where not under the ownership of Ports North, the land ceases to be SPL and the exemption over this land from assessment against the Cairns Plan under the *TI Act* will no longer be applicable. The CRC planning scheme then becomes applicable. CRC are in the process of drafting a new regional planning scheme with the draft currently being reviewed by the Queensland Government.

Figure B1.2.2a Cairns Plan – Planning Areas (Portsmith – Woree Industrial District Plan)

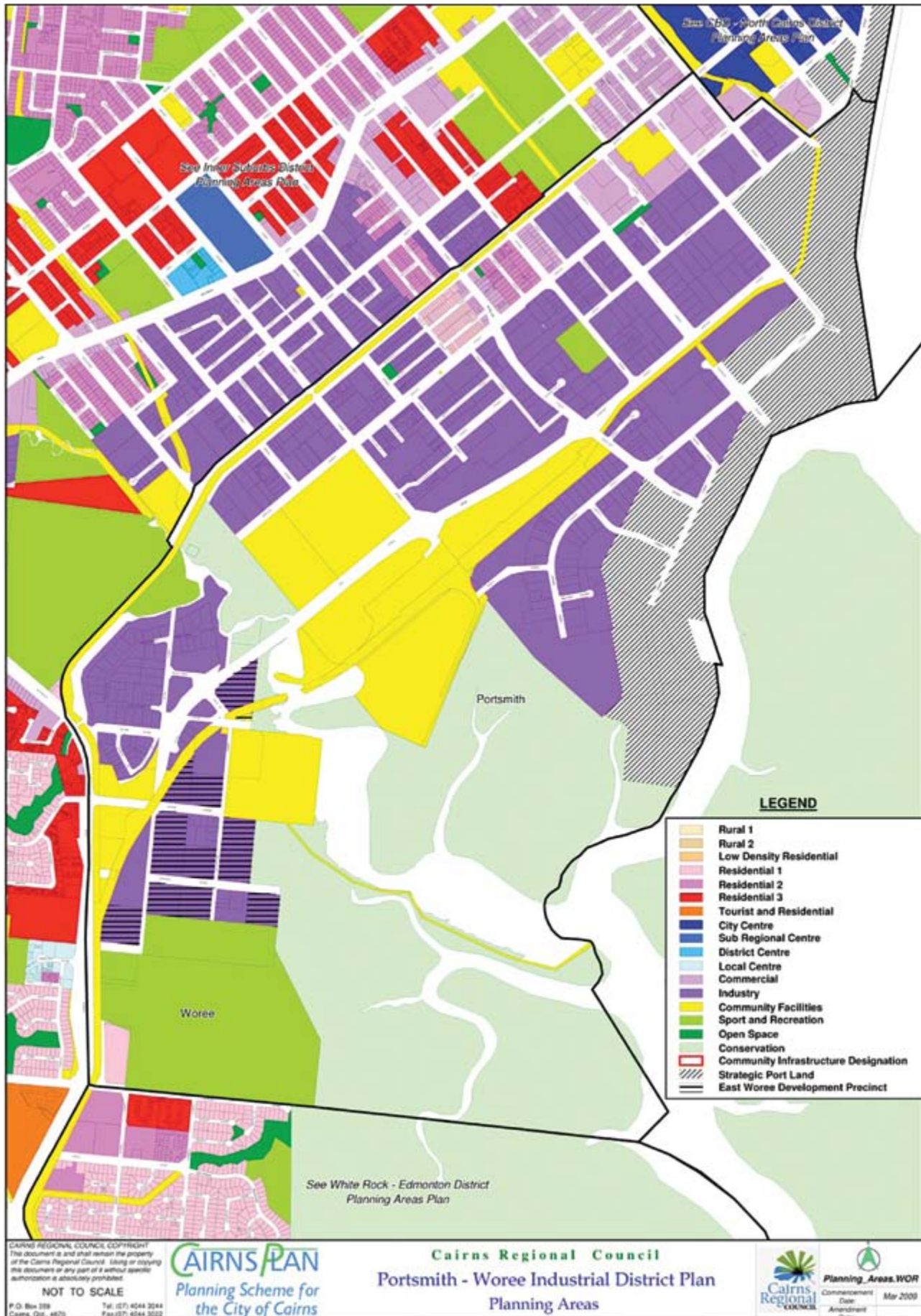
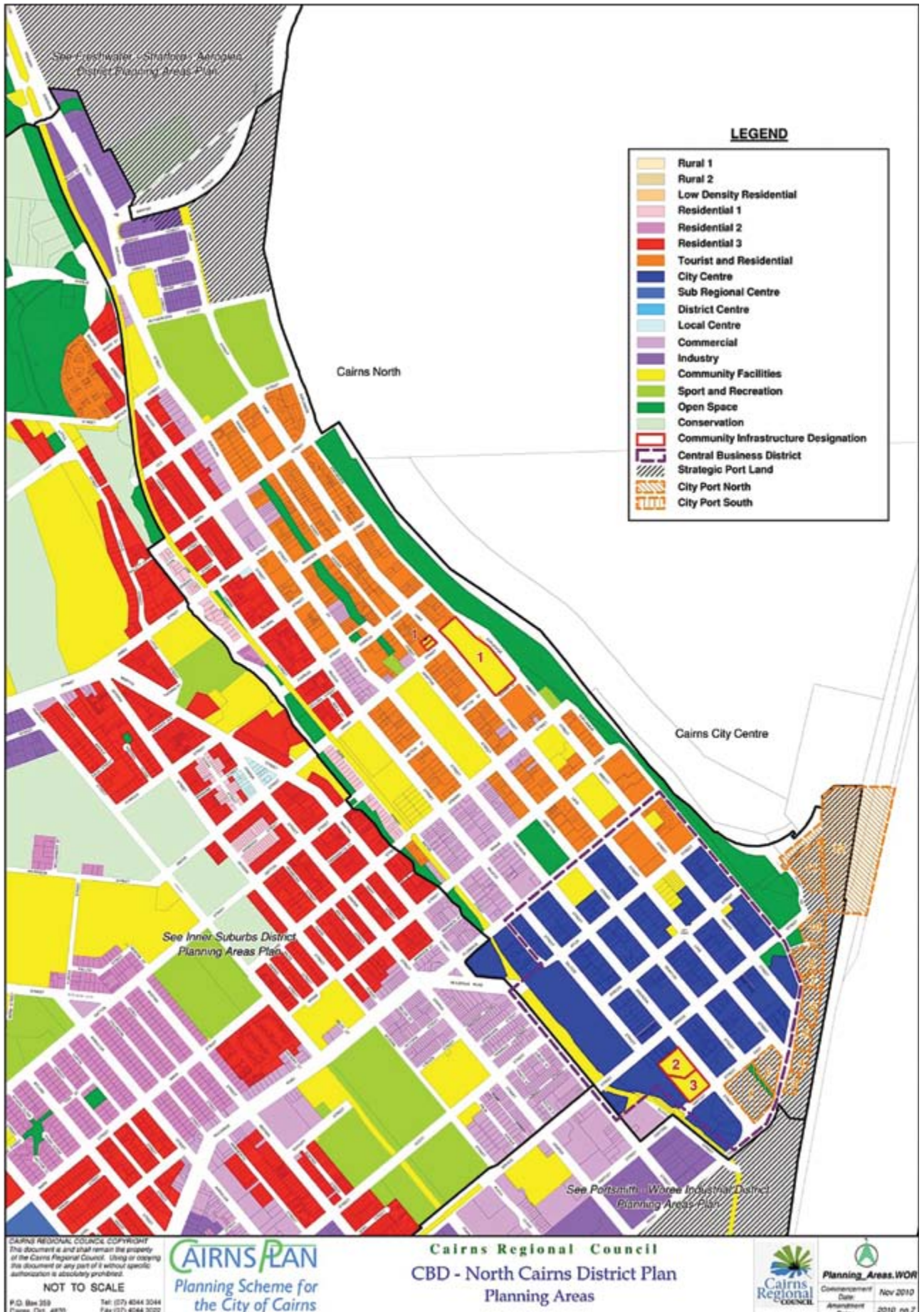


Figure B1.2.2b Cairns Plan – Planning Areas (CBD – North Cairns District Plan)



### B1.2.3 Cairns City Centre Masterplan – 2011

CRC adopted the Cairns City Centre Master Plan in October 2011, with projects and strategies to be rolled out in a staged program. This is a non-statutory document that guides the council and other authorities on public domain improvements and possible economic initiatives.

The Master Plan seeks to capture, strategise and provide a framework that meets the following vision:

- A place where people want to be for shopping, dining, entertainment and doing business
- A place where people want to live
- A tourist attraction in its own right, drawing local day visitors and visitors from around the world
- A vibrant, prosperous economic driver of our region
- Environmentally, economically, socially and culturally sustainable
- A green, tropical, attractive Cityscape that is safe, friendly, efficient, accessible and human in scale.

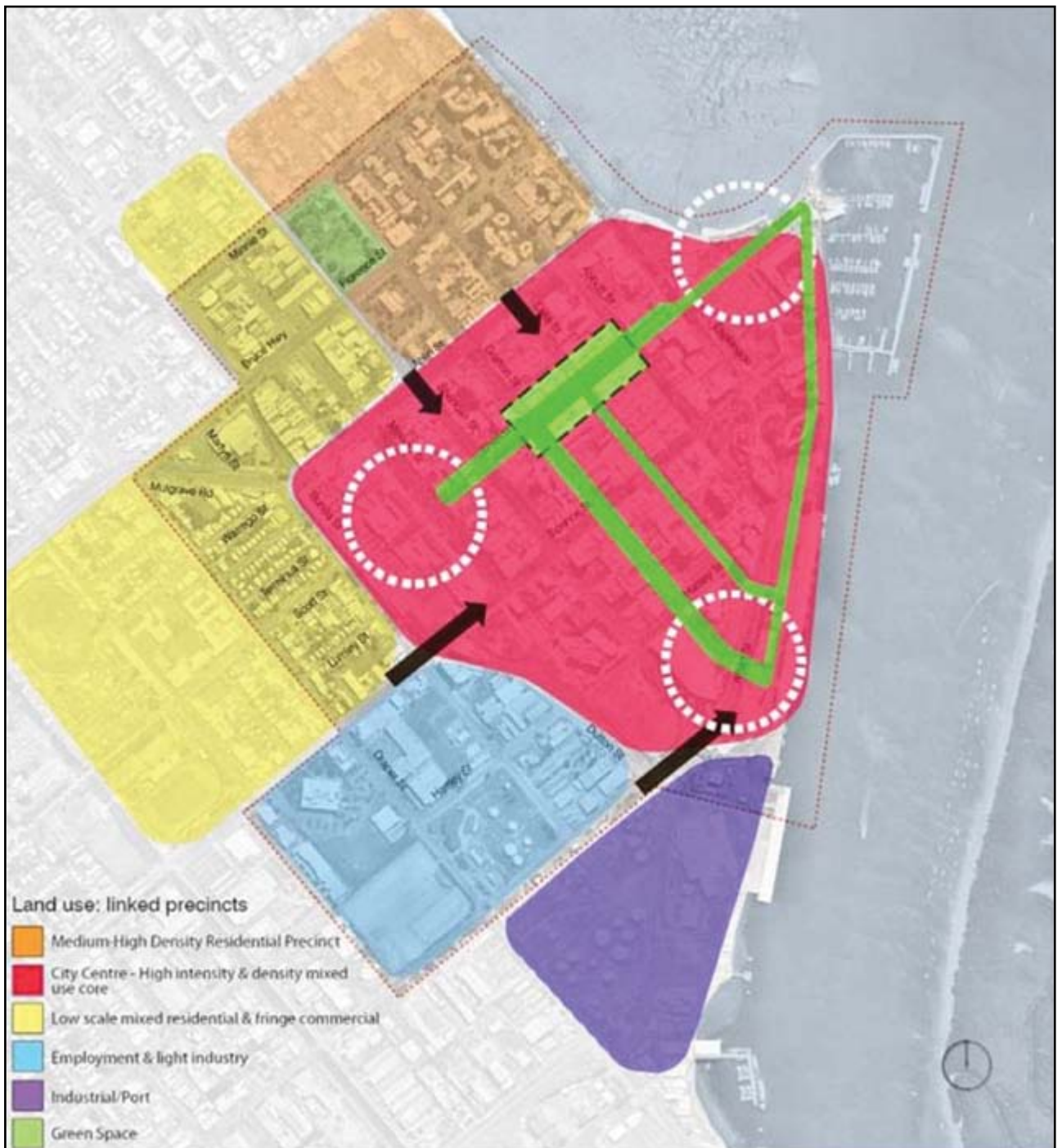
The Master Plan designates the Cairns Entertainment Precinct/Cruise Liner Terminal as a site that can catalyse redevelopment and revitalisation of the City Centre. The Master Plan notes the following key sites for redevelopment in the precinct, with each site needing to contribute to the liveliness and success of the entertainment precinct.

- The site on the corner of Hartley, Lake and Grafton Streets
- The Ports North owned site fronting Wharf Street
- Council owned Post Office site to be redeveloped as a Council car park.

The Proposed Urban Structure (see **Figure B1.2.3a**) detailed in the Master Plan provides a vision for the blocks, streets, buildings, open spaces, activities, transport and landscaped areas.



**Figure B1.2.3a Cairns CBD Masterplan – Proposed Urban Structure**  
 (Source: Cairns City Centre Masterplan, CRC - 2011)



## B1.2.4 State Planning Policy

The State Planning Policy July 2014 (SPP) is a single statement of planning principles and guidance for planning schemes and development assessment in Queensland. It defines the Queensland Government's policies about matters of state interest in land use planning and development. State interests are defined in the Sustainable Planning Act, and accordingly the SPP has considerable weight in development assessment on non-port land and in the making of planning schemes. In the hierarchy of statutory planning instruments in Queensland the SPP sits above regional plans and planning schemes.

The State Interest for Strategic Ports states *Planning protects the operation of strategic ports and enables their growth and development.*

Cairns Port is listed as a port to which the SPP applies.

The SPP's focus is upon ensuring a planning scheme integrates this state interest. Development assessment on port land occurs outside SPA and accordingly the SPP does not embrace development assessment criteria pertaining to a port.

The planning scheme is required to integrate the state interest by:

- Identifying strategic ports and associated strategic port land and core port land
- Facilitating development surrounding strategic ports that is compatible with, depends upon or gains significant economic advantage from being in proximity to a strategic port, or supports the strategic port's role as a freight and logistics hub
- Protecting strategic ports from development which may adversely affect the safety, viability or efficiency of existing and future port operations
- Ensuring sensitive development is appropriately sited and designed to mitigate adverse impacts on the development from environmental emissions generated by port operations
- Identifying and protecting key transport corridors (including freight corridors) linking strategic ports to the broader transport network
- Considering statutory land use plans for strategic ports and the findings of planning and environmental investigations undertaken in relation to strategic ports.

The Cairns 2009 Planning Scheme is considered to have embraced these integration principles. Land use interface and access are well developed and have exhibited years of compatible operations.

## B1.2.5 Far North Queensland Regional Plan 2009-2031

The FNQ Regional Plan 2009-2031 (FNQRP) is the pre-eminent plan for the FNQ region and, therefore, takes precedence over all other planning instruments prepared under SPA or its predecessor, IPA. The FNQ Regional Plan provides a framework with which to manage growth, change, land use and development in the region to 2031.

The focus of the document pertains to regional growth management and is predominantly instructs local planning schemes under SPA. Its application, and hence reference to the Cairns port, is therefore limited. It does, however, have a number of Desired Regional Outcomes one of which (1) is as follows:

*"The region's terrestrial and aquatic natural assets, which include the Wet Tropics and Great Barrier Reef World Heritage areas, are protected and enhanced to increase their resilience to the impacts of climate change."*

This and the attendant implementation criteria would have wide application to the port's environmental performance and any impacts of development on nearby receiving environments. Criteria applicable to infrastructure and economic development also highlight the importance of an acceptable environmental impact and response.

Importantly, provisions in the FNQRP that relate to infrastructure, and directly to the Cairns port, reinforce the approach evident in both Ports North and the CRC's local planning that involve the protection of the port's operations and its on-going compatibility with the adjoining CBD. They are:

- *"6.1.4 Key sites, corridors and buffer areas for current and future regional infrastructure and services are identified, preserved, protected and where appropriate, proactively acquired and managed"*
- *"8.3.8 Cairns and Mourilyan sea ports and Cairns Airport and Mareeba Aerodrome, and their access roads and operations, are protected from urban activities that may impact on current or future operations, except where permitted in land use plans for strategic port land"*.

## B1.2.6 Observations of Planning Framework

The juxtaposition of a working port and a regional CBD is the context within which all the local planning has proceeded. For the life of the city and the region, these important components of the economic structure have co-existed and evolved with economic changes to the industries that underpin each component, and with events such as the redevelopment of the Cairns International Airport and the significant change that made to inbound tourism.

There is an alignment of intent for the area between each local planning instrument. It is clear land use changes under the SPL where industrial port activities have given way to tourist uses, accommodation, and improved tourist facilities, are complementary to the CBD. The CBD itself has also changed where some port related businesses close to the port have redeveloped for higher order land-use activities.

The complementarity in land use is reinforced in each plan and the 'bleeding' of land use across the boundary of statutory control makes that boundary seamless.

## B1.3 Existing Conditions, Values and Characteristics

This section identifies existing land matters in the study area. It broadly identifies the existing uses and tenure of the land and the conditions of the underlying geology and soils. The section also identifies the future development intent of the land in the study area based on current land management plans and policies, particularly the local planning framework discussed in **Section B1.2** of this chapter.

### B1.3.1 Terrestrial Geology and Soils

#### B1.3.1.1 Geology and Soils

Cairns City was built upon a low-lying plain of quaternary coastal and estuarine sediments of sand, silt and mud (Bird 1970, Department of Nature Resources and Mines 2014). It is thought that these formed approximately 4000 to 5500 years ago (Bird 1970, Wet Tropics Management Authority 2000). Although the topography of the area has been altered and the sand ridges have been largely concealed, the streets parallel to the Esplanade mimic the ridge pattern in the CBD area (Collinson, 1939 in Bird 1970).

The sand ridges consist of medium quartzose sand, with occasional coarser material such as granules and small pebbles (Bird 1970). Bird (1970) reports that the superficial sand layer is approximately 8.5m deep and exists over soft blue-grey clay formations. Due to the stability of the sand, silts and muds, most large buildings in Cairns must be placed on piles that are driven into the underlying clay (Wet Tropics Management Authority 2000). The blue-grey clay formation is approximately 3m to 23m thick (Bird 1970). This rests upon a firm yellow-grey clay formation that includes relics of mangroves and indicates an earlier phase of deposition and swamp conditions, most likely during high sea levels of the Pleistocene age (2.5 million years ago to 11,700 years ago) (Bird 1970). The yellow-grey clay layer is approximately 12m thick and overlays sands and gravels (Bird 1970).

Before development, the CBD area contained north-west to south-east running sand ridges with mangrove-lined creeks (Bird 1970, Department of Nature Resources and Mines 2014). Swamps were formed on the mud between the sand ridges (Wet Tropics Management Authority 2000). The Wet Tropics Management Authority (2000) reports that the sand ridges of the Cairns City area were once present at the Esplanade; hence, older residents may remember the Esplanade foreshore as a sandy beach. However, once the Esplanade foreshore was widened, the sand ridge was built over leaving tidal mud flats as the current foreshore.

Indeed the physical change throughout Cairns to create the urban area now widely accepted is dramatic and the Esplanade/Port area is an indicator of the pattern of physical change evident throughout the region.

The region is heavily constrained by low land, ecological values, steep slopes and limited non- agricultural land availability. Within and adjacent to the CBD the degree of intervention to fill and create land has been extensive.

Most of the port land has been reclaimed and Fogarty Park, the Pier, Hilton, Points North, the lagoon and all the Esplanade Park from the Esplanade carriageway to the outer extremities of that park, have been created by fill. The industrial suburb of Portsmith and parts of Manunda, Cairns North, and Parramatta Park have also been extensively filled.

Further information on onshore geology and geomorphology is provided in **Chapter B3, Coastal Processes**.

### B1.3.1.2 Acid Sulfate Soils

Acid sulphate soil is the name given to soils containing metal sulphides. In certain conditions (under water, without oxygen and with bacterial activity), acid sulphate soils (ASS) are produced when sulphate mixes with metals and organic matter. Left undisturbed, these soils pose little or no risk, however, when disturbed or exposed to oxygen, these soils begin to oxidise, producing sulphuric acid. ASS can degrade concrete and steel structures, such as foundations and have detrimental environmental impacts.

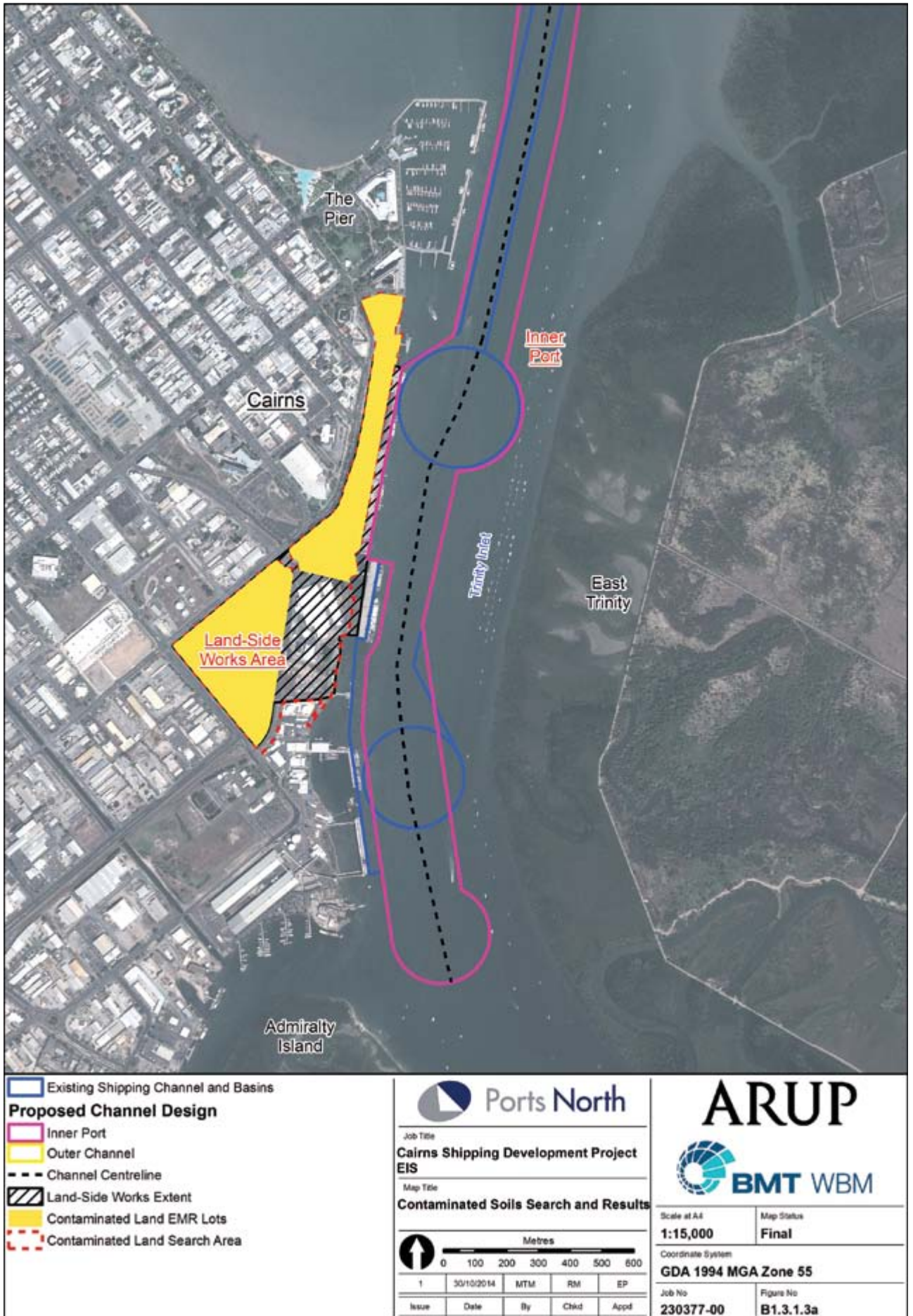
ASS mapping (DSITIA, 2014) shows that the immediate study area contains disturbed land with a probability of ASS. This is due to its elevation (<5m AHD) as well as the marine context and geomorphology. The immediate study area also lies within the CRC's *Potential or Actual Acid Sulfate Soils Material Overlay Map* (CRC 2009). The overlay highlights the importance of the issue for development proposed in areas so affected.

### B1.3.1.3 Contaminated Soils

A search on the Queensland Contaminated Land Register (CLR) for the land within the land-side project area was conducted. The search identified that the study area contains three sites listed on the Environmental Management Register (EMR). **Figure B1.3.1.3a** illustrates the extent of the search conducted on the CLR and highlights the parcels of land identified on the EMR. The EMR identifies properties likely to be affected by contaminants. It is common for a working port of 100 years operation to be subject to possible contamination. This figure illustrates a northern area for which most potentially contaminating activities have ceased and the area has been or is scheduled for remediation, and a southern area which is subject to ongoing use for the environmentally relevant activities of fuel storage.

Properties identified on the EMR must be properly investigated to determine what, if any, contaminants might exist, prior to undertaking any development. Where works are proposed on contaminated land, a management plan and/or permit will be required.

Figure B1.3.1.3a Contaminated soils search and results



## B1.3.2 Native Title

At the time of preparation of this report, there has been only one native title determination in the Trinity Inlet area (for the *Mandingalbay Yidinji* People). It appears that dredging for future channel widening and a new swing basin will be clear of the determination area. A native title claim for part of Trinity Inlet and the land-side area of the western side of Trinity has been made by the *Gimuy Walubara Yidinji* People. The dredging and infrastructure works will affect this area and consequently, a Cultural Heritage Management Plan will be developed with the *Gimuy Walubara Yidinji* People for the works within their native title claim area.

This is addressed in further detail in **Chapter B13, Cultural Heritage**.

## B1.3.3 Land Tenure

**Figure B1.3.3a** depicts the land tenure arrangement surrounding the Port of Cairns. The land-side project area is located over four freehold properties and two perpetual lease properties. As identified in **Table B1.3.3a**, each of the properties is owned by Ports North.

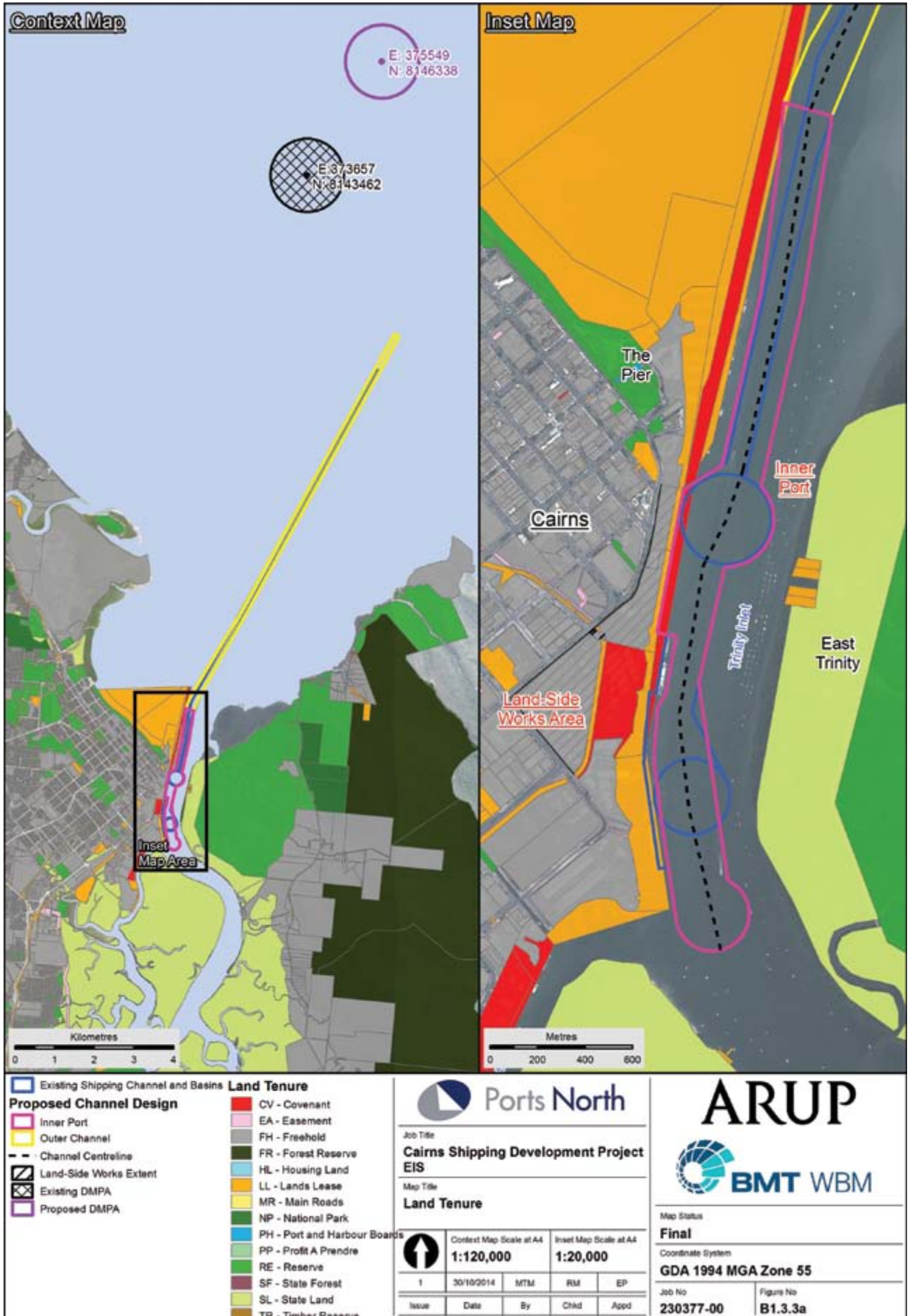
The existing and proposed shipping channel and swing basins are situated on Crown Land. Ports North have vested planning powers under the *Transport Infrastructure Act 1994* (TI Act) for an area identified as Strategic Port Land (SPL). As illustrated in **Figure B1.3.3a**, the SPL stretches from Portsmith to Cairns North, extends into tidal waters and includes land at East Trinity. As required by the TI Act, Ports North has prepared a Land Use Plan to guide development of the SPL. The SPL is identified as 'covenant' and 'lands lease' and Ports North has registered rights and interests over these parcels of land. The Department of Natural Resources and Mines (DNRM) describes a 'covenant' as a registered right or interest over a parcel of land used to restrict usage of that land. The remaining areas of the SPL are under freehold title, predominantly owned by Ports North.

Further west, the Cairns CBD area is generally under freehold title with the exception of road reserves (managed by CRC as trustee for the Crown) and easements for service utilities, access and the like. On the eastern side of Trinity Inlet, there is a wide strip of state land and four leasehold lots (with Ports North as the registered/interested party) identified within the SPL. Further east is land reserved for community or public purposes. **Table B1.3.3b** provides a description of tenure types as defined by the former DNRM.

**Table B1.3.3a Properties located in the land-side project area**

Address	Property Description	Tenure	Owner
33 Kenny St, Portsmith	345 SP113643	Freehold	Far North Queensland Ports Corporation Limited
1 Dutton St, Portsmith	1 SP113642	Freehold	Far North Queensland Ports Corporation Limited
8 Wharf St, Cairns	9 SP113632	Freehold	Far North Queensland Ports Corporation Limited
34 Esplanade, Cairns	10 SP214821	Freehold	Far North Queensland Ports Corporation Limited
Bunda St, Cairns	509 NR5788	Lease in perpetuity	Leasee: QR/Aurizon
74 to 280 Esplanade, Cairns	15 SP214821	Lease in perpetuity	Leasee: Far North Queensland Ports Corporation Limited

Figure B1.3.3a Land Tenure



**Table B1.3.3b Land Tenure details (Source: Department of Natural Resources and Mines (DNRM))**

CA	Commonwealth Acquisition	Land acquired by the Commonwealth of Australia and held prior to issue of a formal title. (Generally, this land is used for military or government store purposes).
CV	Covenant	A registered right or interest over a parcel of land used to restrict usage of that land (shopping mall tenants).
EA	Easement	A right or interest on a property that is registered against the title.
FD	Below the Depth Plans	A registered right or interest over a parcel of land whose location is defined as below a depth or to a depth below the surface of the earth (Underground Coal mines below Ipswich).
FE	Forestry Entitlement Area	Land in a deed of grant or freeholding lease where the commercial timber and the land on which it stands is reserved by the State of Queensland.
FH	Freehold	Land held by the State in Fee Simple (freehold title) which includes titles surrendered to the State of Queensland (or Crown) in terms of Section 358 of the Land Act 1994.
FR	Forest Reserve	Tenure of an interim nature for a maximum of five years and managed by the Environmental Protection Agency with associated conditions.
HM	Boat Harbours	Land vested under the control of the Queensland Transport (Maritime Division).
HL	Housing Land	Land vested in the Department of Communities.
ID	Industrial Estates	Land vested under the control of the Department of State Development, for the development of State Government industrial estates.
LL	Lands Lease	Leasehold land administered by the Department of Environment and Resource Management excluding Mining Homestead Tenement Leases.
MT	Mines Tenure	Land leased as Mining Homestead Tenement Leases (e.g MHPL, MHL and SPML) originally issued by the Department of Energy. These leases are now administered by the Department of Environment and Resource Management. This category does not include Mining Lease or Mining Application Areas, the exception being ML7024 at Weipa, being land set aside under the "Commonwealth Aluminium Corporation Pty Ltd Agreement Act of 1957" and the "Alcan Queensland Pty. Limited Agreement Act of 1965" GG1965.2.1441.
MP	Marine Park	Land vested under the control of Marine Park Authorities.
MR	Main Road	Base Parcel – Land vested in the Queensland Transport or Main Roads prior to issue of title or road dedication. Strata Parcel – Declared Common Area under Transport Infrastructure Act (Main Road over Rail Corridor)
NP	National Park	Land reserved by the Environmental Protection Agency for a National Park, National Park (Scientific), Conservation Park or Resource Reserve.
PH	Port and Harbour Boards	Land vested under the control of Port Authorities in Queensland.
PP	Profit à Prendre	A registered right or interest of use over the property of another that allows the holders to enter and take some natural produce (mineral deposits, timber).
RE	Reserve	Land reserved by the Department of Environment and Resource Management for community or public purposes.
RY	Railway	Land vested for railway purposes in the Queensland Transport.
SF	State Forest	Land reserved by the Department of Environment and Resource Management for State Forest purposes.
SL	State Land	Land held by the State of Queensland as Unallocated State Land and other areas vested in the State (or Crown) but not held in Fee Simple or as a lease issued under the Lands Act 1994.



TR	Timber Reserve	Land reserved by the Department of Environment and Resource Management for Timber Reserve purposes.
TP	Transferred Property	Land transferred to the Commonwealth of Australia on federation, usually for lighthouse or post and telegraph reserves.
WR	Water Resource	Land vested in the Department of Environment and Resource Management (originally Water Resources Commission).

### B1.3.4 Land Use

This section describes the existing land uses within the immediate study area and has been structured generally to correspond to the local areas identified geographically by the Ports North Land Use Plan, being Seaport Local Area and Cityport Local Area. This allows for consistency with the presentation of the planning framework discussion in **Section B1.2** of this chapter as the Local Plans for these areas have and will continue to inform the development of land uses in the immediate study area. However, key land uses outside of these local areas have been included in this discussion as the immediate study area extends beyond the boundaries of the local areas. This section also identifies sensitive land uses within or adjacent to the study area.

Key existing land uses within the study area include: Within and in the vicinity of the Seaport Local Area

- Port of Cairns – port related uses
- Smith’s Creek port related uses
- The navy base
- Portsmith – Woree Industrial Area
- Pile moorings – for boats, including some that are used for residential purposes (eastern side of Trinity Inlet).

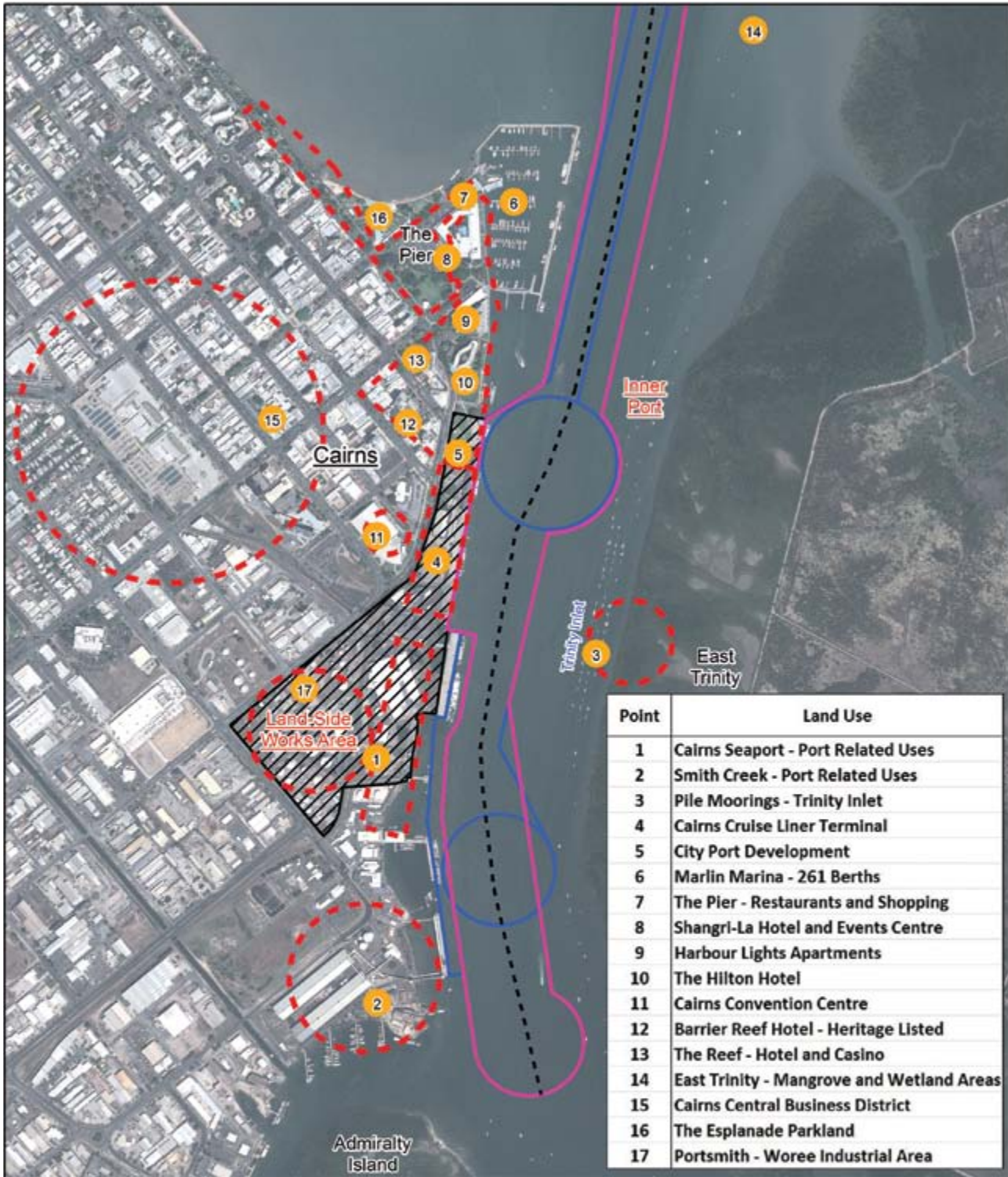
Within and in the vicinity of the Cityport Local Area:

- Cairns Cruise Liner Terminal (CCLT) – embarking/disembarking for cruise ships and events space when not used as the CCLT
- Cityport Local Area – mixed use development
- Marlin Marina – featuring 261 berths
- The Pier – providing restaurants, cafés, bars and shopping
- Shangri-La Hotel and Events Centre
- Harbour Lights Residential Apartments
- The Hilton Hotel
- The Reef Hotel and Casino and the Barrier Reef Hotel – heritage-listed public bar (located to the west of the local area)
- Residential apartments, including Jack and Newell, Piermonde and Madison on Abbott (directly west of the Cityport Local Area boundary)
- Cairns Convention Centre (located outside on the western boundaries of the two local areas)
- Cairns Central Business District (west of the local area)
- The Esplanade Parkland – recreational space for tourists and residents (west of the local area boundary)
- Trinity Inlet – used for tourism and recreation, port-related activities and areas of environmental significance (east of the local area)
- East Trinity Area – mangrove and wetland areas and some local residences (located to the east of the local areas, across Trinity Inlet).

**Figure B1.3.4a** depicts the key land uses within the immediate study area and within close proximity to the Cairns port and the existing shipping channel. A description of each of these land uses is provided on the following pages.

As described in **Section B1.2**, there is strong alignment and complementary land use throughout the interface between port land and the CBD. The evolution of land use change has been ‘one way’ and this is reflected in a strong accord between the two land use authorities in policy, development approvals, and development outcome.

Figure B1.3.4a Land Use Map



Point	Land Use
1	Cairns Seaport - Port Related Uses
2	Smith Creek - Port Related Uses
3	Pile Moorings - Trinity Inlet
4	Cairns Cruise Liner Terminal
5	City Port Development
6	Marlin Marina - 261 Berths
7	The Pier - Restaurants and Shopping
8	Shangri-La Hotel and Events Centre
9	Harbour Lights Apartments
10	The Hilton Hotel
11	Cairns Convention Centre
12	Barrier Reef Hotel - Heritage Listed
13	The Reef - Hotel and Casino
14	East Trinity - Mangrove and Wetland Areas
15	Cairns Central Business District
16	The Esplanade Parkland
17	Portsmith - Woree Industrial Area

- Existing Shipping Channel and Basins
- Proposed Channel Design**
- Inner Port
- Channel Centreline
- Land-Side Works Extent
- Land\_Use
- Points of Interest

Ports North

Job Title  
**Cairns Shipping Development Project EIS**

Map Title  
**Land Use**

Scale at A4  
**1:15,000**

Map Status  
**Final**

Coordinate System  
**GDA 1994 MGA Zone 55**

Job No  
**230377-00**

Figure No  
**B1.3.4a**

Metres  
0 100 200 300 400 500 600

1	30/10/2014	MTM	RM	EP
Issue	Date	By	Chkd	Appd

**ARUP**

BMT WBM

## B1.4 Land uses within and in the vicinity of the Seaport Local Area

Seaport is a local area identified by the LUP for the Cairns SPL. The Seaport local area extends from the Port of Cairns in the north to Smith's Creek industrial area in the south. The Seaport Local Area Plan seeks to manage and guide development in this area to enhance, maintain and maximise the operational and commercial viability of the port area and facilitate port-related industries. The local area plan recognises the necessity of the expansion of the port to meet demand for passenger-related facilities.

### B1.4.1 Port of Cairns

**Figure B1.4.1a Inner Port – view northwards from Wharf 12 (Sugar Wharf)**



The Port of Cairns comprises a number of berths, wharves and moorings on the western side of Trinity Inlet. Wharves One to Six form a continuous quay length of approximately 600m. These are used predominantly for cruise vessels and visiting naval vessels. Award-winning Queensland Heritage Register listed cargo sheds, which have been extensively refurbished, are situated on Wharves Two and Three, one of which was established as the Cairns Cruise Liner Terminal (CCLT) in 2010 as an international cruise terminal. The adaptive reuse of those sheds has received wide acclaim.

Wharves Seven to Eight are approximately 250m in total length and are used for general cargo, dry bulk, containers and fertiliser. Wharf 10 is a tanker berth for petroleum, oil and LP gas and can accommodate a vessel of 189m in length. Wharf 12 is owned and operated by Queensland Sugar Ltd and accommodates bulk sugar and molasses. This wharf is approximately 183m in length (Ports North, 2013).

As discussed in **Section B1.2.1**, land use planning for the Cairns SPL is managed by Ports North through their LUP, which is comprised of the Seaport Local Area Plan and the Cityport Local Area Plan. The port itself is located within the Seaport Local Area. The Seaport Local Area Plan allocates a Mixed Cargo Planning Area over the port, which provides for the ongoing port operations and expansion of the wharf. Further information on the facilities at the Port of Cairns is contained in **Chapter A4, Project Description**.

### B1.4.2 Smith's Creek port-related uses

Smith's Creek is located at the southern end of the Port of Cairns and drains to Trinity Inlet. It accommodates two commercial fishing basins, two barge ramps and a general cargo wharf and mooring facilities accommodating approximately 94 marine craft, mostly private yachts (Ports North, 2013).

### B1.4.3 Portsmith-Woree Industrial Area

The Portsmith - Woree Industrial District is located on the western bank of Trinity Inlet, south of the CBD. This area functions as an employment node incorporating a range of general industrial activities. Significant features of this area include:

- Seaport, maritime, major rail and road freight terminals located primarily along Trinity Inlet
- Trinity Inlet mangrove and wetland areas located adjacent to Chinaman Creek and Smith's Creek.

Most of this area is located in the Seaport Local Area. The Seaport Local Area Plan allocates this area as the Industrial Planning Area and the Mixed Cargo Planning Area.

### B1.4.4 Navy Base

The Cairns Navy Base is located in Draper Street, Portsmith on the northern side of Trinity Inlet. This base provides maintenance, logistics and administrative support for Cairns-based naval vessels. This is the homeport for 14 naval vessels and 900 navy and civilian personnel. As described in **Section B1.2**, the Seaport Local Area Plan provides for the ongoing use of this area by the Navy through the identification as the Navy Planning Area. Further, the Federal Government Posture Review (Arup, Shipping Development Strategy, 2012) recommends future expansion of this navy base.

### B1.4.5 Pile Moorings – Eastern Side of Trinity Inlet

The Port of Cairns has 65 pile moorings, for craft up to 18m in length, on the eastern side of Trinity Inlet. There are also areas designated for temporary anchorage only north and south of the piles, east of Admiralty Island and in Smith's Creek. A number of boat owners in Trinity Inlet use their boats as their main residence (Ports North, 2013).

**Figure B1.4.5a Pile Moorings – Eastern Side of Trinity Inlet**



## B1.5 Land uses within and in the Vicinity of the Cityport Local Area

Cityport is a local area identified by the LUP for the Cairns SPL. The Cityport area extends from Marlin Marina in the north to Cairns port in the south. This area will be developed over time as a waterfront facility, rationalising the port operations while integrating with the city centre and maximising the community and tourism values of the waterfront. Development will provide for a mix of hotels, residential apartments, tourist apartments, coffee shops, restaurants, bars and offices, in accordance with the Cityport Local Area Plan and the Cityport Masterplan (Ports North, 2013) (refer to **Section B1.2.1.3**). The Masterplan includes a waterfront boardwalk along the entire length of Cityport, linking the recent Cairns Esplanade redevelopment with the Convention Centre via a public promenade.

Much of the area has been recently landscaped and includes pedestrian paths, grassed areas and gardens outside the CCLT. In the longer term, parcels of land will be developed in accordance with the Cityport Masterplan, as described in further detail in **Section B1.2.1.3**.

### B1.5.1 Cairns Cruise Liner Terminal

**Figure B1.5.1a Cairns Cruise Liner Terminal**

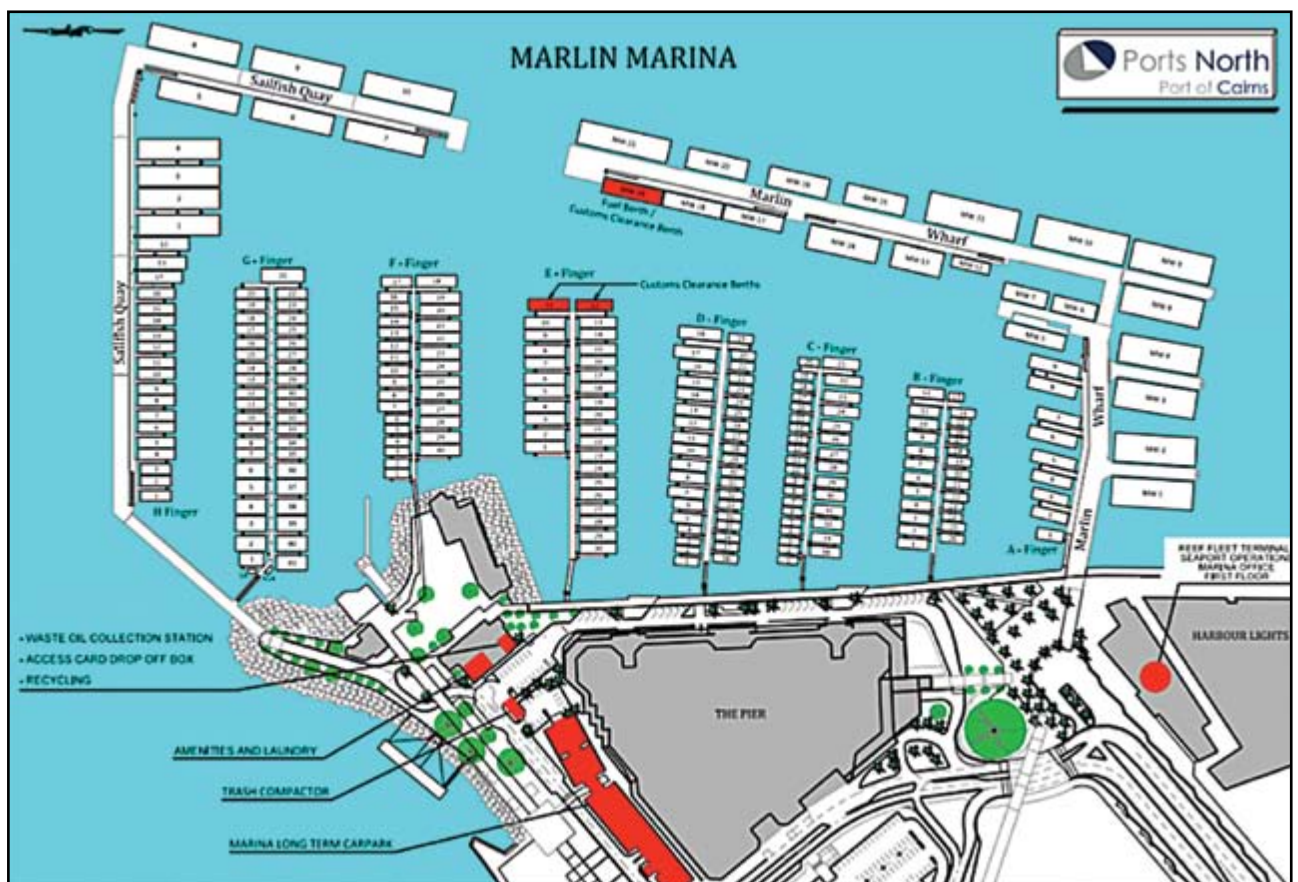


The QHR-listed wharf shed, located on the Port of Cairns waterfront, has been renovated and transformed into a function, event and exhibition space whilst cruise ships are not in port. Known as the Cairns Cruise Liner Terminal (CLLT) this building maintains its historical character and history and has received recognition for its architecture and heritage conservation through multiple awards. This venue holds up to 900 people and is often used for wedding receptions, cocktail functions, fashion shows and other entertainment and cultural events.

As identified in **Section B1.2.3** of this chapter, the Cairns City Centre Masterplan designates the Cairns Entertainment Precinct/Cruise Liner Terminal as a site that can catalyse redevelopment and revitalisation of the City Centre.

## B1.5.2 Marlin Marina

**Figure B1.5.2a Marlin Marina** (Source: Ports North – [www.portsnorth.com.au](http://www.portsnorth.com.au))



The Marlin Marina is located at the northern extremity of the Cityport precinct at the mouth of Trinity Inlet and immediately east of the Pier. It features 261 berths accommodating a variety of vessels including super yachts up to 60m.

### B1.5.2.1 Marina Berths

The 219 Marina berths are located on eight floating pontoons (Marina Fingers B – H) and are protected by the Marlin Marina wave barrier. The berths sizes range from 10-20m with all marina berths provided with power and water.

### B1.5.2.2 Reef Fleet Berths

The 30 Reef Fleet berths are located on the Marlin Wharf and A Finger, catering for vessels up to 50m in length. The facilities are purpose built to cater for large passenger flows with covered walkways and are adjacent to the Reef Fleet Terminal.

### B1.5.2.3 Super Yacht Berths

The 12 super yacht berths include nine floating pontoon berths suitable for vessels up to 60m and three berths for larger vessels. The berths are fully serviced with electricity and fresh water (Ports North, 2013).

#### **B1.5.2.4 The Pier complex and Shangri-La Hotel and Events Centre**

The Pier is located immediately adjacent to Marlin Marina and directly east of the Cairns Esplanade. In addition to shopping, this precinct contains bars, restaurants and cafés overlooking the marina and Trinity Inlet. The Shangri-La Hotel and Events Centre is located as the main component of the Pier complex. This is a five-star hotel comprising 255 guest rooms with a number of conference rooms and offices, a centralised swimming pool, health spa and other leisure and corporate amenities and facilities (Shangri-La, 2013).

#### **B1.5.2.5 Harbour Lights Residential Apartments**

Harbour Lights is a residential apartment complex located to the south of The Pier and Reef Fleet Terminal overlooking Trinity Inlet. This complex contains 94 self-contained short-term and residential studios, one, two and three-bedroom apartments.

#### **B1.5.2.6 The Hilton Hotel**

The five-star Hilton Hotel is adjacent to the recent development of the Cityport waterfront. It has 262 rooms, a swimming pool, restaurants, bars, cafés, conference facilities and meeting rooms overlooking Trinity Inlet (Hilton Hotels, 2013).

#### **B1.5.2.7 Cairns Convention Centre**

The Cairns Convention Centre is located on the Corner of Wharf and Sheridan Streets, adjacent to the Port of Cairns. This centre has recently undergone significant redevelopment. With a number of conference and meeting rooms, the Convention Centre caters for corporate, entertainment and educational events for between 300 and 3,500 people (Cairns Convention Centre, 2013).

#### **B1.5.2.8 The Reef Hotel and Casino and the Barrier Reef Hotel**

The Reef Hotel and Casino and The Barrier Reef Hotel are located on opposite corners of Wharf and Abbott Streets, directly west of the Cityport Local Area boundary.

Located opposite the Hilton Hotel, the Reef Hotel complex includes the five-star Pullman Reef Hotel Casino, which overlooks Trinity Inlet. The complex also contains a number of bars, restaurants and cafes.

Overlooking the Port of Cairns, the Barrier Reef Hotel is a two-storey timber Queensland heritage-listed building built in 1926. While the building catered mostly for wharf labourers, it was partly occupied by the Royal Australian Airforce in World War II. See **Chapter B13, Cultural Heritage** for more information on cultural heritage. The hotel is used as a public bar/hotel and the current structure replaced an earlier Empire Hotel on the site, opened in 1898 (Our Hotels, 2013).

#### **B1.5.2.9 Residential apartments**

Adjacent to the Barrier Reef Hotel are significant residential apartment buildings including Jack and Newell Luxury Holiday Apartments, Madison on Abbott and Piermonde Apartments. These residences are located to west of the Cityport local areas plan boundary in close proximity to the CCLT and to in particular Wharf 1 and 2.

### **B1.5.3 East Trinity Environmental Reserve and Residential Area**

The East Trinity site is approximately 920ha in area and was originally a mangrove/saltmarsh wetland that was bought by CSR Pty Ltd in the 1970s to grow sugar cane (Arup, 2011). Sugar cane production was not successful (as a result of the soil becoming acidic) and the remaining natural vegetation onsite was degraded. Fish kills in and near the site were common.

In 2000, the Queensland Government purchased the site, designated it as an Environmental Reserve (the East Trinity Reserve) and has been undertaking a variety of remediation activities to rehabilitate the site and reduce acidic discharges to Trinity Inlet. In November 2011, an Indigenous Protected Area agreement was entered into with the Mandingalbay Yidinji people for some land at East Trinity. As part of the Commonwealth Working on Country program, the *Mandingalbay Yidinji* are involved in the rehabilitation efforts in this land.

East Trinity is designated as rural land, under the *Cairns Plan, 2009*. It is also held in trusteeship by the Queensland Government as a Reserve for Environmental Purposes, under the *Land Act 1994*.

Three distinct residential areas are located along the coastal areas of East Trinity, approximately two, three and four km northeast of the East Trinity Reserve. These residential areas hold 10 to 30 dwellings each, on lots ranging from 600m<sup>2</sup> to 1,500m<sup>2</sup> in size.

## B1.5.4 Cairns CBD

The Cairns CBD is located west of Trinity Inlet and accommodates a wide range of regional services including retail, business, administration, accommodation for residents and tourists, community and indoor entertainment and leisure facilities. The CBD also provides a focus for cultural activities. The CBD contains a significant range of tourism accommodation, with pockets of residential properties.

## B1.5.5 The Esplanade Parkland

Figure B1.5.11a The Esplanade Parkland Lagoon



The Esplanade Parkland is located along the Trinity Bay waterfront. This area provides one of the main green spaces in the city and facilitates activities associated with informal recreation, including the Esplanade Lagoon and walkways that are popular with both tourists and residents.

## B1.5.6 Infrastructure

The key land-based infrastructure within the vicinity of the project, including roads, rail, gas water and power is described in detail in Chapter A4, Project Description.

## B1.6 Sensitive Land Uses

Sensitive land uses are considered to be sensitive receptors to the impacts associated with noise and air pollution. Such uses include residential dwellings, hospitals and other accommodation facilities and childcare and educational establishments. As identified in the discussion above, a number of residential uses exist adjacent to the study area.

## B1.7 Land and Planning Matters Impact Assessment

This section identifies the impacts associated with the project, proposed mitigation measures and the residual impact.

### B1.7.1 Terrestrial Geology and Soils

**Chapter A4, Project Description** describes the extent of land-side infrastructure that will be constructed as part of the project. Trench excavations will be required for the establishment of a fuel pipeline between the wharves and the fuel farm and minor excavations may be required to construct the proposed sewerage connection; though no other excavation works will be required.

Given the extent of services in the area, the geology is considered suitably stable to provide for the proposed land-side infrastructure; however, this will be confirmed during detailed design. A full description of soils and geology is not provided in this EIS due to the minor nature of land-side infrastructure. A detailed description of soils related to the marine environment is provided in **Chapter B4, Marine Sediment Quality**.

Excavations have the potential to result in erosion and sedimentation as well as the exposure of minor areas of actual or potential ASS. This could result in acidic and sediment-laden runoff to enter Trinity Inlet. With implementation of an Erosion and Sediment Control Plan in line with the *Soil Erosion and Sediment Control—Engineering Guidelines for Queensland Construction Sites* (Institution of Engineers Australia 1996) as well as an ASS Management Plan in line with the *Queensland Acid Sulfate Soils Technical Manual Soil Management Guidelines* (Dear et al. 2002), the project will result in a negligible impact to soils, structures, water quality, human health and ecology.

Provision of the fuel storage facility and pipeline is proposed on land identified on the Contaminated Land Register (refer to **Figure B1.3.1.3a**). Prior to undertaking any works on this site, soil investigations may be required to gain an understanding of contaminants on site. Investigations are to be carried out by a suitably qualified person and followed by a report to be submitted to the DEHP, which then make an assessment and determines any further action required. A management plan which demonstrates the proposed development will not cause further contamination or dispersal of contaminants will be required and a permit may be required if the works involve removal or disposal of the contaminated material. The implementation of the management plan and compliance with any conditions of a permit is likely to result in a negligible impact to soils.

### B1.7.2 Native Title

The works associated with the project do not appear to impact on the native title determination for the *Mandingalbay Yidinji* People over the Trinity Inlet area. However, areas of Trinity Inlet and the land-side area of the western side of Trinity Inlet are subject to a native title claim by the *Gimuy Walubara Yidinji* People and will be impacted by dredging and infrastructure works. As such, a Cultural Heritage Management Plan will be developed with the *Gimuy Walubara Yidinji* People for the works within their native title claim area. This is addressed in further detail in **Chapter B13, Cultural Heritage**.

### B1.7.3 Land Tenure

The land-side project area is located over four freehold and two perpetual lease properties, owned / leased by Ports North and Queensland Rail. The existing and proposed shipping channel and swing basins are situated on Crown Land. Ports North have vested planning powers under the *Transport Infrastructure Act 1994* (TI Act) for an area identified as Strategic Port Land (SPL), as described in **Section B1.2**.

No impact on land tenure is expected to arise from the project, although approval will be required from Queensland Rail if the fuel pipeline traverses their rail corridor.

### B1.7.4 Land Use

Land uses predominantly affected by the project are those located in the immediate footprint of the project (i.e. the shipping channel, fuel pipeline and storage facility and wharf/infrastructure upgrades), as described in **Chapter A4, Project Description**. These uses, namely port operations and marine and boating activities, will experience some disruption during excavations for the fuel pipeline, construction of the wharf and land-based infrastructure upgrades and works to facilitate the dredging (e.g relocation on Navigation Aides). Moving of recreational fishing and dwelling boats in the Marlin Marina and Trinity Inlet may also be required to provide access to dredging. Ecological impacts of the land and marine-based works are addressed in **Chapter B8, Terrestrial Ecology** and **Chapter B7, Marine Ecology**.

Despite temporary inconveniences which are considered to be of minor impact, upon completion of the works and during the operation, the project will have a positive impact on these port and marine uses through the expansion of the cruise ship facilities and improvements to the wharf infrastructure. Additionally, works to the wharves will provide long-term protection of the heritage listed wharf structure whilst enabling ongoing use at an increased capacity.

Residents and patrons of surrounding residences, including those in short-term accommodation and commercial establishments may experience reduced levels of amenity due to periodic minor increases in noise exposure from the project's construction, operational activities or associated vehicular traffic. However, given that construction hours will be scheduled to abide by applicable noise management restrictions and that land uses adjacent to the proposed works are predominantly short-term tourism accommodation, retail or office uses (with limited permanent accommodation), predicted noise impacts on occupants of surrounding land uses are considered to be low. Noise impacts are discussed in **Chapter B10, Noise and Vibration**. Impacts on visual amenity are discussed in **Chapter 12, Landscape and Visual**.

The increase in traffic volumes associated with the construction and operational phase of the project are considered to be minor and no upgrades for traffic (with the exception of management measures to achieve a more efficient use of existing infrastructure) are required as a result of the project. Traffic impacts are discussed in **Chapter B14, Transport**.



General disturbance to local residents from increased operational activity at the port can be minimised by regulating operational hours for loading/unloading activities for ship supplies. As such, this impact is considered to be negligible.

Also, because of the complementary land use planning for this locality, expectations of land use, and land use change are now well known and the reasonable amenity expectations of those living or working in the area, or those intending to live, are well entrenched. There is nothing about the proposed works that cuts across those expectations.

#### **B1.7.4.1 Land Use Planning**

The project is considered compatible with the local planning provisions and planned development of the port and surrounding uses as prescribed in the *Cairns Port Land Use Plan*, the *Cairns Plan* and the Far North Queensland Regional Plan. Further, current strategic planning and master planning in Cairns encourages tourism activities as a key economic driver for the region. As such, the impact of the project in regards to local and regional planning provisions is considered to be positive.

It is noted that whilst the project is considered compatible with the local plans discussed in this chapter, approvals for specific components of the project (dredging, disposal of dredge material, upgrades to wharf and land-based infrastructure and the construction of various support infrastructure upgrades) are required under relevant legislation and policies as discussed in **Chapter A1, Project Introduction**.

#### **B1.7.5 Mitigation Measures and Residual Impact**

A key mitigation measure for the land use impacts identified in this chapter is ongoing and timely communications with relevant state and local government authorities, business operators, port tenants, residents and the boating community regarding the potential impacts, including disruption to commercial operations, recreational activities and traffic conditions. In addition, for the construction phase, the preparation and implementation of a dredge management plan will assist in achieving a coordinated dredging process to minimise disruption to users of the port and inlet.

**Table B1.7.5a** identifies the mitigation measures recommended for each impact and the residual impact.

The project is not expected to result in any impacts on land tenure. However, in the event that access to land not owned by Ports North is required during construction, appropriate communications with relevant land owners will be carried out to obtain permissions.

Impacts associated with geology and soils can be mitigated through the implementation of appropriate management and control plans. Whilst the project is considered to be consistent with the state and local planning provisions for land management, continued engagement with the CRC and relevant Queensland agencies is recommended. In addition to the approval of this EIS, approvals and permits required for the specific components of the project will be sought from the relevant authorities.

Table B1.7.a Impacts, mitigation measures and residual impacts

Impact	Significance	Likelihood	Risk Rating	Mitigation	Significance	Likelihood	Residual Risk Rating
<b>Geology and Soils</b>							
Exposure of actual acid sulphate soils.	Minor	Possible	Low	Implementation of ASS Management Plan.	Negligible	Likely	Negligible
Disturbance and dispersal of contaminated soils.	Minor	Possible	Low	Investigation into land identified on the Contaminated Land Register or Environmental Land Register.  Preparation and implementation of a management plan to ensure contaminated soils are not dispersed.	Negligible	Likely	Negligible
Erosion and sedimentation resulting from excavation works.	Minor	Likely	Medium	Implementation of an Erosion and Sediment Control Plan.	Negligible	Likely	Negligible
<b>Land Tenure</b>							
Encroachment of project works on to land not owned by Ports North.	Minor	Unlikely	Low	Ensure project works are contained on land owned by Ports North.  Where access on other land is required, appropriate communications is carried out and permissions obtained.	Minor	Unlikely	Low
<b>Land Use</b>							
Adverse impacts to existing port related uses (i.e. disruption to operations, industrial activities and services)	Minor	Likely	Medium	<b>Chapter C3, Vessel Traffic Management Plan</b> considers and avoids disturbance to, the operational requirements of surrounding uses and facilities utilising the port and Trinity Inlet.	Minor	Unlikely	Low

Impact	Significance	Likelihood	Risk Rating	Mitigation	Significance	Likelihood	Residual Risk Rating
Amenity impacts for existing residences and other land uses within close proximity to the CCLT.	Minor	Likely	Low	Minimise noise, odour and visual impacts to existing residences and other land uses during dredging works. Minimise disturbance to local residences by regulating operational hours of cruise ships to limit boarding and disembarking times (refer to <b>Chapter 11, Noise</b> )	Minor	Likely	Negligible
Impact on recreational boating and related marine activity.	Minor	Unlikely	Low	Provide ongoing awareness to boating community of potential effects.  Liaise with Maritime Safety Queensland for any activities which may require a Notice to Mariners.	Negligible	Unlikely	Negligible
Reduces levels of amenity of nearby residents from transport related impacts.	Minor	Likely	Medium	Update residents about any relevant changes to conditions associated with traffic due to the construction activity.  Consideration of changing traffic conditions to alleviate noise impacts on local communities.	Minor	Unlikely	Low

## B1.8 Conclusion

The project is not anticipated to have any significant adverse impacts on land and planning matters. Existing land uses adjacent to the project and CCLT site are generally tourism related (being short-term accommodation, recreational, commercial/retail) and would benefit from the increased tourism trade expected to result from the improved port facilities proposed by the project. Further, the project is consistent with the land use planning provisions in both the Seaport and Cityport precincts, and improves the ability for development in the area to meet the desired development outcomes. It also continues the Ports North roll-out of the approved Cityport Masterplan to revitalise and integrate the unique tourism-port interface for Cairns due to its importance to Cairns and the regional economy. Impacts associated with the potential disturbance and exposure of ASS and contaminated soils can be adequately minimised through the implementation of appropriate management plans, as has been done for many development works by Ports North through this area over the past years.

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