

# Cairns Marine Precinct Infrastructure Investment

**Detailed Business Case** 

**Summary Document** 

January 2022



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## **Acknowledgment of Country**

We acknowledge and pay our respects to Aboriginal and Torres Strait Islander peoples as the First Peoples of Australia, whose ancestral lands and waters we work and live on throughout Australia. We honour the wisdom of, and pay respect to, Elders past, present and future.





#### **Project Overview**

The Cairns Marine Precinct (CMP) is a leading maritime maintenance, repair and overhaul (MRO) destination for commercial, Defence and recreational industries across Australia and internationally. It services approximately 15 per cent of all Australian registered vessels and close to 80 per cent of all North Queensland registered vessels over 15 metres. As the gateway to the Pacific region, it is of major economic importance to Cairns and Far North Queensland (FNQ), and is considered a national Defence asset and the premier MRO destination for the region.

Currently, the limited availability of waterfront land, wharf length and constrained deepwater access at the CMP is restricting the ability to support the expected growth in demand for MRO services and economic growth in FNQ. These infrastructure and associated security constraints are also inhibiting the ability to meet the preparedness requirements of the Department of Defence (DoD or Defence), particularly strategic maritime operations in North Eastern Australia. There is an opportunity for investment in the CMP to address these constraints and realise the strategic vision of local, state and federal governments, consolidating the Port of Cairns' position as a centre of excellence in the Northern Australia maritime industry.

The CMP Expansion Detailed Business Case (DBC) (the Project) investigates the potential to develop a maritime common user facility (CUF) to enhance the infrastructure capacity and capabilities at the CMP, optimise the use of waterfront land, and to capitalise on emerging defence and marine industry opportunities. The CUF includes a 5,000 tonne shiplift, two blast and paint facilities, additional wet berth capacity and three hardstand areas for vessels up to 120m in length. Figure 1 demonstrates the proposed layout of the CUF.

The delivery of the CMP CUF is anticipated to generate a range of benefits for existing and future users and customers of the CMP, including, but not limited to:

- Enhancing the capabilities and competitiveness of the CMP
- Supporting growth in the MRO and marine tourism industries in Cairns
- · Strengthening and diversifying the FNQ economy
- Increasing skilled job attraction and retention
- Supporting science, technology, engineering and mathematics (STEM) education opportunities
- Growing Queensland Defence-related capabilities in the region to enable future DoD capability plans
- Attracting domestic and international investment and re-investment in downstream industries.

Figure 1: CUF layout (larger version on page 17)



In the absence of timely or appropriate action and investment, the CMP may not be able to compete for future Defence sustainment contracts or adequately service the growing commercial and tourism vessel markets.

This document provides a summary of the analysis and findings of the DBC undertaken in 2021.



The CMP is a leading MRO destination in Northern Australia that is home to a large and diverse civil and commercial maritime sector. The precinct includes a worldclass tourism reef fleet, commercial fishing and shipping vessels, a cruising yacht squadron, as well as visiting supervachts and cruise liners. The CMP plays an integral role in the broader operations and activities undertaken at the Port of Cairns, one of Australia's most northern seaports which is regarded as infrastructure of state and national importance.

The CMP is one of the few ports in Australia that can offer DoD potential expansion opportunities in berth and land facilities. As the strategic location for the Regional Maintenance Centre North East (RMC-NE) for the Royal Australian Navy (RAN), HMAS Cairns will be a base for at least four of the 12 new Arafura Class Offshore Patrol Vessels.<sup>1</sup> As the gateway to the Pacific region, the CMP is considered a national Defence asset, and the premier maintenance and sustainment destination for the region.

The civil and commercial maritime industry also has a prominent presence in the CMP. This includes three key commercial shipyards, all of which service the RAN and Australian Border Force, in addition to commercial fishing operators and freight and cargo operators. The Great Barrier Reef International Marine College and the Queensland Water Police are also located at the southern end of the CMP, which demonstrates the diversity of users and operators and the subsequent strength of the CMP's maritime cluster.

In the decade leading up to the COVID-19 pandemic, the Australian maritime sector experienced strong revenue growth. From 2009 to 2019, sector revenue increased from \$4.3 billion to \$5.2 billion at a compound annual growth rate (CAGR) of two per cent per annum.2 This trend is expected to continue through to 2027, with industry revenue forecast to grow at a CAGR of 2.4 per cent per annum. The key driving factor in this forecast revenue growth is the Australian Government's increased capital expenditure (CAPEX) on Defence capability, owing to the proposed \$575 billion investment in Defence over the next 10 years.3 This includes an investment of approximately \$270 billion in Defence capability, of which 28 per cent will be allocated to the maritime domain.4

The CMP is well-positioned to capitalise on the maritime sector's recent and forecast growth to affirm its position as the leading maritime MRO destination in Northern Australia.

The CMP and its key tenants are presented overleaf in Figure 2.

#### **Detailed Business Case Overview**

PricewaterhouseCoopers (PwC) was engaged by the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) to lead the development of a DBC that investigates options for the expansion of the CMP.

This DBC was developed in accordance with the Queensland Government's Business Case Development Framework (BCDF) and with reference to the Queensland Treasury Project Assessment Framework (PAF) and the Infrastructure Australia (IA) Assessment Framework. Supplementary BCDF guidance was also referred to throughout the development of the DBC.

This document outlines the approach and key findings and preferred Project Option from the DBC.

DoD (2020). Plan Galileo. Accessed at https://www1.defence.gov.au/business-industry/naval-shipbuilding/plan/galileo

 <sup>2</sup> IBISWorld (2020). Shipbuilding and Repair Services in Australia; Boatbuilding and Repair Services in Australia.
 3 DoD (2020). 2020 Force Structure Plan Factsheet. Accessed at https://www1.defence.gov.au/sites/default/files/2020-11/Factsheet\_Strategic\_Update.pdf

<sup>4</sup> DoD (2020). 2020 Force Structure Plan. Accessed at https://www1.defence.gov.au/about/publications/2020-force-structure-plan

Figure 2: The Cairns Marine Precinct

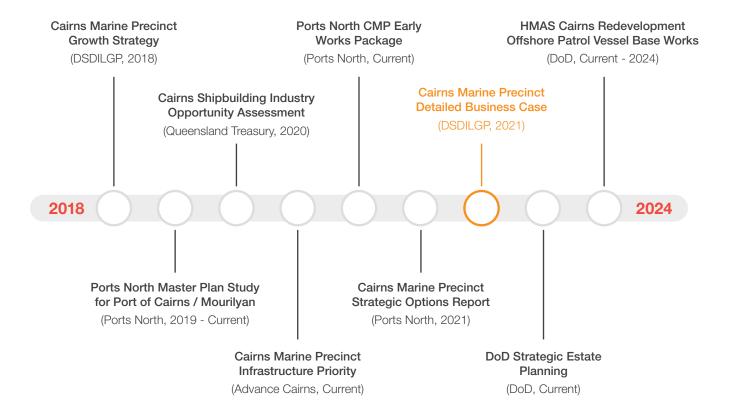


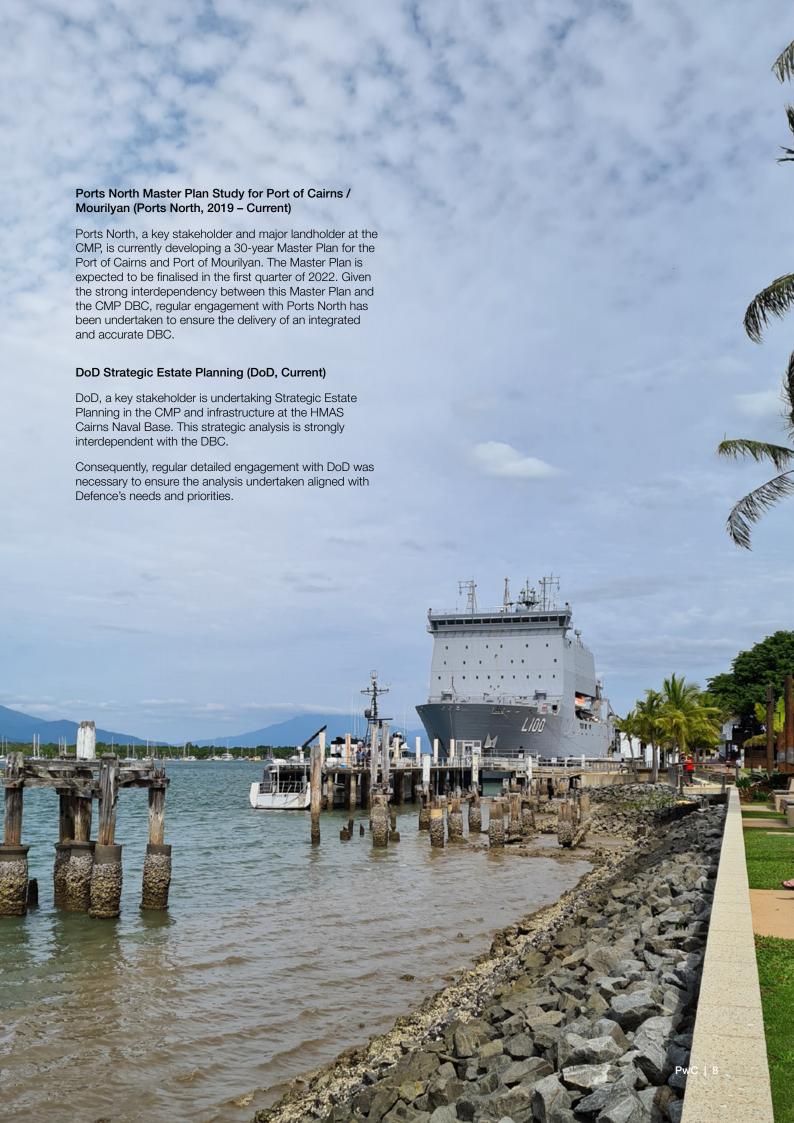
- **1.A** HMAS Cairns Naval Base **1.B** HMAS Cairns Naval Base Leasehold Land on Lot 485 **2** Origin Energy
- 3 Vacant Parcel on Lot 485 4 Sugar Terminals Limited 5 Tropical Reef Shipyard 6 / 21 Commercial Fishing Base
- 7 Fearnley Street Public Boat Ramp 8 / 9 Austal Cairns 10 Mason's Wharf 11 Carpentaria Contracting
- 12 Vacant Parcel / 36 Tingira Street 13 Northern Fisheries Facility 14 The Big Boat Shed 15 Cairns Cruising Yacht Squadron
- 16 / 17 Sea Swift 18 / 19 Norship 20 Great Barrier Reef International Marine College 22 Barge Ramp
- 23 Maritime Safety Queensland / Queensland Water Police 24 Tingira Street Public Boat Ramp

Significant investigation and planning has been undertaken over the past decade in relation to the CMP and Port of Cairns. The recent and contemporary studies, projects and developments that are expected to influence or integrate with the Project are presented below in Figure 3.

The investigations undertaken as part of the DBC have been cognisant of the history and concurrent development of a range of related studies, particularly relating to the Ports North Master Plan Study for Port of Cairns / Mourilyan and the DoD Strategic Estate Planning. Both Ports North and DoD have been engaged from the outset and throughout the development of the DBC to ensure key stakeholders' views were captured and relevant studies considered.

Figure 3: Related studies, projects and developments







There is a clear need for investment within the CMP. While it is home to market leading vessel MRO organisations, its deepwater access and infrastructure is inherently limited and constrained. Without sufficient and timely action, the current infrastructure capacity and capabilities will continue to inhibit the operations of key tenants, users and operators.

The capacity and capability constraints summarised below are significant prohibitors that threaten the CMP's current market position as a leading MRO destination in Northern Australia for key maritime markets.



Limited scope to expand the landside footprint of key MRO providers

Spatial fragmentation of key infrastructure and MRO providers





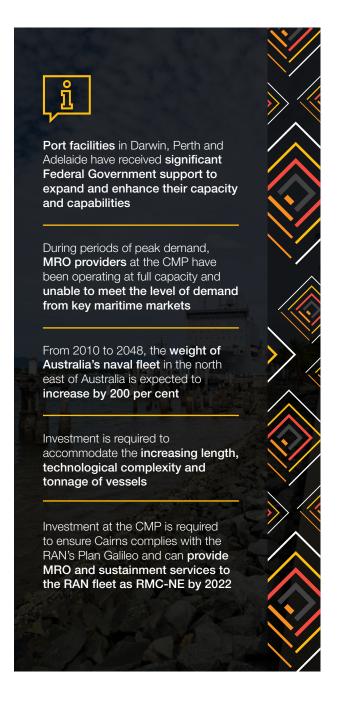
Restricted accessibility via Smiths Creek

Insufficient infrastructure to meet demand during peak periods





Inadequate ship lifting capacity to accommodate new and larger vessels



The expansion of the CMP is strongly aligned with key local, state and federal government plans, policies and strategies, as presented below.

#### **Local Government**

- Cairns Region City Deal Proposal 2019, Cairns Regional Council
- Cairns 2050 Shared Vision 2018, Cairns Regional Council
- Cairns Recreational Fishing Strategy 2018 – 2022,
   Cairns Regional Council
- Economic Development Strategy 2018 – 2022, Cairns Regional Council
- Cairns Regional Council Corporate Plan 2017 – 2022, Cairns Regional Council.

#### **State Government**

- Far North Queensland Regional Economic Recovery Plan 2020, Queensland Government
- Queensland Defence Industries 10-Year Roadmap and Action Plan 2018, DSDILGP
- Queensland Advanced Manufacturing 10-Year Roadmap and Action Plan 2018, DSDILGP
- Queensland Superyacht Strategy 2018-23, DSDILGP
- Cairns Marine Precinct Regional Priority, DSDILGP
- State Infrastructure Plan 2016, Queensland Government
- Advancing North Queensland 2016, Queensland Government.

#### **Federal Government**

- AUKUS Alliance, Federal Government
- 2020 Defence Strategic Update and 2020 Force Structure Plan, DoD
- Maritime Sustainment: 2025| Plan Galileo, DoD
- Navy Industry Engagement Strategy 2019 and Plan PELORUS 2022, RAN
- The Australian Infrastructure Audit 2019, IA
- Australian Infrastructure Plan 2016, IA
- Smart Cities Plan 2016,
   Department of the Prime
   Minister and Cabinet
- 2016 Defence White Paper, DoD
- Northern Australia Audit 2015, IA
- Our North, Our Future:
   White Paper on Developing
   Northern Australia 2015,
   Federal Government
- National Ports Strategy 2011, IA and the National Transport Commission.

Recognising the CMP's importance to Cairns, Queensland and more broadly Australia, the Australian Government committed to the upgrade and enhancement of the CMP in 2017-18 through an initial \$24 million in staged funding. This initial investment delivered preliminary improvements to wharves, hardstands, slipways and services at the CMP.<sup>5</sup>

<sup>5.</sup> Advance Cairns (2021). Cairns Marine Precinct. Accessed at https://www.advancecairns.com/project/cairns-marine-precinct/

The Queensland Government, Cairns Regional Council and Advance Cairns similarly recognised the CMP's importance in key strategic documents. The key rationale and tripartite vision for the CMP and Port of Cairns in these strategies and documents is outlined below.



## CMP Strategic Alignment

"The Queensland Government is capitalising on emerging defence and marine industry opportunities Far North Queensland Regional by contributing \$30 million to upgrades at the Cairns Economic Recovery Plan 2020 Marine Precinct. Funding for a business case will identify how Cairns can capitalise on future opportunities to grow as a leading centre for large vessel repair work." "Cairns is one of the busiest ports of entry for visiting superyachts, particularly those visiting Australia from **Queensland Superyacht** elsewhere in the South Pacific. The city is home to some **Strategy 2018-23** of the most experienced and quality assured luxury refit and repair facilities in the southern hemisphere." "The CMP and the marine industry more broadly are of major economic importance to Cairns and Far North **Cairns Marine Precinct** Queensland. The growth of the sector is key to the **Regional Priority** diversification of the region and will be influenced by the maintenance and sustainment opportunities from the Royal Australian Navy." "Investment (at the CMP) complements the **Cairns Marine Precinct Industry** Queensland Superyacht Strategy 2018-2023 and the Development Priority 2021 - 2022 growing Defence requirements of Australia's Step-up to the Pacific initiatives." "The aim of the Cairns Marine Maintenance Precinct is to ensure sustainable marine capacity Cairns 2050 Shared Vision in Cairns to service both defence and the broader marine industry." "Strategic investment over the 10 years to 2030 in Cairns Region City Deal upgraded facilities and infrastructure for HMAS Proposal 2019 Cairns and policy/investment to support future Seaport development."

Cairns Regional Council

Queensland Government

Advance Cairns



Without timely and well-targeted investment, the status of the CMP as a leading MRO destination in Northern Australia could be considerably impacted. A summary of the key service need statements that underpin the strategic rationale for intervention is presented in Figure 4.

Figure 4: Service need

#### Problem 1:

## Need for intervention and investment in the CMP



There is a need for intervention and investment in the CMP to realise the strategic vision of the local, state and federal governments, and consolidate the Port of Cairns' position as a centre of excellence in the Northern Australia maritime industry.

#### Problem 2:

## Waterfront, landside and infrastructure constraints



The availability of waterfront land, wharf length, deepwater access and infrastructure at the Port of Cairns and within the CMP are restricting the development and economic growth in FNQ.

#### Problem 3:

# Ability to meet Defence's requirements



Infrastructure and associated security constraints (including both waterfront and landside) at the CMP inhibit the ability to meet the requirements of the 2020 Defence Strategic Update, 2020 Force Structure Plan and Australian Defence Force preparedness requirements, particularly strategic maritime operations in North Eastern Australia.

#### Opportunity 1:

## Secure additional maintenance and refit demand



Increasing the capacity and capabilities of the CMP, through the provision of new infrastructure and services, is necessary to secure maintenance and refit demand from commercial vessels and the superyacht market while also catalysing future economic development in the FNQ economy.

#### Opportunity 2:

# Return shipbuilding and boatbuilding to Cairns



There is a long-term opportunity to enable and support the onshoring of shipbuilding / boatbuilding and related activities in Cairns by building upon the existing skills base and infrastructure in the CMP.





#### Services at the CMP

The services provided at the CMP can be grouped into two types of projects in the context of the Base Case, including 'in-water' and 'out of water' projects.

'In-water' projects require sufficient wet berth length for the safe berthing of vessels to conduct 'in-water' maintenance and finishing of dry-dock projects. 'Out of water' projects require sufficient hardstand area for the lay down of vessels to conduct MRO activities.

These services are provided by a cluster of MRO providers at the CMP, including the three main shipyard operators, smaller boat yards, and a range of technical firms that provide specialist support services to the main shipyard operators and the wider CMP. There are also several other unrelated businesses and social infrastructure located within the CMP, such as the public boat ramps adjacent to the Fearnley Street Drain and Tingira Street.

#### **Key Markets**

The key markets within the maritime sector that are expected to continue to drive future growth at the CMP, supported by the delivery of additional and critical infrastructure elements, are summarised below.

#### **Existing Constraints**

There will be an increase to the ongoing operational challenges and inefficiencies, particularly as vessels increase in size and become more technologically advanced. Key constraints at the CMP include, but are not limited to:

- Infrastructure of key operators at the CMP is close to capacity
- Independent decision-making of key shipyards, whereby investment and infrastructure development will inherently be undertaken in an independent manner
- Maritime navigation limitation in Smiths Creek
- Spatial fragmentation of key infrastructure and MRO providers at the CMP
- Difficulty in increasing berth length without major impacts to other port users
- Significant difficulty and cost to address the spatial fragmentation that is present within the CMP
- Potential environmental impact through continued operations of facilities that do not include the required or suitable environmental measures
- Decline in apprenticeship and training in the maritime sector
- Inadequate services, utilities and support infrastructure to support ship and boat MRO operations.



#### **Defence and government**

The Australian Government's \$270 billion investment in Defence capabilities over the coming decade in new and upgraded Defence capabilities, of which 28 per cent will be directed towards the Maritime Domain, is expected to catalyse a growth in demand for MRO and sustainment services at the CMP.



#### Commercial

According to the majority of stakeholders, the commercial segment of the maritime sector is expected to be the primary driver of growth in demand for MRO services at the CMP in future years. This growth will be buoyed by the expected growth in the number of commercial vessels homeported in Cairns.



#### Tourism and superyachts

Potential growth in demand for MRO services from tourism vessels is largely contingent on the COVID-19 pandemic and the timing of the tourism sector's rebound. Despite this, the Australian Government's extension of the Special Recreational Vessel Act 2019 and other legislative changes in Asia Pacific is expected to catalyse strong growth in the superyacht segment of the maritime sector.



A comprehensive options analysis process was undertaken to generate a number of potential Project Options which best address the Project's service need (see Figure 5).

Figure 5: Options analysis approach Reference Project **CUF** Configuration Site Options **Preliminary Shiplift Multi-Criteria Options Longlist Options Development** Confirmation **Location Analysis Assessment** and Refinement Development Conduct a high-Assess potential level review of Undertake a multishiplift locations Using the Conduct a the Cairns Marine criteria assessment considered for the progressed shiplift detailed analysis Precinct Strategic to determine the CMP Expansion of the preliminary location options, Options Report preliminary options **Purpose** Project to develop a range Reference Project (Ports North, 2021) that should be identify options of potential CUF options to identify to confirm the progressed for for exclusion configuration the preferred preferred area for detailed design and from further Reference Project. options. the CMP Expansion analysis. consideration. Project. Independently **Develop CUF Identify Preliminary Identify Preferred** confirm the Progress suitable configurations at Reference Project Outcome Reference Project preferred area for shiplift locations the progressed Options for detailed Option/s the Project shiplift locations analysis

To support this process, comprehensive stakeholder engagement was undertaken from the commencement of the DBC. Using the key findings from this process, in conjunction with the recommendations from the Cairns Marine Precinct Strategic Options Report, the indicative infrastructure requirements for the Project presented in Figure 6 were identified and confirmed.

Further detail regarding the options analysis process is provided in each respective section overleaf.

Figure 6: Indicative infrastructure requirements for the Project



#### 1. Site Options Confirmation

A high-level review of the Cairns Marine Precinct Strategic Options Report was independently undertaken as part of the development of the DBC to assess and confirm the preferred area for the Project.

Based on the initial review and consideration of location options, potential locations at Admiralty Island and East Trinity were deemed not suitable due to potential environmental impacts, access constraints for vessels and the dislocation from existing infrastructure. Landside access is also constrained given there are no existing roads to either location. Consequently, Strategic Port Land (SPL) at Smiths Creek was progressed for further investigation.

This led to the identification of three potential site areas to support the expansion of the CMP, as presented in Figure 7.

Figure 7: Approximate site areas assessed for the CMP Expansion Project



The northern site within the SPL at Smiths Creek was confirmed as the preferred site because of its increased maritime capabilities, benefits from co-location with supporting infrastructure and would be established near existing tenants.

#### 2. Preliminary Shiplift Location Analysis

Given the navigation and access constraints associated with Smiths Creek and the limited waterfront area available at the CMP, five potential shiplift locations were considered prior to the CUF configuration options analysis.

Using the consolidated key findings from the stakeholder engagement process, supported by comprehensive independent analysis and technical review, two potential shiplift locations located parallel to either side of the Fearnley Street drain were selected to proceed.

## 3. CUF Configuration Options Longlist Development

Using the outcomes from the Preliminary Shiplift Location Analysis, a range of potential CUF configuration options that included the indicative infrastructure requirements for the CMP were developed. The options developed as part of this process represented new standalone CUFs, as a key objective for the Project is to enhance the capacity and capabilities of the current MRO providers at the CMP.

#### 4. Multi-Criteria Assessment

Following confirmation of the progressed CUF configuration options, a multi-criteria assessment (MCA) was undertaken to determine the preferred CUF configuration option that should be progressed for further analysis in the DBC.

To support this process, a workshop and Project Reference Group Meeting were held with key stakeholders of the Project to present and confirm the outcomes of the MCA. Using the key findings and outcomes from the MCA and options analysis process, a range of Preliminary Reference Project Options were identified and progressed for further analysis.

## 5. Reference Project Options Development and Refinement

Further analysis of the Preliminary Reference Project Options led to the identification and development of Stage 1, which was canvassed and confirmed as the Preferred Reference Project Option with key Project stakeholders.



The design for Stage 1 was reviewed in a Value Engineering (VE) workshop. This workshop and broader process sought to identify key components of the proposed infrastructure which could be modified or staged to produce a lower overall capital cost outcome, while also maintaining the level of serviceability for the CUF based on the forecast demand profile.

The VE process led to the development of Stage 1 VE, which is anticipated to meet the same level of demand as Stage 1 for a significantly reduced capital cost. The key infrastructure elements and activities that were considered and modified under Stage 1 VE included the strength of the hardstand pavement area, scale of the CUF wet berth, dredging depth and the relocation and development of Commercial Fisherman's Base 2. The number of hardstand areas and blast and paint facilities remain unchanged across both Project Options.

Stage 1 and Stage 1 VE, presented in Figure 8 and 9 respectively, were progressed for detailed analysis in the DBC.

Figure 8: Stage 1 Design



Figure 9: Stage 1 VE Design



As displayed here on Figure 10, both Project Options include a shiplift, two blast and paint facilities and three hardstand areas, thus meeting the indicative infrastructure requirements previously outlined on page 14.





A detailed demand profile for MRO services at the CMP was developed in consultation and collaboration with DSDILGP, DoD, the three major commercial shipyards and other key stakeholders. The demand profile estimated the number of future vessels homeported in Cairns and/or likely to seek MRO services at the CMP in future years, incremental to the current number of vessels that receive MRO and ancillary services at the existing CMP commercial shipyards. The four key infrastructure elements used to quantify this incremental demand include hardstand area, blast and paint facilities, a wet berth and a shiplift, the latter of which is not expected to be a constraint given the capability to lift out and return multiple vessels in a comparatively shorter timeframe.

As presented in Figure 11, the infrastructure planned to be delivered as part of this Project is expected to be able to **meet the forecast market demand to 2055**, under the medium demand scenario.

Figure 11: Summary of serviced demand at the CMP CUF





The delivery and operations of the Project is expected to generate a range of benefits (as outlined in Figure 12).

Figure 12: Expected benefits delivered by the Project

Support Queensland

Defence-related

capabilities in the

region



Enhance capabilities and competitiveness of the CMP to remain a leading maritime centre in Northern Australia



Attract domestic and international investment and re-investment in downstream industries in the region

Support the current and future Defence capability plans to enable the DoD to meet its national security obligations to Government



Increase skilled job attraction and retention



Grow the commercial and maritime maintenance market in Cairns



**Enhance STEM** education opportunities



Strengthen and diversify the FNQ economy



Advance the Queensland Government's Queensland Superyacht Strategy 2018-23



Support growth in the marine tourism industry in Cairns





# Conclusion

The CMP is a leading MRO destination in Northern Australia that is home to a range of private and public sector maritime sector participants. It serviced approximately 15 per cent of all Australian registered vessels and close to 80 per cent of all North Queensland registered vessels with an LOA exceeding 15 metres in 2019.7 As the gateway to the Pacific region, it is considered a national Defence asset and the premier MRO destination for the region.

As a key MRO destination for the Defence, naval, commercial and superyacht markets, the CMP is an asset of state and national significance. In recognition of the CMP's importance to Cairns, Queensland and more broadly, Australia, the Australian Government committed to the upgrade and enhancement of the CMP in 2017-18 through an initial \$24 million in staged funding. Despite the preliminary improvements delivered through this investment, including wharves, hardstands, slipways and services,8 the current infrastructure capacity and capabilities in the CMP are insufficient and unable to support the expected growth in demand for MRO services from key maritime markets. DSDILGP has committed to continuing to engage with DoD in regards to their future service requirements in the CMP.

In the absence of timely or appropriate action and investment, the CMP may not be able to compete for future Defence sustainment contracts or adequately service the surging commercial and tourism vessel markets.

This document is not Queensland Government policy.



Ports North (2021). Cairns Marine Precinct Strategic Options Report. Advance Cairns (2021). Cairns Marine Precinct. Accessed at https://www.advance-cairns.com/project/cairns-marine-precinct/



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