

3

Draft : Environmental Impact Statement

Chapter B12 Landscape and Visual

B12.1	Introduction	2
B12.1.1	Methodology and Assumptions	2
B12.1.2	Policy Context and Legislative Framework	4
B12.2	Existing Landscape And Visual Conditions	6
B12.2.1	Landscape Character Areas	6
B12.3	Visual Influence of the site	8
B12.4	Description Of Significance Criteria	19
B12.4.1	Visible Components Of The Project	20
B12.5	Landscape And Visual Impact Assessment	20
B12.5.1	Barron – Smithfield Barron – Smithfield	22
B12.5.2	Freshwater – Stratford – Aeroglen	23
B12.5.3	Cairns CBD and North District	24
B12.5.4	Cairns CBD and North District	25
B12.5.5	Cairns CBD and North District	26
B12.5.6	Portsmith – Woree Industrial	27
B12.5.7	East Trinity	28
B12.5.8	Great Barrier Reef, Trinity Inlet	29
B12.5.9	Visual Impact Summary	30
B12.6	Abbreviation	33
B12.7	Glossary	33
B12.8	References	34

B12.1 Introduction

The purpose of this chapter is to identify the potential impact of the Cairns Shipping Development Project (the project) on the landscape and visual amenity of the proposed project site and surrounding areas. The aim of this study is to recognise and assess potential impacts, develop mitigation measures that can be incorporated into the design and future management of the project, and reduce residual impacts where possible.

B12.1.1 Methodology and Assumptions

B12.1.1.1 Methodology

This study uses a viewpoint based approach, beginning with the identification of the existing landscape and visual conditions, followed by an assessment of the daytime and night time landscape and visual impacts without mitigation. Landscape and visual mitigation measures are then identified and the impacts are re-assessed to identify areas where the impact has been mitigated.

The study area focuses mostly on the 'local scale' environment (i.e. Cairns beaches, Trinity Inlet and Trinity Bay), as defined in **Chapter A1, Project Introduction**, where visual impacts have the most potential to occur.

Guidance for Visual Impact Assessment

A range of guidance is available for the assessment of landscape and visual impact. In Australia, visual assessment is typically guided by The Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, 2013, prepared by the Landscape Institute and Institute of Environmental Management and Assessment.

There is currently no formal guidelines available for visual assessment at a State or Federal level. The methodology used for this project is described below and conforms to the direction outlined by the documents above.

Identification of Existing Visual Conditions

A site inspection was carried out during August of 2013. This inspection was used to evaluate the existing landscape and visual character of the project site and surrounding area (i.e. the study area) and to photograph the site.

In order to appreciate the existing conditions, a series of representative viewpoints have been selected to comprehensively illustrate the visual influence of the site. The views were selected following a desk top review and site inspection to represent publicly accessible viewpoints from a range of locations and viewing situations, including those from sea. Particular attention was paid to coastal areas, scenic viewing locations, and places where viewers are expected to congregate.

Visual Sensitivity

Visual sensitivity refers to the nature and duration of views. Locations from which a view would potentially be seen for a longer duration, where there are higher numbers of potential viewers and where visual amenity is important to viewers can be regarded as having a higher visual sensitivity. Distance also contributes to the sensitivity of a view, generally, the greater the distance, the less sensitive the viewpoint.

In order to ensure the assessment of impact is reasonable, the sensitivity of a viewpoint is considered in the broadest possible context of views, from those of national importance through to those considered to have a less than local visual importance. For this reason the following terminology is used to describe the level of visual sensitivity (see **Table B12.1.1.1a** below).

Table B12.1.1.1a Visual sensitivity levels

Visual Sensitivity	Description
National	Heavily experienced view to a national icon, e.g. view to Parliament House Canberra along Anzac Parade.
State	Heavily experienced view to a feature or landscape that is iconic to the State, e.g. view towards Cape Tribulation or the Kuranda tropical rainforest.
Regional	Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, or an important view from an area of regional open space. E.g. views to the mountainous backdrop of Cairns or views of coastal islands, e.g. Green Island, Fitzroy Island.
Local	High quality view experienced by concentrations of residents and/or local recreational users, and/or large numbers of road or rail users, e.g. views across to Trinity Inlet from Cairns or from the Cairns Esplanade.
Neighbourhood	Views where visual amenity is not particularly important, such as lesser quality views briefly glimpsed from roads.

B12.1.1.2 Assessment of Visual Impact

Visual Modification

Visual modification refers to the change to the landscape that would occur as a result of development from a given viewpoint. Visual modification describes the extent of change and identifies elements which are removed or added, changed in scale, form, shape, pattern, colour and texture, and compatibility of new elements with the existing landscape. Visual modification can result in an improvement or reduction in visual amenity.

A high degree of visual modification would result if the development contrasts strongly with the existing landscape. A low degree of visual modification occurs if there is minimal visual contrast and a high level of integration of form, line, shape, pattern, colour or texture values between the development and the environment in which it sits. In this situation the development may be noticeable, but does not markedly contrast with the existing modified landscape.

Table B12.1.1.2a lists the terminology used to describe the level of visual modification.

Table B12.1.1.2a Visual modification levels

Visual Modification	Description
Considerable reduction or improvement in visual amenity	Substantial part of the view is altered.
Noticeable reduction or improvement in visual amenity	Alteration to the view is clearly visible.
No perceived reduction or improvement in visual amenity	Either the development is not visible, or if it is, the change in the view is generally unlikely to be perceived by viewers.

Assigning Visual Impact Levels

The visual impact for each representative viewpoint has been assessed. Although there are no recognised standards for determining the significance of visual impact, there is a need to assign significance to this assessment so that there can be a clear and consistent means of evaluation. The significance criteria used to assign visual impact levels are further explained in **Section B12.4** of this chapter.

Mitigation and Residual Effects

For those areas identified as likely to result in a visual impact as a result of the project, methods for reducing these impacts have been considered and specific mitigation approaches recommended where possible.

Incorporating these proposed mitigation approaches into the assessment, impacts of specific viewpoints are then re-assessed and the residual effects of the project can be identified.

Assessment of Night Time Impacts

The assessment of night time impacts has been undertaken in a similar methodology, however, rather than assessing particular viewpoints, this assessment draws upon the guidance of the Institution of Lighting Engineers (UK), and their 'Guidance for the reduction of obtrusive light' (2005). This guidance note identifies environmental zones, useful for the categorising of night time landscape settings. These zones are:

- E1: Intrinsically dark landscapes – National Parks, State Forests, etc.
- E2: Low district brightness areas – Rural, small village, or relatively dark urban locations
- E3: Medium district brightness areas – Small town centres or urban locations
- E4: High district brightness areas – Town/city centres with high levels of night time activity.

Specific features of the lit landscape are then described in terms of:

- Sky glow – the brightening of the night sky above our towns, cities and countryside
- Glare – the uncomfortable brightness of a light source when viewed against a dark background
- Light Trespass – the spilling of light beyond the boundary of the property or area being lit.

From this analysis, the level of impact is assessed according to the impact levels that are identified in **Section B12.4** of this chapter.

B12.1.1.3 Assumptions and Technical Limitations

The following assumptions and technical limitations have informed this study:

- The night time assessment is based on assumptions from daytime field work
- The photographs have been taken from publicly accessible viewpoints.

B12.1.2 Policy Context and Legislative Framework

B12.1.2.1 Great Barrier Reef World Heritage Area – Outstanding Universal Values

In 1981 the Great Barrier Reef was added to the World Heritage List in recognition of its Outstanding Universal Value (OUV). To be included on the World Heritage List, sites must be of OUV and meet at least one out of 10 selection criteria. These criteria are explained in the operational guidelines for the implementation of the World Heritage Convention. The criteria are regularly revised by the Committee to reflect the evolution of the World Heritage concept itself.

The GBR has been considered to meet three criteria, one of which relates to its aesthetic quality:

(vii) To contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance

The summary statement describes how the GBR meets the requirements of this criterion:

“The GBR is of superlative natural beauty above and below the water, and provides some of the most spectacular scenery on earth. It is one of a few living structures visible from space, appearing as a complex string of reefal structures along Australia’s northeast coast.

From the air, the vast mosaic patterns of reefs, islands and coral cays produce an unparalleled aerial panorama of seascapes comprising diverse shapes and sizes.”

B12.1.2.2 Defining the Aesthetic Value of the Great Barrier Reef

In 2012 a monitoring mission, supported by the World Heritage Committee, assessed and reported on the conservation value of the Great Barrier Reef World Heritage. The mission report noted that the aesthetic values are less well understood than other aspects and recommended that further work was needed to identify and document these values. In response, the Commonwealth Government commissioned a study *'Defining the Aesthetic Value of the Great Barrier Reef'* that was published in February 2013.

The 2013 study analyses the risk of different potential activities on the aesthetic values of the Reef. This includes marine tourism, defined as including: *"resorts, marinas, cruise ships and reef-based activities. Marine tourism is primarily focused around a relatively small area of the GBR, predominantly in the Cairns region"*.

Overall the risk associated with marine tourism is estimated to be 'High to Medium', with the potential scale mainly local, but ranging to regional in some cases. The overall consequence of marine tourism impacts are considered to be minor. The experiential attributes of *'beauty'* and *'naturalness'* can potentially be impacted, and the attributes of *'tranquillity'*, *'solitude'*, *'remoteness'*, and *'discovery'* can be impacted through increasing intensity of use.

B12.1.2.3 Far North Queensland Regional Plan, 2009-2031

The Far North Queensland Regional Plan is the over-arching plan for the region and sets a clear vision, focusing on five key themes for Queensland communities:

- **Strong** - create a diverse economy powered by bright ideas
- **Green** - protect our lifestyle and environment
- **Smart** - deliver world-class education and training
- **Healthy** - make Queenslanders Australia's healthiest people
- **Fair** - support a safe and caring community

The vision for the Far North Queensland region builds on these elements and defines the community's long-term aspirations for the region. The Regional Plan also includes specific policies relating to the protection and management of the region's landscape values and scenic amenity. Relevant extracts from these policies include:

"2.1 The region's landscape values are identified, protected and managed through an integrated planning approach." (page 46)

"2.3 The visual amenity of the region's natural landscapes, seascapes and productive rural lands is protected and enhanced." (page 50)

"2.3 The region's tropical outdoor lifestyle is valued, protected and managed to provide a range of experiences which enhance liveability." (page 50)

"2.3.1 The visual amenity of the region's landscapes and seascapes is protected and enhanced by assessing proposed developments on landscapes that are vulnerable to visual impact due to their prominence, topography or degree of naturalness." (page 50)

"2.3.4 Public access to significant popular viewpoints is retained, and views protected from development that diminishes the scenic values." (page 50)

The policy demonstrates a clear objective to retain and protect areas of high scenic amenity value within the Cairns Region.

B12.1.2.4 Cairns Plan – Consolidated Planning Scheme, Cairns Regional Council, 2009

Cairns Regional Council (CRC) is preparing a new planning scheme for the Cairns region. The existing planning schemes for the former Cairns City will remain in force until a new planning scheme is published.

The consolidated Cairns Plan was adopted by CRC in February 2009 and contains current schemes and policies. Cairns Plan is structured with six key areas. Areas considered of relevance to the landscape and visual planning context include *'Desired Environmental Outcomes'* and *'Planning for Districts'*.

Desired Environmental Outcomes

Cairns Plan identifies the scenic landscape as a Desired Environmental Outcome (DEO) for the region, stating the following:

“2.2.5 The scenic landscape of the City is valued and enjoyed by residents and visitors, and the essential elements of this landscape, the forested hills and foothills, beaches and headlands, streams and rivers, wetlands, open spaces and rural land are conserved and enhanced.”

Planning for Districts

The City is divided into 12 districts and each district is the subject of a District Plan. The project site is located in and adjacent to four district areas, including:

- CBD North Cairns
- Freshwater – Stratford – Aeroglen
- Portsmouth – Woree Industrial
- Barron – Smithfield

The planning scheme does not designate any specific view or landscape protection areas within these Districts, however, some guidance is provided in relation to landscape and urban character and visual amenity. Where appropriate, this planning document has been used to inform the landscape and visual baseline conditions for the project area. Further information on the existing landscape and visual conditions is provided in **Section B12.2**.

B12.2 Existing Landscape And Visual Conditions

Cairns is located on the east coast of the Cape York Peninsula with the Coral Sea to the east and the Eastern Highlands to the west.

Trinity Inlet, an estuary situated to the east of the Cairns CBD, provides berthing for ships and the Royal Australian Navy Base HMAS Cairns. The views towards East Trinity and the inlet provide a natural backdrop to the Cairns CBD. Several tour operators that visit the Great Barrier Reef operate from the Reef Fleet Terminal which is located at the mouth of Trinity Inlet.

The landform in the vicinity of Cairns is relatively flat, gently declining to the east towards the coast. To the north, the topography rises sharply to approximately 300m above sea level, marked by Mount Whitfield Conservation Park (approximately 4.5km to the north of the Port of Cairns). To the south east of Cairns Port, beyond Trinity Inlet, the Malbon Thomson Range provides an impressive backdrop within views from Cairns Esplanade and the Port of Cairns.

Cairns is a popular destination for tourists, offering a tropical climate and serving as a gateway to the Great Barrier Reef. The Cairns Esplanade provides a key tourist attraction within the city with a public swimming lagoon and parklands lining the coastal edge. The lagoon and parklands are bound to the west by the Esplanade and high rise apartments and hotels.

The north of Cairns largely consists of a number of beach communities that extend along the north coastline, including Machans Beach, Holloways Beach and Yorkeys Knob. Beyond the city, the landscape character includes predominantly forested hills, with sugarcane farming, wetlands and townships located on the plains.

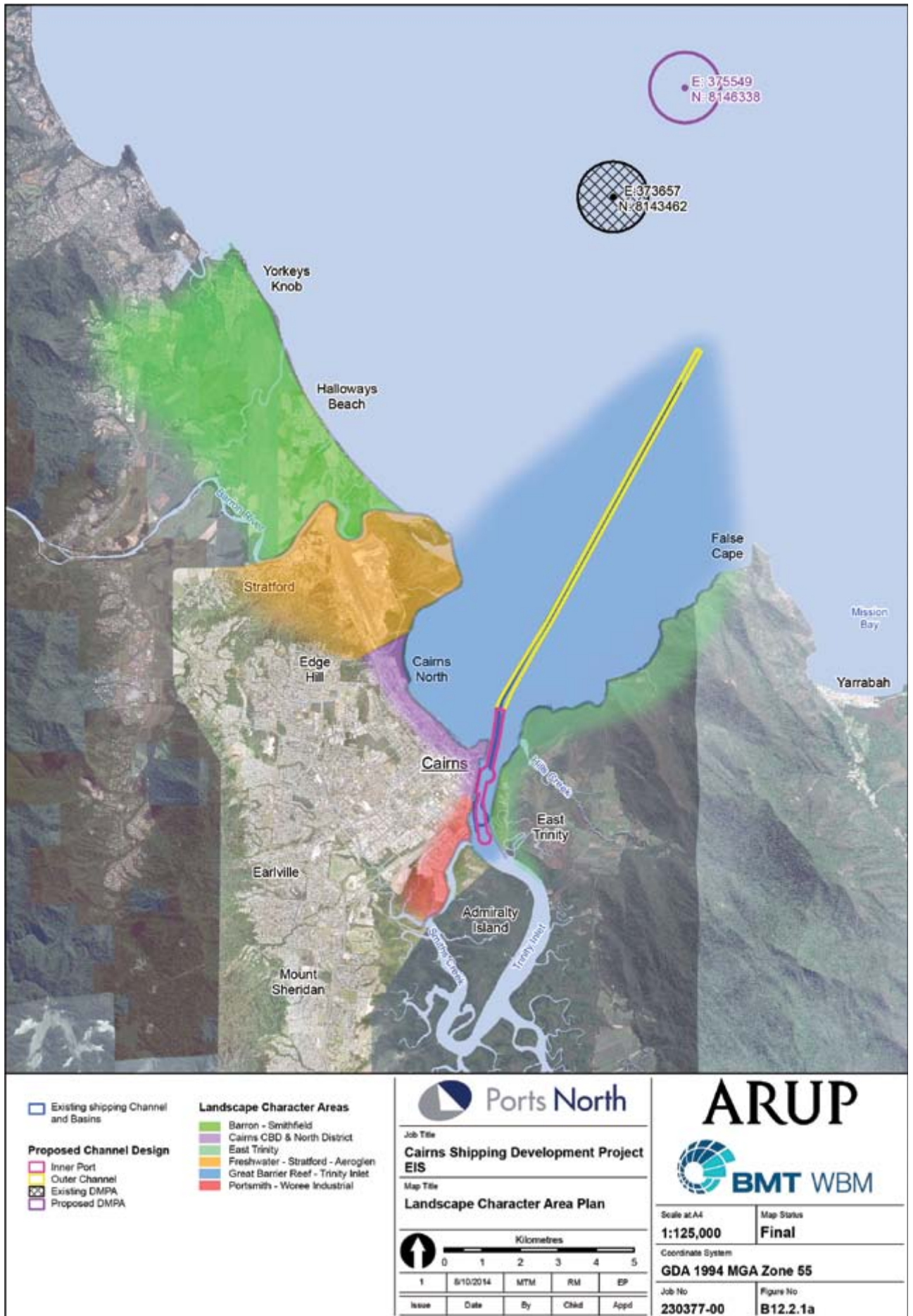
There is an existing visual precedent of cruise ships in the harbour and cruise ship activity at the wharf site, with regular maintenance dredging of the channel and swing basins.

B12.2.1 Landscape Character Areas

Landscape character areas (LCAs) seek to divide the landscape into distinct, broadly homogenous units with defining characteristics. In this way each character area should be distinct from an adjoining area which will be defined by a different set of key parameters. For this study, six LCAs were observed in the vicinity of the Port of Cairns (Refer to **Figure B12.2.1a**). For each LCA, the key landscape features and characteristics have been provided together with a record of key viewing locations. The description and characteristics of these areas has been informed by the Cairns Plan District Areas.

The following section describes each of these landscape character areas in detail.

Figure B12.2.1a Landscape Character Area Plan



B12.3 Visual Influence of The Site

An overall Zone of Theoretical Visibility (ZTV) has been produced (**Figure B12.3a**) to establish the theoretical area from which the project would be visible. The theoretical extent is based on the channel alignment, elevated to 52m to represent the *Rhapsody of the Sea* which currently navigates the channel. The channel alignment has also been elevated to 63m to represent the *Voyager of the Sea*, the largest proposed ship that will navigate the channel on completion of the project.

Three further ZTVs have been produced representing cruise ship movements from three locations, the outer channel (**Figure B12.3b**), middle of the channel (**Figure B12.3c**) and the inner channel (**Figure B12.3d**). Similar to the approach taken for the overall ZTV, the visibility of the *Rhapsody of the Sea*, which currently navigates the channel, has been analysed against the *Voyager of the Sea*, which will be the largest proposed ship to navigate the channel on the completion of the works. The ZTVs have been used to determine the baseline study area and illustrate the extent of proposed change that will arise as a result of the project.

It is important to note that the ZTV is by its nature approximate only and has been prepared to determine the approximate extent of visibility. The data used excludes existing intervening features such as built form, vegetation or localised variations in topography, representing the greatest extent of potential impact to inform the baseline study area and assessment process.

Figure B12.3a Zone of Theoretical Visibility (ZTV) Plan – Whole Channel

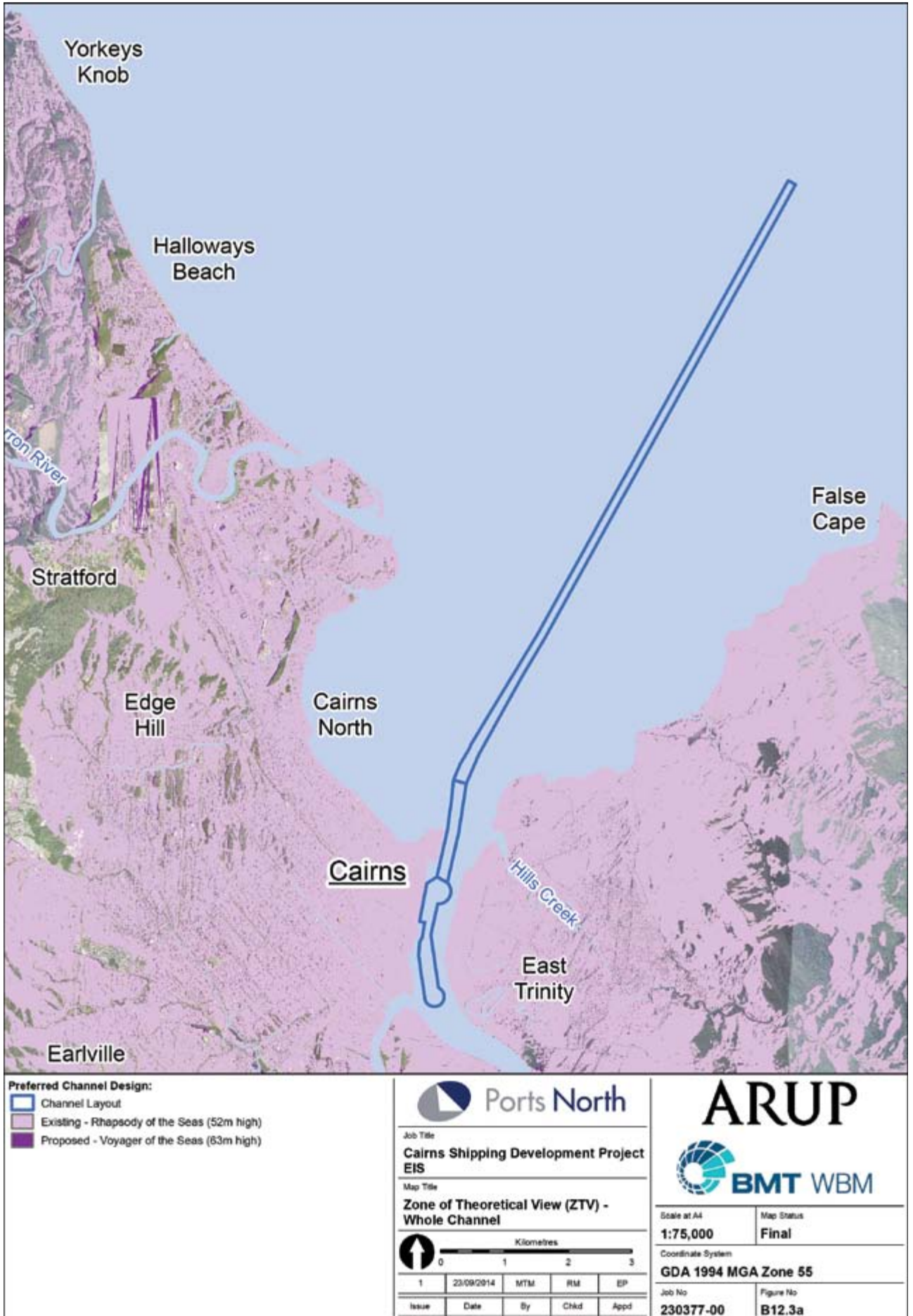


Figure B12.3b Zone of Theoretical Visibility (ZTV) Plan – Outer Channel

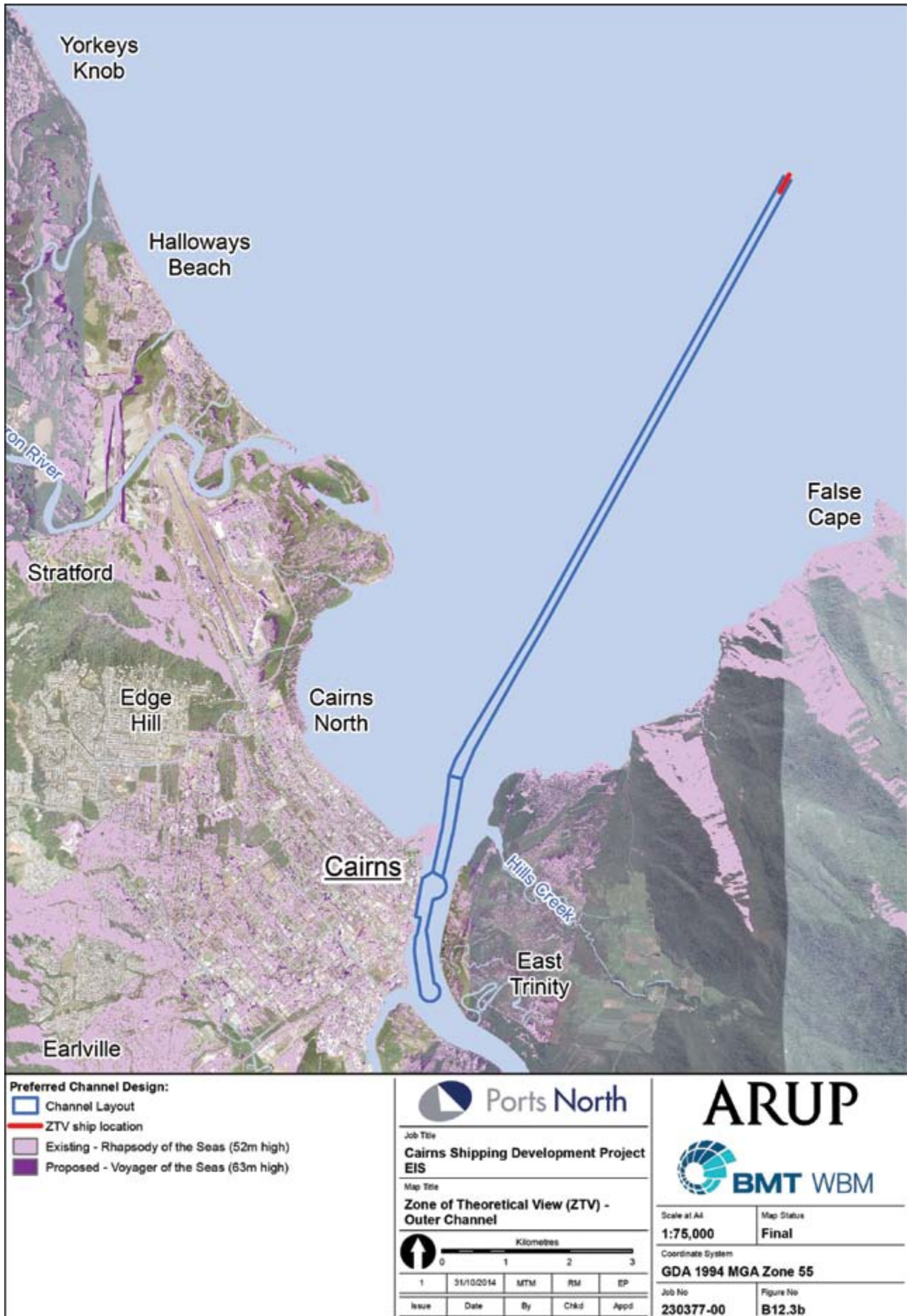


Figure B12.3c Zone of Theoretical Visibility (ZTV) Plan - Middle Channel

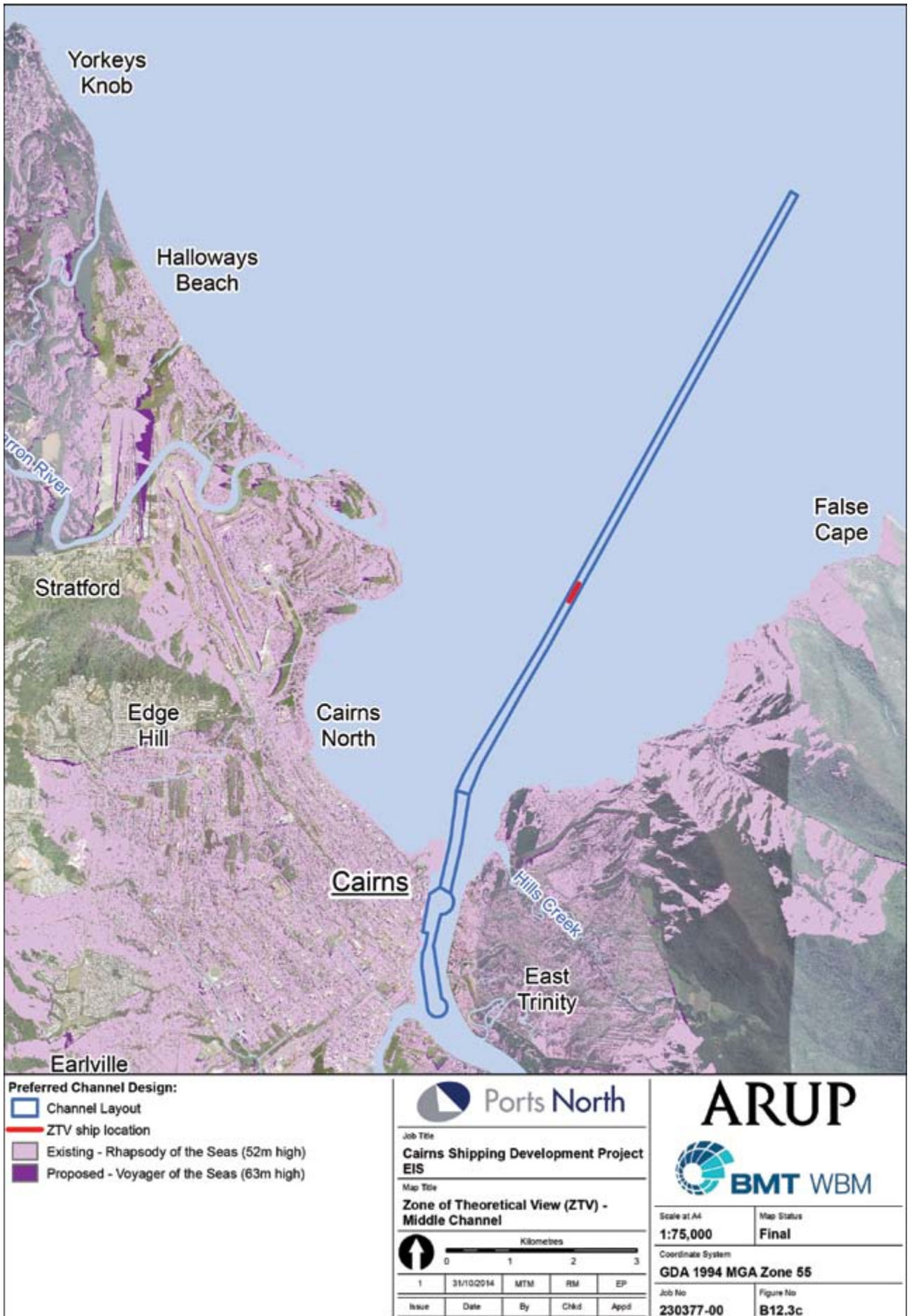
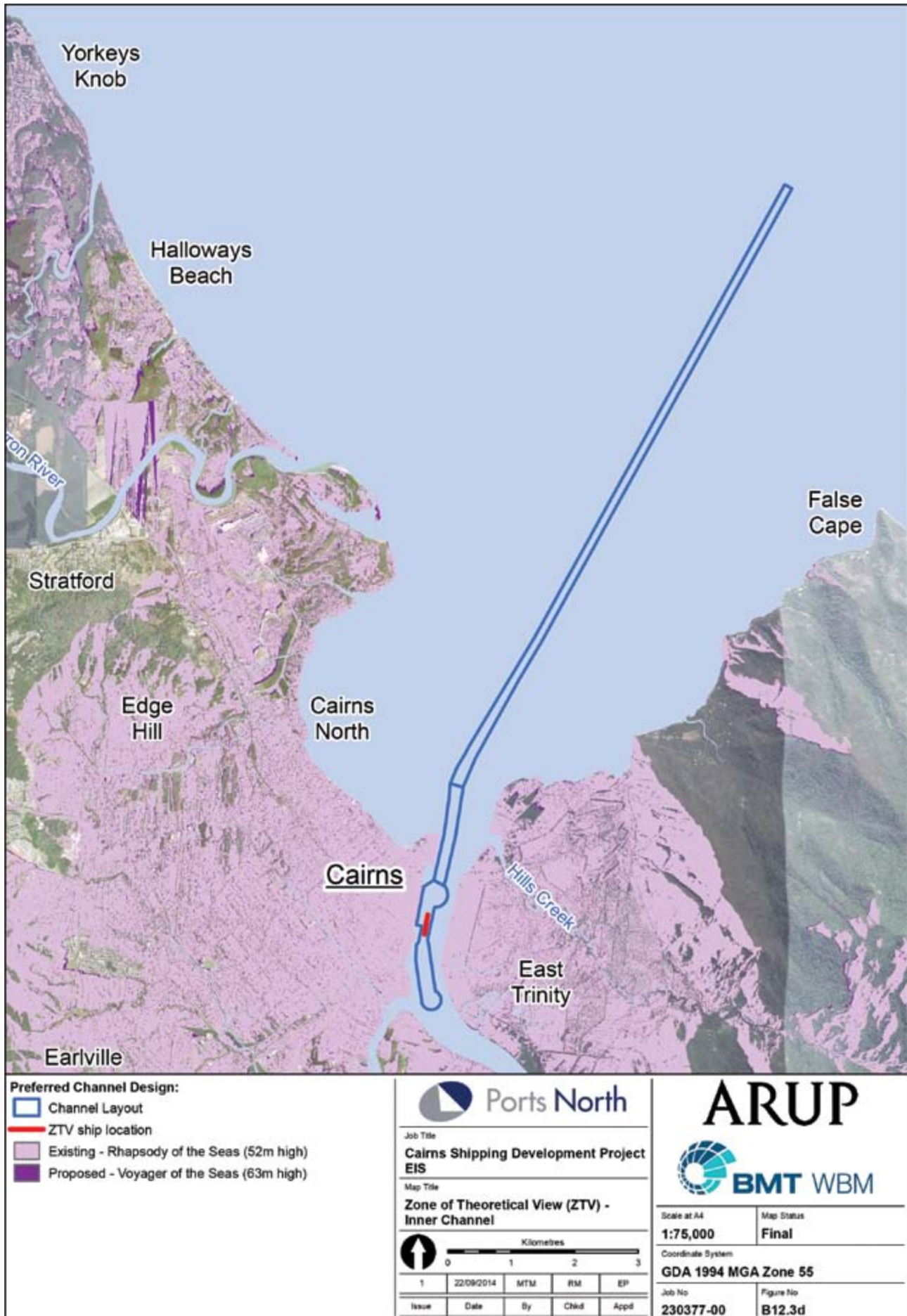


Figure B12.3d Zone of Theoretical Visibility (ZTV) Plan - Inner Channel



Barron – Smithfield LCA



View south east from Holloways Beach



View south east from Machans Beach



Yorkeys Knob Marina

Existing Context:

The Barron – Smithfield LCA is located to the north and is dominated by wetland, floodplains, waterways and extensive cane fields. Urban development is contained to the northern and western edge of the flood plain and to residential areas of Machans Beach, Holloways Beach and Yorkeys Knob to the east.

Visual Features:

- Wetlands adjacent to the coastline and waterways
- Barron Delta floodplain
- Extensive cane fields
- Distant views to Malbon Thomson Range to the south east
- Views across the floodplain to the Barron Gorge National Park to the west
- Views across Trinity Bay
- Coastline beach environment

Key Viewing Locations:

- Coastal views from beaches and parkland:
 - Yorkeys Knob marina
 - Holloways Beach
 - Machans Beach

At Night:

E2: Low district brightness area

- Predominantly dark
- Scattered lights from ships
- Lit residential streets and properties that front the coastline

Freshwater – Stratford – Aeroglen LCA



View south east from Mount Whitfield Conservation Park



View north towards the airport with the airport tower visibly above boundary mangrove planting

Existing Context:

The Freshwater – Stratford – Aeroglen LCA is located to the north of the CBD and includes Mount Whitfield Environmental Park, Cairns Airport and established medium density residential communities.

Visual Features:

- Mount Whitfield Conservation Park and the outlook across the Cairns CBD and coastline
- Cairns International Airport
- Established residential communities
- The waters of Trinity Inlet and Trinity Bay
- Wetland and mangrove growth adjacent to the coastline, east of the Airport
- Flecker Botanic Gardens

Key Viewing Locations:

- Elevated panoramic views from Mount Whitfield Conservation Park

At Night:

E3: Medium district brightness areas

- Lighting associated with the airport
- Lighting associated with local roads and residential areas
- Distant views to scattered lights from ships

Cairns CBD and North District LCA



View east from the Esplanade lagoon



Viewing areas along the Esplanade



View east from Marina Point



View east of Wharf St

Existing Context:

The CBD and North Cairns District LCA is characterised by both natural and man-made features. The waters of Trinity Inlet and Trinity Bay, the mangroves fringing the eastern side of the Inlet and the forested hill slopes beyond are the dominant natural features of the outlook from the CBD and North Cairns. The man-made features include the strong grid of wide streets, examples of regional architecture, both historic and contemporary, and the Esplanade parkland.

Visual Features:

- Urban area with a strong grid of wide streets, historic and contemporary architecture
- Esplanade parkland and public pool
- The waters of Trinity Inlet and Trinity Bay
- The mangroves fringing the eastern side of the inlet
- The forested hill slopes of the Malbon Thomson Range
- Wharf frontage and heritage buildings
- Cruise ships, reef fleet and fishing vessels at berth

Key Viewing Locations:

- Cairns Esplanade Parkland
- Cairns Wharf boardwalk
- Views from surrounding hotels and accommodation

At Night:

E4: High district brightness areas

- Lights from recreational fishing, commercial vessels and boats moored within Trinity Inlet
- Lighting along Esplanade frontage and parkland
- Street lighting along surrounding roads, including Esplanade and Wharf Street
- Lighting from high rise residential and commercial buildings
- Lighting from cruise ships and fishing vessels at berth

Portsmith – Woree Industrial LCA



View towards fuel tanks from Kenny Street



View to fuel tanks and industrial area from Draper Street

Existing Context:

The Portsmith – Woree Industrial LCA is one of the major industrial areas of the city and includes the port and major rail and road freight terminals. Significant mangrove areas are present along adjoining creeks and the Trinity Inlet edge.

Visual Features:

- The Port of Cairns and major rail and road freight terminals
- Fuel tanks and other wharf side industry
- HMAS Cairns ships
- Recreational, fishing and commercial shipping
- Distant view to Malbon Thomson Range to the east
- Views across the Trinity Inlet

Key Viewing Locations:

- View from Draper Street, Cook Street and Kenny Street

At Night:

E3: Medium district brightness areas

- Lighting from wharf side industrial activity
- Lights from recreational and commercial vessels

East Trinity LCA



View south towards Cairns CBD from a beach accessible from Pine Creek Road



View south towards to Cairns CBD from the public boat launching ramp at Bessie Point

Existing Context:

The East Trinity LCA encompasses the rising terrain to the east of Trinity Inlet and is characterised by areas of sugar cane farming, wooded hill slopes and views across the Trinity Inlet and Trinity Bay.

Visual Features:

- Sugar Cane fields
- Significant mangrove fringing the coastal edge with isolated sections of beach on Pine Creek Road
- The waters of Trinity Inlet and Trinity Bay
- Recreational and commercial vessels
- Distant views towards Cairns contained by the surrounding mountainous terrain
- Forested hill slopes

Key Viewing Locations:

- Pine Creek Road
- Boat launching ramp at Bessie Point and adjacent coastal beaches
- Residential properties along the coastline
- Views from boats using the boat launching ramp

At Night:

E1: Intrinsically dark landscapes

- Remote area with limited lighting
- Occasional lighting from vehicles on Pine Creek Road
- Distant views towards lighting associated with Cairns high rise buildings, port and Esplanade
- Channel beacon sequence
- Lights from recreation, fishing and commercial vessels

Great Barrier Reef Trinity Inlet LCA



View west towards the Port of Cairns from Trinity Inlet, within the boundary of the Great Barrier Reef



Location of existing channel beacons

Existing Context:

The Great Barrier Reef Trinity Inlet LCA is characterised by the seascape and surrounding borrowed views towards the Malbon Thomson Range to the east and Cairns Port CBD to the west.

Visual Features:

- Trinity Inlet within the Great Barrier Reef
- Views towards the Cairns coastline and rising mountainous terrain beyond
- The water contributes to the scenic value of Cairns and provides a sense of naturalness
- Recreational, fishing and commercial vessels
- Cruise ships, navy ships, cargo ships, reef fleet and barges

Key Viewing Locations:

- Recreational and commercial boats
- Boat, cruise ships and tour ferries visiting the Great Barrier Reef

At Night:

E1: Intrinsically dark landscapes

- Remote area with limited lighting
- Distant views towards lighting associated with Cairns high rise buildings, Port and Esplanade
- Channel beacon sequence
- Lights from recreational, fishing and commercial vessels
- Lights from cruise ships, navy ships, cargo ships and barges

B12.4 Description Of Significance Criteria

The following criteria will be used to assess the construction and operation, day and night time visual impacts (**Table B12.4a**). The purpose of the criteria is to ensure there is a clear and consistent means of evaluating visual impact. The determination of the significance of an effect requires the application of professional judgement to assess the likely outcomes by considering the sensitivity of the view together with the level of modification.

Table B12.4a Visual impact significance levels

Impact Significance/ Consequence	Description
Very High Adverse	Noticeable reduction in the amenity of a view of National sensitivity Considerable reduction in the amenity of a view of National or State visual sensitivity Considerable reduction in the amenity of an E1: Intrinsically dark landscape.
High Adverse	Noticeable reduction in the amenity of a view of State sensitivity Considerable reduction in the amenity of a view of State or regional sensitivity Noticeable reduction in the amenity of an E1: Intrinsically dark landscape Considerable reduction or improvement in the amenity of an area of E2: Low district brightness.
Moderate Adverse	Noticeable reduction in the amenity of a view of regional sensitivity Considerable reduction in the amenity of a view of local or regional sensitivity Noticeable reduction in the amenity of an area of E2: Low district brightness Considerable reduction in the amenity of an area of E3: Medium district brightness.
Minor Adverse	Noticeable reduction in the amenity of a view of local or regional sensitivity Considerable reduction in the amenity of a view of local or neighbourhood sensitivity Noticeable reduction in the amenity of an area of E3: Medium district brightness Considerable reduction in the amenity of an area of E4: High district brightness.
Negligible	No perceived change Barely perceptible reduction to the amenity of a view of neighbourhood sensitivity. No perceivable adverse or beneficial change is likely to be perceived by viewers.

Table B12.4b Risk Matrix table

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 B12.4c Risk Rating Legend

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

B12.4.1 Visible Components Of The Project

The visible components of the project include elements seen in the marine environment and at the existing Cairns Cruise Liner Terminal. The main visible elements have been summarised below and captured with reference to the construction and operational stages of the project. For a detailed description of the project's construction and operation, refer to **Chapter A4, Project Description**.

During Construction

- Dredging equipment
- A turbidity plume from dredging and placement of capital dredge material (refer to **Chapter B5, Marine Water Quality** for further detail)
- Structural upgrade of the existing cruise shipping wharves 1-5 including berthing dolphins, fenders and bollards (refer to **Chapter A4, Project Description** for the proposed structural upgrades)
- Construction machinery and equipment including a piling rig and crane to install the proposed piles, concrete pump trucks, a site office and power generators
- Intermittent Fuel Oil (IFO) facilities, including a minor building on the wharf (approximately 3x3m) with flow meter; cast iron pipeline running along Wharves 4, 5, 6, 7, 8 and 10 and into the existing fuel farm area, set within an approximately six metre cleared area; and a IFO storage tank (covering an area of approximately 1,670m² and 6m high).

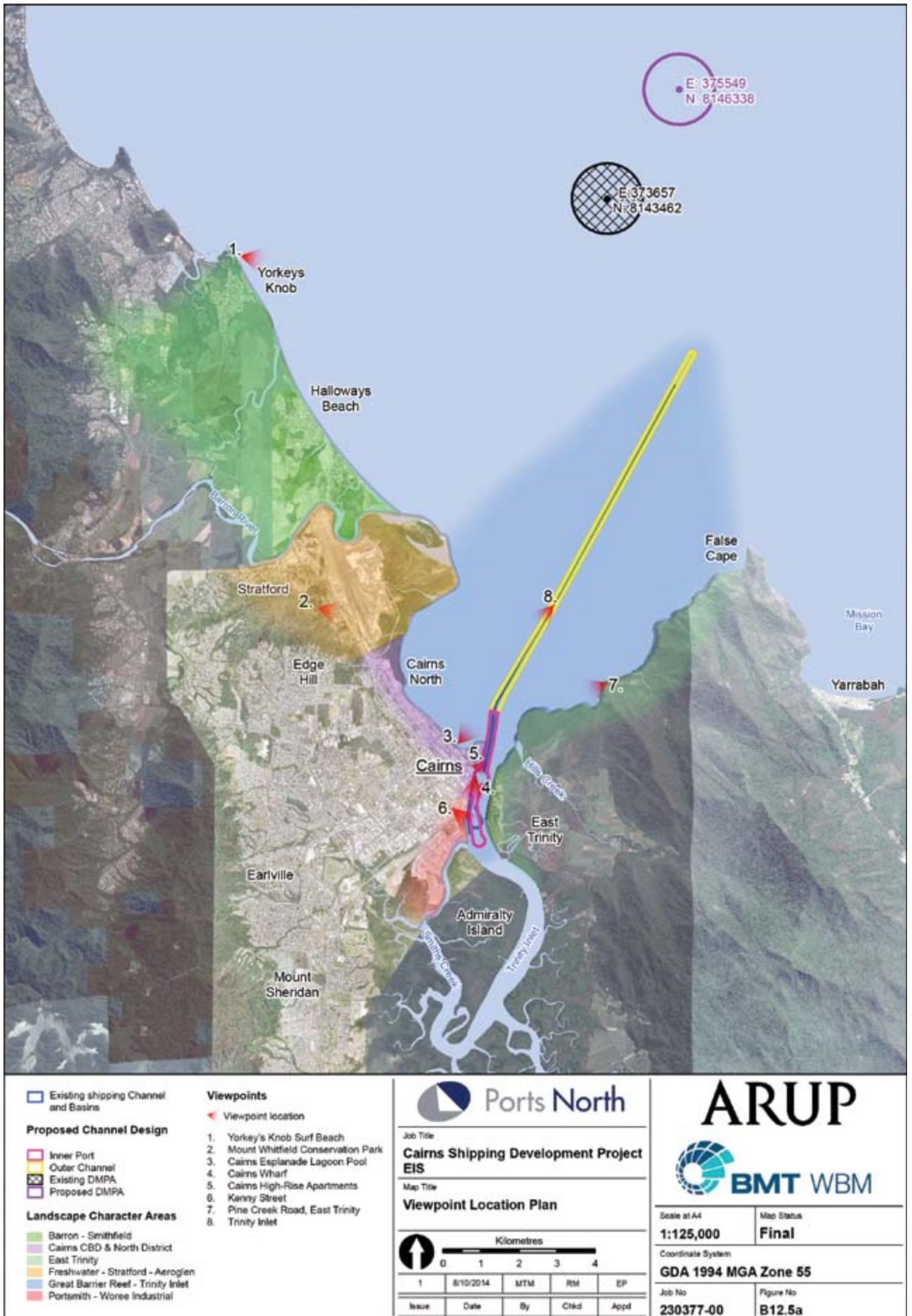
During Operations

- A turbidity plume from the dredging and placement of maintenance dredged material at the preferred dredge material placement area. (refer to **Chapter B5, Marine Water Quality** for further detail)
- Additional large cruise ships using the shipping channel. The largest existing cruise ship to navigate the channel is the *Rhapsody of the Sea* (278.94m in length and 52m above water level). The largest proposed cruise ship to navigate the channel following project completion will be the *Voyager of the Sea* (311m in length and 63m above water level)
- Larger cruise ships will be seen at the wharf more frequently. Once operational, the project will result in an estimated additional 31 mega cruise ships to visit Trinity Wharf annually by 2026 (Refer to **Appendix D6, Demand Study**).

B12.5 Landscape And Visual Impact Assessment

The following section provides an assessment of the visual impacts arising from the construction and operation of the project during day and night. This assessment uses a viewpoint based approach, identifying key viewpoint locations to determine the potential impact on the surrounding visual amenity. These views represent publicly accessible viewpoints from a range of locations and viewing situations. Particular attention was paid to coastal areas, scenic viewing locations, and places where viewers are expected to congregate (Refer to **Figure B12.5a**).

Figure B12.5a Viewpoint Location Plan



B12.5.1 Barron – Smithfield



VP1 | Yorkeys Knob Surf Beach - Distant view across Trinity Inlet to the Malbon Thomson Range to the south



View from Yorkeys Knob wharf to cruise ship at the existing offshore mooring point



View from Yorkeys Knob wharf to cruise ship at the existing offshore mooring point

Existing Visual Conditions

Unobstructed views to the ocean from the patrolled beach at Yorkeys Knob. The Malbon Thomson Range is visible in the background of the view. Large cruise ships are currently seen intermittently using the shipping channel and cruise ships are seen at a mooring point approximately 1km off the coast.

At night the view out to sea includes lights associated with existing ships using the channel. Nearby, lit coastal development to the south and residential areas to the north may be seen as scattered light sources. The view location is considered to be a category E2: Low district brightness areas – Rural, small village or relatively dark urban areas.

Sensitivity

Cairn’s northern beaches are considered to be of regional visual sensitivity as they are a valued landscape feature and tourist attraction. The quality of the view is an essential part of the experience and highly valued by users. The Far North Queensland Regional Plan also outlines specific policies relating to the protection of the region’s landscape values and scenic amenity.

Modification

During construction, the dredging vessels would be visible navigating to the dredge material placement area. This would be seen in the context of existing boat activity, including cruise ships, navy ships, cargo ships and recreational boats. A turbidity plume is likely to occur during the dredging phase, however with due regard to the already turbid environment, it is anticipated that the dredging plume would be difficult to distinguish at this distance and from this angle.

During operation, it is expected that the existing mooring point at Yorkeys Knob will be used less frequently by cruise ships.

Assessment

During construction there would be no perceived change in the amenity of this view, resulting in a negligible visual impact during the day and night.

During operation, cruise ships would continue to be evident in the view. The transient nature and frequency of the cruise ships would not result in a noticeable change. This would result in a negligible visual impact during the day and night.

B12.5.2 Freshwater – Stratford – Aeroglen



VP2 | Mount Whitfield Conservation Park - Elevated view across Cairns and the Trinity Inlet with distant views to Malbon Thomson Range

Existing Visual Conditions

Filtered views to Trinity Inlet and the Cairns CBD from a walking track in the Mount Whitfield Conservation Park. The Malbon Thomson Range creates a backdrop, defining the depth of view.

A range of boats including dredging vessels and cruise ships are currently seen in the Trinity Inlet from this location, albeit at some distance. Cruise ships would be seen at the wharf, beyond the built form of the CBD.

The Trinity Inlet and Trinity Bay are already periodically turbid environments, especially following periods of high rainfall and sustained winds and currents.

At night the view would include the bright lights and sky glow associated with the CBD and boats using the inlet. The viewpoint location is considered to be a category E1: Intrinsically dark landscape, whereas the CBD in the background is a category E4: High district brightness area.

Sensitivity

This viewpoint in a conservation park is considered to be of **local visual sensitivity** as it is a local destination for recreation and appreciating panoramic views to the city and inlet.

Modification

During construction, dredging vessels are not likely to be distinguishable within the inlet. A turbidity plume is likely to occur during the dredging phase, however, with due regard to the existing turbid environment, it is anticipated that the dredging plume would be very difficult to distinguish at this distance. The dredging activity will occur both day and night, and be seen in the context of a range of existing boating activity.

During operation, larger cruise ships will be seen in the inlet, although the distance would mean they blend into the background. While moored, the ships will be seen adjacent to the existing built form in a location where smaller cruise ships are already seen. It is anticipated that the size and scale of the ships will be of a similar height and length of one to two city blocks.

Assessment

During construction, the dredging vessels would be visible in the context of existing boat activity, including cruise ships, navy ships, cargo ships and recreational boats.

It is expected that there would be no perceived change to the existing view, resulting in a negligible visual impact during the day and night.

During operation, the cruise ships will be seen at the wharf, however, this is not judged to alter the amenity of this view as the ships are seen in the context of the built form of the Cairns CBD and in a location where cruise ships are already seen. This would result in a negligible visual impact during the day.

This viewpoint is unlikely to be accessed at night, however, if seen at night when a cruise ship is in port, the project would be visible but not change the amenity of this view. This would result in a negligible visual impact at night.

B12.5.3 Cairns CBD and North District



VP3 | Cairns Esplanade Lagoon Pool - Clear view from the Esplanade to Trinity Inlet

Existing Visual Conditions

Unfiltered views to Trinity Inlet from the iconic lagoon pool on the Cairns Esplanade. A range of boats, including dredging vessels and cruise ships, are currently seen intermittently in Trinity Inlet. The terminal is not visible in views from this location.

The Trinity Inlet and Trinity Bay are already periodically turbid environments, especially following periods of high rainfall and sustained winds and currents which resuspend seabed sediment. The viewpoint is also influenced by the intertidal character, which results in a large expanse of mudflats at low tide and a resultant turbid fringe that extends out into the Bay.

At night the view is brightly lit to ensure safe access to the promenade and parklands at night. This would be seen in the context of the bright lights and sky glow associated with the CBD and with scattered lights from boats using the inlet. This location is considered to be a category E4: High district brightness area.

Sensitivity

This view is from the signature waterfront park in the Cairns CBD, and is considered to be of regional visual sensitivity. It is a destination for tourists, and used for recreation and appreciating panoramic views across the Bay.

Modification

During construction, the dredging vessels will be visible within the inlet and navigating to/from the dredge material placement area. The dredging activity will occur both day and night, and be seen in the context of a range of existing boating activities.

A turbidity plume is likely to occur during the dredging phase; however, this will be seen within the context of an existing turbid environment and from some distance. It is not likely to be readily distinguishable from this viewpoint.

During operation, larger cruise ships will be seen in the Bay. Cruise ships are in character with the tourist focus of this area and would provide a transient and temporary point of interest in this view. The ships will be seen mainly during the day, however, may also be seen at night whilst navigating the shipping channel. At night, the cruise ships would be brightly lit and create interest in the view.

Assessment

During construction, the dredging vessels will be seen in the context of existing boat activity and a naturally turbid environment. It is expected that this activity would be seen, however, with due regard to the transient and temporary nature of the boat movements it is not judged to alter the amenity of the view, resulting in a negligible visual impact during the day and night.

During operation, the larger cruise ships and increased frequency of ship movement would be visible from this location. With due regard to the short term, transient nature of the cruise ships, together with the existing precedent of cruise ships within this environment, the visual impact is assessed to be negligible during day and night.

B12.5.4 Cairns CBD and North District



VP4 | Cairns Wharf - View south along the heritage listed wharf and clock tower with the historic sugar sheds building to the west

Existing Visual Conditions

This view shows the existing CCLT and Trinity Inlet. The rising terrain associated with Wooroonooran National Park creates a backdrop in the distance, defining the depth of view. A range of vessels including sugar ships, trawlers, recreational craft, cruise ships and commercial coastal freight carriers and barges are currently seen in Trinity Inlet from this location. Cruise ships would be seen docked at the wharf in the foreground of the view. Industrial uses such as the existing working wharfs are visible in the middle ground of the view.

At night the view would include the bright lights of the wharf facilities when in use. There are also lights associated with the ships and boats currently using the inlet. This location is considered to be in a category E4: High district brightness area.

Sensitivity

This viewpoint is considered to be of regional visual sensitivity as it is an arrival point for tourists on board the cruise ships. The amenity of this view is important to the first impressions of the city and region as a whole.

Modification

During construction the wharf and service upgrade works will be visible from this location. Views of construction machinery and equipment will be evident throughout the construction phase, including a piling rig and crane to install the proposed piles, concrete pump trucks, a site office and power generators. The movement of dredge vessels within the inlet will also be visible. This activity will occur both day and night and be seen in the context of a range of existing boating activity and industrial character uses in the background.

During operation, larger cruise ships will be seen in the inlet with an estimated additional 31 mega cruise ships annually by 2026. Whilst moored, the ships will be seen adjacent to the existing built form in a location where smaller cruise ships are already seen regularly.

Assessment

During construction, the wharf and services upgrade works will be apparent in the foreground of this view.

The works would be considered to result in a noticeable, but temporary alteration to the view, resulting in a minor adverse impact during construction without mitigation.

During operation, additional berthing dolphins, fenders and bollards, and larger cruise ships will be seen at the wharf, in the foreground and middle ground of the view. This is in keeping with the character of the existing terminal. There would not be a noticeable change in the amenity of this view, as it is in a location where cruise ships and wharf facilities are already seen. This would result in a negligible visual impact during the day.

Similarly, when used at night, viewers are currently experiencing cruise ships and port facilities. The additional scale of the cruise ships would be seen, however, the project is not expected to alter the amenity of this view. This would therefore result in a negligible visual impact at night in views from this location.

B12.5.5 Cairns CBD and North District



VP5 | Cairns High-Rise Apartments - Elevated view from apartments to the north of Wharf Street

Existing Visual Conditions

This view shows an elevated location with unobstructed views across the CCLT and parklands, across the Trinity Inlet and to the Malbon Thomson Range beyond. As illustrated in this view, cruise ships are currently seen from this location as well as a range of boats, including luxury white boats, coastal freight, trawlers and recreational and tourist boats. The Trinity Inlet and Trinity Bay are already turbid environments, especially following periods of high rainfall and sustained winds and currents which resuspend seabed sediment. At night the view would include the bright lights and skyglow of the adjacent CBD buildings, lit areas of the parkland and lights on ships in port and boats using the inlet. This location is considered to be a category E4: High district brightness area.

Sensitivity

This viewpoint in a typical holiday apartment within the CBD, is considered to be of local visual sensitivity. Although it is a private view, views to the inlet are an important feature of this unit and the apartments are designed to maximise the appreciation of water views.

Modification

During construction, the wharf and services upgrade works will be visible from this location. Views towards construction machinery and equipment will be evident through the construction phase, including a piling rig and crane to install the proposed piles, concrete pump trucks, a site office and power generators. The movement of dredging vessels within the inlet will also be visible. This activity will occur both day and night and in the context of existing boat activity. During operation, larger cruise ships will be seen in the inlet with an estimated additional 31 mega ships annually by 2026. The ships will be seen in the middle ground of this view in a location where smaller cruise ships are already seen. The ships will be seen from this elevated location, partially blocking views towards the natural landscape of the inlet and mountain beyond. Currently ships mostly visit during daytime hours; the frequency of overnight visits will likely increase.

Assessment

During construction, views towards the wharf and services upgrades and dredging works would result in a noticeable alteration to the existing view and a minor adverse visual impact during the day. At night, the dredging activity is not likely to change the amenity of this view, resulting in a negligible visual impact during night time hours.

During operation, larger cruise ships will be seen at the wharf more frequently. The increase in the size and frequency of the cruise ships would be an incremental change to the existing view and result in a minor adverse visual impact of a temporary nature.

At night when cruise ships are in port, the bright lights of the larger ships would be seen. This is expected to result in a noticeable reduction in the amenity of this view, resulting in a minor adverse impact at night, although some would view this as an attraction or point of interest.

B12.5.6 Portsmith – Woree Industrial



VP6 | Kenny Street - View east across Kenny Street towards the fuel tanks associated with the wharf side industry

Existing Visual Conditions

This view is taken from Kenny Street towards the existing fuel yard. The view is filtered in some areas by roadside vegetation with Malbon Thomson Range defining the depth of view beyond. The fuel storage tanks are a key feature within this character area together with wharf side industry.

At night the view would include the bright lights of Kenny Street, security lighting associated with the existing fuel storage facility, and sky glow associated with the CBD. This location is considered to be a category E4: High district brightness area.

Sensitivity

This viewpoint is considered to be of local visual sensitivity as the views from this road are an approach to the city. These views are mainly appreciated from moving vehicles.

Modification

During construction an additional Intermediate Fuel Oil (IFO) storage tank may be built within the existing fuel farm area, the exact location of which will be subject to future agreement. Views towards construction machinery and equipment will be evident throughout the construction phase, including a crane, a site office and power generators. During construction the channel dredging works will not be visible from this location.

During operation, the additional storage tank may be visible from this location, seen in the context of existing fuel storage tanks and wharf side industry.

Assessment

During construction and operation, the proposed landside infrastructure construction works are considered to be consistent with the industrial character of the area. It is expected that there would be no perceived change to the amenity of this view, resulting in a negligible visual impact during the day and night.

B12.5.7 East Trinity



VP7 | Pine Creek Road, East Trinity - Distant view west towards Cairns from Trinity Inlet, contained by the surrounding mountainous terrain

Existing Visual Conditions

This view shows unfiltered views across Trinity Inlet towards the Cairns CBD from a local beach at East Trinity. A range of boats including dredging vessels and cruise ships are currently seen using the Trinity Inlet from this location.

The Trinity Inlet and Trinity Bay are periodically turbid environments, especially following periods of high rainfall and sustained winds and currents which resuspend seabed sediment. The viewpoint is also influenced by the intertidal character, which results in a large expanse of mudflats at low tide and a resultant turbid fringe that extends out into the Bay. As a result, turbid plumes are a regular feature in views to the inlet from this location.

At night the view would include the lights and sky glow associated with the CBD, and direct light sources from boats using the inlet. This location is considered to be a category E2: Low district brightness area.

Sensitivity

This view is taken from a local recreational area and is therefore considered to be of local visual sensitivity.

Modification

During construction, the dredging vessels will be visible within the inlet and navigating to the dredge material placement area. The dredging activity will occur both day and night and be seen in the context of a range of existing boating activities. A turbidity plume is likely to occur during the dredging phase; however, this will be seen within the context of an already turbid environment.

During operation, larger cruise ships will be seen in the Bay. These ships will move across the view and would be of a temporary and transient nature. When moored at the CCLT, the upper portions of ships will be seen at a distance beyond intervening mangrove areas due to the larger size and scale of the vessels. However, the ships will be seen in the context of existing built form, in a location where smaller cruise ships are already seen.

Assessment

During construction, the dredging activity would be a small component of the view, seen in the context of the existing boating activities. It is expected that there would be no perceived change to the existing amenity of this view, resulting in a negligible visual impact during the day and night.

During operations, the cruise ships will be seen in the inlet and at the CCLT, however, due to the visual precedent of cruise ships, the temporary nature of ship movements, together with the visual context of the CBD, there would not be a noticeable change in the amenity of this view. This would result in a negligible visual impact during the day.

Similarly at night, cruise ships using the inlet and at the wharf may be visible but are not likely to change the overall amenity of these views at night. This would result in a negligible visual impact at night.

B12.5.8 Great Barrier Reef, Trinity Inlet



Vp8 | Trinity Inlet - View from Trinity Inlet towards Cairns coastline and Esplanade, viewed from the water

Existing Visual Conditions

This view illustrates unobstructed views from Trinity Inlet within the GBR World Heritage Area towards the Cairns CBD from a boat. From this distance and angle, the existing built form of the city marginally rises above the mountainous backdrop in the vicinity of the TCCLT. This view represents a view that may be experienced from a cruise ship, commercial vessels, reef fleet or recreational vessel.

A range of boats including dredging vessels and cruise ships are currently seen in Trinity Inlet from this location.

At night the view includes the lights and sky glow associated with the CBD, and lights from boats and ships using the inlet. The view location is considered to be a category E1: Intrinsically dark landscape, whereas the CBD in the background is a category E4: High district brightness area.

Sensitivity

This view is available from a recreational boat in the inlet, but could also be seen from tourist and working vessels approaching and leaving the port. The inlet is a part of the GBR World Heritage Area and considered to be of regional visual sensitivity.

Modification

During construction, the dredging vessels will be visible within a portion of the Inlet and navigating to/from the dredge material placement area. The dredging activity will occur both day and night and be seen in the context of a range of existing boating activities. A turbidity plume is likely to be visible during the dredging phase; however, this will be seen within the context of an already turbid environment and is not expected to be readily distinguishable.

During operation, larger cruise ships will be seen in the bay. These ships will move across the view and would be of a temporary and transient nature. Whilst moored at the wharf, the ships will be seen in the context of existing built form, in a location where smaller cruise ships are already seen. This activity will be seen in the context of a range of existing boating activity.

At night, while in the inlet the lights of the ships will be seen in the context of a range of existing boating activity. While at the wharf this will be seen in the context of the Cairns CBD which is currently brightly lit.

Assessment

During construction, the dredging vessels will be seen in the context of existing boat activity and an already turbid environment. It is expected that this activity would be seen, however, with due regard to the transient and temporary nature of the boat movements and potential turbidity plumes, resulting in a minor adverse visual impact during the day and night.

During operation, the larger cruise ships and increased frequency of ship movement would be visible from this location. With due regard to the short term, transient nature of the cruise ships, together with the existing precedent of cruise ships within this environment, the visual impact is assessed to be negligible during operation.

At night, when a cruise ship is using the inlet or in port, the project would be visible, however, is not likely to alter the amenity of the view. Resulting in a negligible visual impact during night time hours.

B12.5.9 Visual Impact Summary

The Port of Cairns and associated ships at the CCLT are currently seen in views from a range of locations primarily on foreshore areas, adjacent buildings, from Trinity Inlet and Bay and distant elevated locations. The incremental increase in the size, frequency and duration of cruise ships will be perceptible in a number of views, but unlikely to be appreciably different than the existing situation.

The location of the CCLT beyond adjacent existing high-rise developments, partially screens views to cruise ships and minimises the potential visual impacts in views. In addition, this existing built form creates a visual character that absorbs the scale of cruise ships. This built form density will continue to increase and visually enclose the wharf area as a number of multi-storey developments have been approved for adjacent sites.

To the east of the CCLT, there are few publicly accessible locations from which to appreciate the view back to the CCLT facilities. In views from East Trinity, approximately 4-6 km to the east of the site, the CCLT and associated approaching and docking cruise ships are visible. Intervening landform and vegetation reduces visibility from East Trinity, and again the visual character of the development to the west of the CCLT allows it to be visually absorbed into the surrounding urban scene.

Similarly, the visibility of offshore activities during both construction and operation are seen in the context of the inlet which is already used by a range of cruise ships, Navy vessels, fishing, tourist and recreational boats. The inlet is regularly dredged to maintain the existing shipping channel.

Specific impacts at the wharf and offshore areas are summarised in the following section.

B12.5.9.1 Cairns Cruise Liner Terminal

At the CCLT, there is likely to be limited visual impacts during construction. This is primarily due to the minor scale of works at the wharf outside the terminal itself. It is unlikely that there will be construction work undertaken at night, and therefore the visual impacts of construction are considered to be minor during the day and at night. However, the precedent of the wharf and existing use and maintenance of the wharf by vessels results in a visual expectation of this type of activity within these views. There is a negligible impact from light expected on fauna in the area.

B12.5.9.2 Local Marine Environment

There is likely to be limited visual impact to the local marine environment during construction. Dredging vessels and potential plumes will be evident in views, however, they would be seen in the context of existing boating activity and an already turbid environment. The incremental change is considered to result in a minor adverse impact during construction.

Further north, in views from Yorkeys Knob, there will be a negligible visual impact in the view during construction. The transient nature and frequency of the cruise ships would not result in a noticeable change to existing views, particularly given the existing cruise ship moorings at Yorkeys Knob. This would result in a negligible visual impact during the day and night.

During operation, views to larger cruise ships would be considered to result in a negligible visual impact due to the visual interest they provide to the view and perception of this area as a tourist destination where there is an expectation of cruise ships in the view.

In views from within the inlet itself, there are expected to be negligible impacts due to the transient and temporary nature of the boat movements, together with the existing precedent of cruise ships within this environment.

Table 12.5.9.2a summarises the visual impacts identified for the project from Viewpoints.

Table 12.5.9.2a Impact Summary Table

Impact Assessment - Visual								
Activity	Potential Impact	Significance	Likelihood	Risk Rating	Additional Mitigation	Significance	Likelihood	Residual Risk rating
Construction Phase								
VP1 - Yorkeys Knob Surf Beach	Views towards dredging and wharf construction works	Negligible	Unlikely	Negligible	Where feasible construction plant/machinery would be located to minimise visual impacts e.g. materials and machinery would be stored back behind fencing. Lighting of compounds and works sites (should night works be required) would be restricted to agreed hours and in accordance with a Construction Environmental Management Plan. Cut off and directed lighting would be used at wharf construction sites to ensure glare and light spill is minimised should night time construction occur (unlikely). Regular maintenance of site hoarding and perimeter site areas would be undertaken, including the prompt removal of graffiti. Management of dredging activities to minimise the potential for turbidity plumes (refer to Chapter B5, Marine Water Quality and C2, Dredge Management Plan for a description of measures).	Negligible	Unlikely	Negligible
VP2 - Mt Whitfield Conservation Park	Views towards dredging and wharf construction works	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP3 - Cairns Esplanade Lagoon Pool	Views towards dredging and wharf construction works	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP4 - Cairns Wharf	Views towards dredging and wharf construction works	Minor adverse	Possible	Low		Minor adverse	Possible	Low
VP5 - Cairns High-Rise Apartments	Views towards dredging and wharf construction works	Minor adverse	Possible	Low		Minor adverse	Possible	Low
VP6 - Kenny Street, Cairns CBD	Views towards dredging and wharf construction works	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP7 - Pine Creek Road, East Trinity	Views towards dredging and wharf construction works	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP8 - Trinity Inlet (water view)	Views towards dredging, DMPA and wharf construction works	Minor adverse	Possible	Low		Minor adverse	Unlikely	Low

Impact Assessment - Visual								
Activity	Potential Impact	Significance	Likelihood	Risk Rating	Additional Mitigation	Significance	Likelihood	Residual Risk rating
Operational Phase								
VP1 - Yorkeys Knob Surf Beach	Cruise ship and wharf operational activities	Negligible	Unlikely	Negligible	In the event that impacts from light become an issue, PN will identify suitable management options in consultation with cruise ship operators as and when the need arises.	Negligible	Unlikely	Negligible
VP2 - Mt Whitfield Conservation Park	Cruise ship and wharf operational activities	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP3 - Cairns Esplanade Lagoon Pool	Cruise ship and wharf operational activities	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP4 - Cairns Wharf	Cruise ship and wharf operational activities	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP5 - Cairns High-Rise Apartments	Cruise ship and wharf operational activities	Minor adverse	Possible	Low		Minor adverse	Possible	Low
VP6 - Kenny Street, Cairns CBD	Cruise ship and wharf operational activities	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP7 - Pine Creek Road, East Trinity	Cruise ship and wharf operational activities	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible
VP8 - Trinity Inlet	Cruise ship and wharf operational activities	Negligible	Unlikely	Negligible		Negligible	Unlikely	Negligible

B12.5.9.3 Great Barrier Reef WHA

Defining the Aesthetic Value of the Great Barrier Reef (2013) identifies the overall risk associated with Marine tourism within the GBRWHA as estimated to be *'High to Medium'*, with the potential scale *Mainly Local*, but ranging to Regional in some cases. The overall consequence of marine tourism impacts are considered to be minor.

The experiential attributes of *'beauty'* and *'naturalness'* can potentially be impacted, and the attributes of *'tranquillity'*, *'solitude'*, *'remoteness'*, and *'discovery'* can be impacted through increasing intensity of use.

Impacts on the aesthetic value of the GBRWHA from this proposed project as a whole would be negligible given the local scale and minimal increases to existing cruising infrastructure and activity.

B12.6 Abbreviation

Experiential Attribute	Definitions / Qualities
LCA	Landscape Character Area

B12.7 Glossary

Experiential Attribute	Definitions / Qualities
Beauty	Visually and sensually pleasing in terms of colour, form, pattern, movement (etc.)
Naturalness	Absence of apparent modified landforms and habitats
	Absence of apparent environmental and species disturbance or damage (including visitor damage)
Tranquillity	Absence of discordant and intrusive sounds, smells and sights
	Opportunities for moments of stillness, peace, intimacy offered by the landscape
Solitude	Absence of people other than one's companions
Remoteness	Absence of settlement (or distance from population centres)
	Absence of human presence or intervention in the landscape (structures and changes)
	Absence of obvious accessibility
Discovery	Opportunities to explore, discover and learn in a natural setting
	Opportunities to encounter iconic, rare and interesting species
Spiritual	May result from a combination of the other experiential attributes
	Often associated with solitude, water, encounters with other species or a sense of the ancient, and ephemeral effects of weather and light
Inspiration	Experiencing a place esteemed as an icon. Dramatic, powerful, spectacular, unique, breathtaking, experiencing an 'imagined' destination.

B12.8 References

Context for the Australian Government, Department of Sustainability, Environment, Water, Population and Communities. (2013) Defining the Aesthetic Value of the Great Barrier Reef.

Institution of Lighting Engineers (UK). (2005). Guidance for the reduction of obtrusive light.

Landscape Institute and Institute of Environmental Management & Assessment. (2013). The Guidance for Landscape and Visual Impact Assessment (GLVIA).

Unesco. (n.d.). Unesco World Heritage List: Great Barrier Reef. Retrieved 2013, from <http://whc.unesco.org/en/list/154>.

US Forestry Service. (1996). Scenic Management System (SMS). In Landscape Aesthetics: A Handbook of Scenery Management.

Department of State Development, Infrastructure and Planning (2009) Far North Queensland Regional Plan 2009-31 (FNQRP).

Cairns Regional Council (2009) Cairns Plan, Cairns Regional Council.