URBIS

PORT COOGEE MARINA EXPANSION BUSINESS CASE

FINAL REPORT

Prepared for City of Cockburn
June 2025

ACKNOWLEDGEMENT OF COUNTRY

Urbis acknowledges the Traditional Custodians of the lands we operate on.

We recognise that First Nations sovereignty was never ceded and respect First Nations peoples continuing connection to these lands, waterways and ecosystems for over 60,000 years.

We pay our respects to First Nations Elders, past and present.

The river is the symbol of the Dreaming and the journey of life. The circles and lines represent people meeting and connections across time and space. When we are working in different places, we can still be connected and work towards the same goal.

Title: Sacred River Dreaming
Artist: Hayley Pigram
Darug Nation
Sydney, NSW

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EXECUTIVE SUMMARY

A $4.1 million expansion of 32 private pens (net increase of 29 due to the loss of 3 existing pens) and 4 berths on a public jetty for Stage 4 Port Coogee Marina expansion is recommended.

The City of Cockburn (the City) is a fast growing local government area in Perth's south-west. With the population projected to rise from 135,150 to 178,010 by 2036, there is a pressing need for enhanced sporting and recreational facilities. Currently, the marina is at capacity, which is 90% due to some jetty maintenance and the City has recognised the need to expand Port Coogee Marina to accommodate the growing demand for recreational boating and associated activities.

The initial developers of Port Coogee, Port Catherine Developments Pty Ltd, constructed Stage 1 and 2 of the marina as part of the first phase of works of the area. The marina was handed over to the City in July 2016 and a business case was commissioned in 2019 for the Stage 3 expansion. This business case seeks to build on the previous work that was presented by Council and ultimately inform the development of Stage 4 expansion of the marina.

This project explored the need for additional pens and facilities. Key findings are noted below.

- **High waitlists**: The marina has a waitlist of approximately 235 pens. Of note, waitlists for pens sized 8-15 metres are closed due to long existing waitlists. There is additionally strong demand across competing marinas, with numerous other facilities with high waitlists (e.g. Fremantle Fishing Boat Harbour, Mandurah Ocean Marina, South of Perth Yacht Club, Pier 21 Marina and Aquarama Marina).
- **Increasing future demand**: Boat ownership levels have been increasing across Perth and are high in the surrounding areas (e.g. Fremantle has 3,147 vessel registrations). The projected population within the surrounding area is anticipated to increase 2.3% per annum over the next 12 years, with key growth in demographics more inclined to own boats and participate in recreational boating.
- **Boating trends**: Whilst boat ownership has been increasing at high rates across all vessel sizes and types, there has been the highest demand for personal watercraft, followed by boats between 5-8 metres and greater than 10 metres over the last 5 years in Australia.
- **Vessel registrations** – Currently, registrations in Coogee are primarily for vessels of the 10 metres length and below.

A collaborative assessment of 8 long list layout options led to further analysis of two shortlisted options. This analysis found that the most suitable options included a public jetty and pens of 10 to 15 metre lengths, due to demand and the physical constraints of the marina.

A ferry terminal was not recommended due to uncertainty of operator feasibility and parking, implications on existing boat pens (with likely removal of 11 to 35 existing pens to accommodate vessel movements) and associated costs and revenues. There is however an opportunity to explore this further as a potential future project, with a recommended location of the terminal at the future boardwalk, on the right-hand side of the harbour entrance.

Ultimately, the preferred option selected was 5C, as it offered greater social and community benefits, enhanced design life flexibility, stronger economic benefits, improved safety, and better financial returns for the life of the infrastructure.

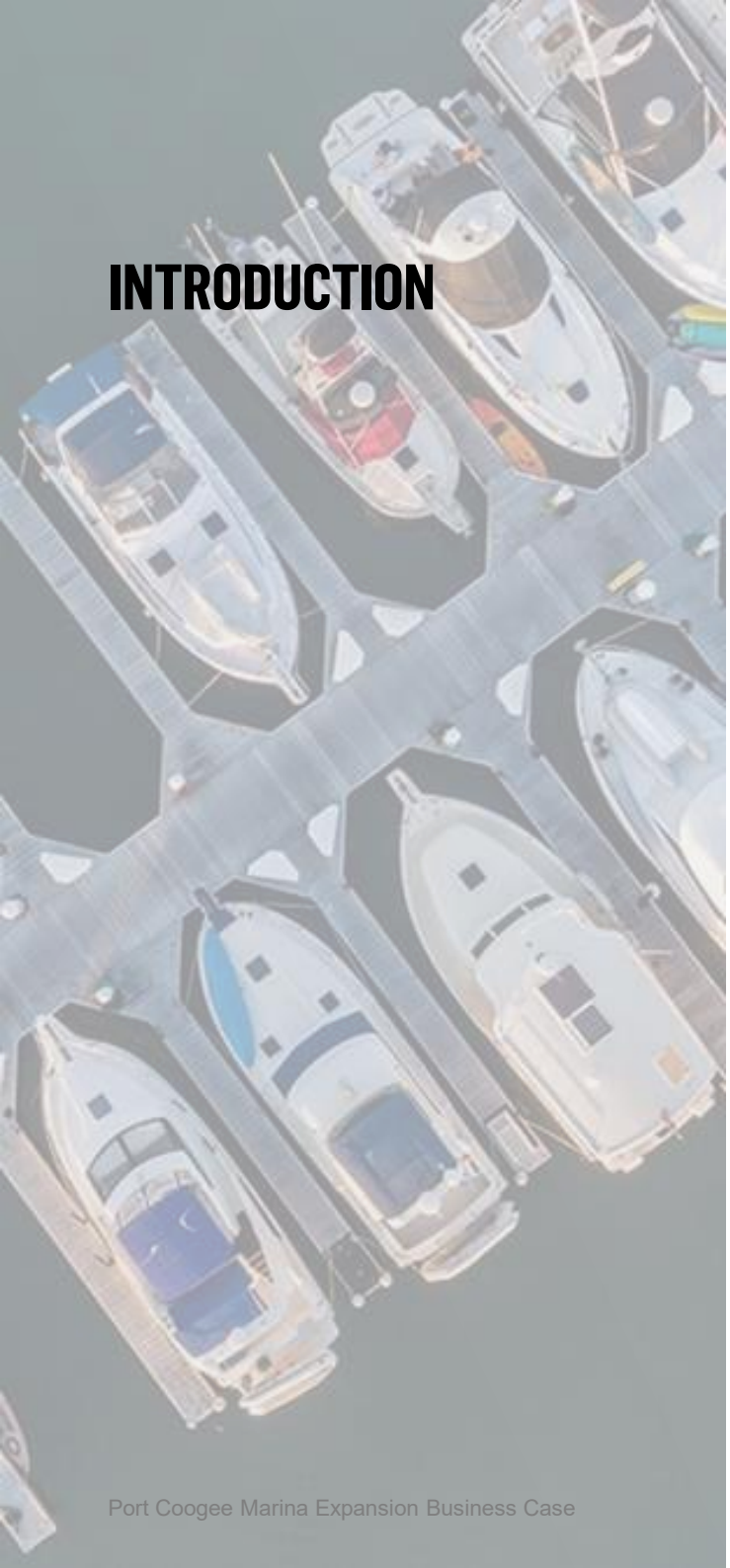
The financial analysis revealed that Option 5C will require lower annual debt servicing payments compared to Option 2, due to the smaller total loan amount needed given the lower project cost.

The preferred option is expected to support economic and community benefits such as:

- Local business growth;
- Property value increase;
- Tourism revenue;
- Community engagement;
- Recreational opportunities; and
- Tourism attraction.

A high level cost benefit analysis found that the expansion project is estimated to provide an additional $400,000 annually when compared to the marina operating as business as usual. As a result, the expanded marina will produce an economic value of approximately $3 million per year.

Project timing and other implementation considerations such as the risk management plan have also been included in this business case.



INTRODUCTION

BUSINESS CASE PURPOSE

Urbis was engaged to prepare a business case to guide the decision making and delivery of the Stage 4 expansion of the Port Coogee Marina.

Feasibility, economic, user group / stakeholder and cost estimation analysis, along with input from the Principal “the City”, supported the development of this business case.

This business case sought to:

- Describe the background of the project;
- Demonstrate the need for the project;
- Describe the alignment of the project with relevant government policy and stakeholder aspirations;
- Describe the project components and staging rationale;
- Demonstrate the key benefits expected from development of the project;
- Describe the funding and operating budget considerations; and
- Describe how the project can be delivered.

BUSINESS CASE STRUCTURE

This business case includes the following sections.

- **Project Background & Purpose**: Description of the project and its objectives.
- **Project Need**: Analysis of the need for the project.
- **Options Analysis**: Description of the preferred expansion option.
- **Budget and Funding Strategy**: Identification of funding options to support the delivery of the project.
- **Financial Analysis:** Financial model testing of the preferred option.
- **Economic Analysis**: Analysis of the economic and social benefits of the project.
- **Implementation Plans**: Identification of implementation strategies and actions to deliver the project.

Additional analysis which informed this business case is appended to this document.

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PROJECT BACKGROUND AND PURPOSE

PROJECT BACKGROUND AND PURPOSE | PORT COOGEE MARINA BACKGROUND

Port Coogee Marina has been a prominent feature of North Coogee since 2005, planned as part of the broader Port Coogee estate development. The estate was constructed in 2006 and 2007, followed by the development of the first two stages of the marina by Port Catherine Developments (PCD). The original concept envisioned a harbour with up to 300 mooring pens for vessels up to 20 metres. However, PCD initially built 139 pens, later increasing to 150 pens as a requirement of handover to the City.

In 2010, M P Rogers & Associates published the 'Layout Investigations & Preliminary Business Case', outlining future expansion plans for the marina based on market conditions and anticipated demand. In July 2016, management of Port Coogee Marina transferred from the developer to the City of Cockburn, as per development approvals and agreements. At handover, the marina included 150 mooring pens (8 to 20 metres in length), 10 catamaran pens, service and visitor jetties, boardwalks, and a Marina Services Building.

With marina occupancy consistently high, the City engaged International Marina Consultants in 2018 to develop a Business Case for Stage 3 marina expansion. This expansion included a boardwalk, floating jetties, and related infrastructure on Maraboo Island's south side. The plan, developed with significant stakeholder input, was finalised in 2020.

Stage 3 Marina Expansion was completed in September 2022, adding 70 new mooring pens, two secure gatehouses, parking adjustments, and a 90-metre boardwalk. Although a project to reconfigure the fuel jetty for FY24 was halted due to budget constraints, the concept design and specifications are ready for tender with Stage 4 of the marina expansion.

Ultimately, this Business Case is designed to gain Council approval and pave the way for detailed design and then construction through future tender opportunities for Stage 4 of the marina expansion.

Port Coogee Early Concept Plan

Source: M P Rogers and Associates.

The Port Coogee Marina is located in North Coogee, a coastal suburb approximately 7 kilometres south of Fremantle and 30 kilometres south of Perth.

The Marina is bounded by the suburb's residential and commercial estates to the north, east and south. Notable locations near the subject site include:

- Coogee Beach
- Old South Fremantle Power Station;
- Dome Cafe;
- Regis Aged Care;
- Port Coogee Village Shopping Centre; and
- Maraboo Island residential estate.

As was mentioned on the previous page, the subject site is currently owned and operated by the City of Cockburn.

Today, after three stages of development, the Marina offers 231 pens on floating jetties for recreational vessels up to 30 metres in length. It also includes visitor and service jetties (fuel and sullage), boardwalks, and a Marina Services Building with lounge and laundry facilities.

The master developer of Port Coogee, Frasers Property, is currently developing the public open space and boardwalks along the land to the south of the Port Coogee Marina, due to be completed late 2025. The balance vacant land is in the Port Coogee Village precinct, which can cater for future development of retail, mixed-use, residential, community, restaurants and hotels.

Port Coogee Marina Map

Source: City of Cockburn

The expansion of the Port Coogee Marina is a major long-term strategic investment that will have lasting social, community and economic impacts, including both benefits and opportunity costs.

The preferred option is guided by the objectives of the following key City of Cockburn plans:

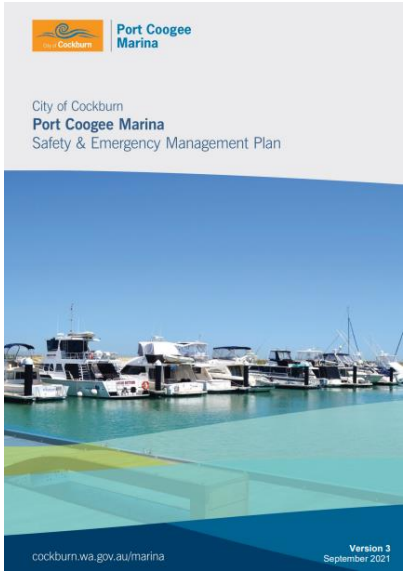
- (Draft) Destination Plan 2025 – 2030
- Strategic Community Plan 2020 – 2030
- Coastal Adaptation Plan 2018
- Port Coogee Revised Local Structure Plan 2018

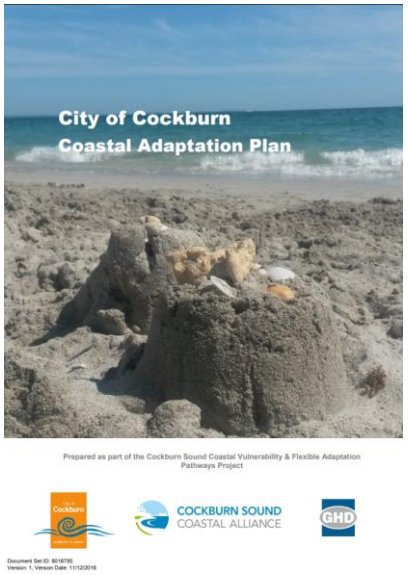
In addition, the following reports relevant to the Port Coogee Marina were also considered for the Port Coogee Stage 4 Marina Expansion:

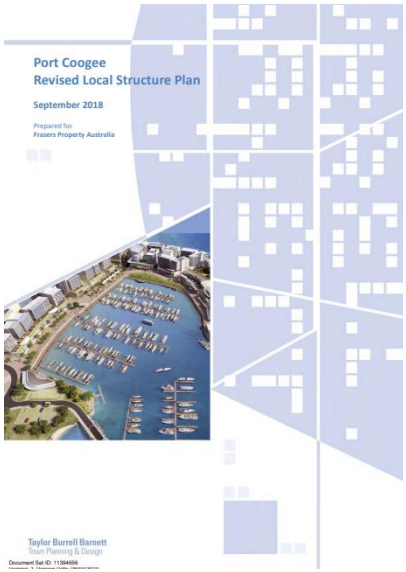
- Marina and Coastal Infrastructure Asset Management Plan 2020 - 2024
- Port Coogee Marina Management and Operations Review
- Port Coogee Layout Investigations & Preliminary Business Case 2010
- Port Coogee Marina – Stages 1 & 2 Completion Report 2012
- Port Coogee Marina Expansion Business Case 2019
- Environmental Assessment of North Coogee Dredging 2021
- Port Coogee Marina Safety & Emergency Management Plan 2021
- Port Coogee Marina Fish Diversity Study 2019
- Port Coogee Marina Fish Diversity Study 2023

Parking Opportunities

The City notes that the planning framework is able to accommodate parking for the proposed marina expansion with the already planned and provided parking in the locality. This is on the basis that the parking bays allocated to pen holders are not exclusive but for public use. From the annual marina customer satisfaction surveys, the City is aware of the challenges this provides pen holders and is actively pursuing alternate arrangements to better service the marina requirements, which is outside of the scope of this business case.







PROJECT BACKGROUND AND PURPOSE | PROJECT PURPOSE

The purpose of this report is to create a business case to support the proposed stage 4 expansion of Port Coogee Marina.

The City is contemplating adding 20 to 40 more private pens in the final stage of the Port Coogee Marina. This proposed expansion is intended to complement and enhance the current facility.

As such, this project aims to achieve the following key objectives:

1. **Address Demand for Additional Pens by Vessel Size:** Analyse market demand to provide a balanced mix of pens for various vessel sizes.
2. **Develop Complementary Services and Infrastructure:** Implement necessary services and infrastructure, such as the fuel jetty reconfiguration and additional public jetty, to enhance marina functionality.
3. **Optimise Jetty and Pen Layouts:** Design efficient layouts that maximise space, ensure smooth traffic flow and allow for future modifications.
4. **Conduct Comprehensive Financial Analysis:** Perform capex and opex assessments to ensure financial viability, including cost estimates, revenue projections and pay back period calculations.
5. **Develop Implementation Plan with Risk Management:** Create a detailed timeline and resource plan, incorporating risk management strategies to mitigate potential issues.

The current layout of Port Coogee Marina includes 231 pens and a public jetty for 4 berths, as illustrated on the adjacent map.

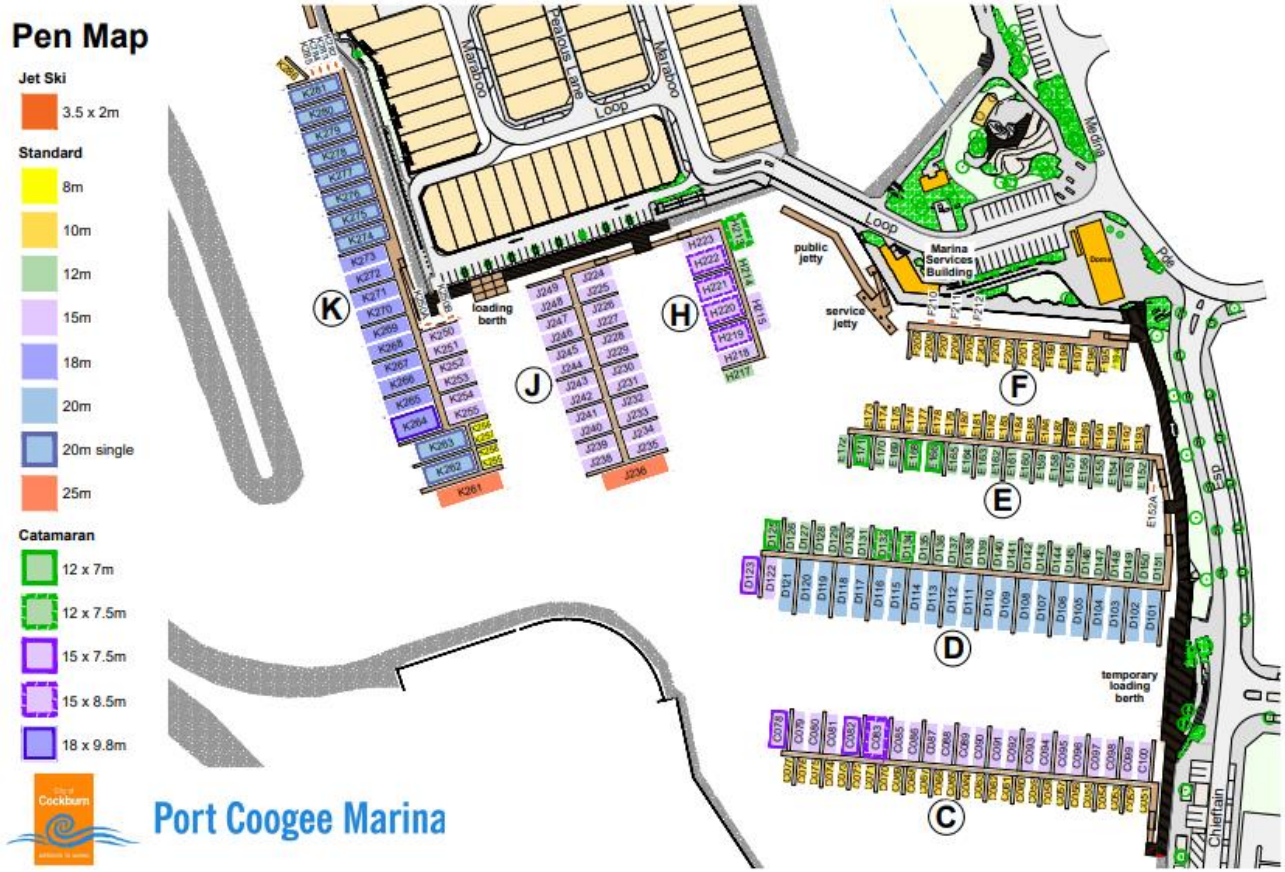
The table below details the mix of pen sizes and waitlist information. There is a large number of 10, 12 and 15 metre pens in the mix, with the highest demand on the waitlist (56 entries) for 15-metre pens.

Pen Size Mix & Waitlist*

PEN SIZE	# OF PENS	WAITLIST ENTRIES	WAITLIST OPEN?
Jet Ski	10	5	Yes
8m	5	21	No
10m	64	29	No
12m	41	33	No
12m cat	6	18	No
15m	53	56	No
15m cat	8	20	No
16m	1	6	Yes
18m	9	11	Yes
18m cat	1	1	Yes
20m	31	11	Yes
25m	1	13	Yes
30m	1	11	Yes

Source: City of Cockburn
**Note: Waitlist Information is as at April 2025.*

Port Coogee Marina Pen Map



Source: City of Cockburn.

PROJECT BACKGROUND AND PURPOSE | EXISTING FACILITY

Port Coogee Marina is a well-established facility offering a range of amenities and services. In order to expand the current facility, understanding various operational and experimental attributes is essential. These attributes provide valuable insights into the functionality and user experience of the marina.

Adjacent is an overview of the existing attributes, followed by a discussion of the key findings derived from these attributes.

Existing Facility Attributes

ATTRIBUTE	FURTHER INFORMATION	KEY FINDINGS
Opening Hours	▪ Mon-Fri: 8:30AM-4:30PM ▪ Sat-Sun: Closed ▪ Public Holidays: Closed	▪ Opening hours accommodate a wide range of boating activities and user schedules.
Facilities	▪ Public Jetty ▪ Fuel and Sullage Facility ▪ Marina Services Building ▪ Marina lounge & laundry	▪ Marina facilities offered enhances the user experience and attracts more boaters.
Services	▪ Power ▪ Water ▪ Lighting ▪ WIFI ▪ Secure access ▪ Dock trolleys	▪ Services meet the varied needs of marina users, ensuring a convenient and enjoyable experience.
Car Parking	▪ 29 Parking Areas	▪ Marina offers numerous public car parking areas. Although the parking areas comply with broader standards, the pen holders have requested more secure overnight parking.
User Profile	▪ 36% of users live in North Coogee ▪ 60% of users live within the site's 10km radius ▪ 40% of users live outside of the site's 10km radius	▪ Majority of users are locals, residing within a 10km radius of the marina.
Usage	▪ Max capacity 90% occupancy as at May 2025 ▪ Goal to achieve maximum occupancy level (95%+)	▪ Marina is well utilised, with a reasonable waitlist for all pen sizes.
Rental Arrangements	▪ Annual Permanent Licence (12 months or 2 years) ▪ Short Stay Licence – 1 night to 2 months (depending on availability)	▪ The marina's rental arrangements ensure it meets the diverse requirements of its users.
Financial Performance	▪ Operational surplus after depreciation and marina replacement contribution was $625,595 (surplus) for 2023-24 financial year.	▪ The marina is in a sound financial position.
Staffing	▪ 3 FTE (Marina Manager, Operations Coordinator, Marina Experience Officer) ▪ 1 Casual - 30 hours per fortnight (Marina Technical Officer)	▪ There is potential to employ additional staff to enhance quality of services provided.
Community Survey (2019)	▪ Survey from the Stage 3 Expansion revealed 77% of respondents strongly agreed that, "[they] would like to see the Marina expanded" ▪ "More parking" was mentioned to improve the marina	▪ The survey indicates marina expansion and additional parking is supported by the community.

Source: City of Cockburn

Port Coogee Marina has been a focal point of development and expansion over the years, with significant expansion proposals put forward in both 2010 and 2019. These proposals aimed to enhance the marina's capacity and facilities, ensuring it meets the growing demand of the community and visitors. However, the pens delivered for each stage were less than what was proposed, as shown in the adjacent table.

Stage 1 & 2 Business Case

The first business case for the Port Coogee Marina development, written by MP Rogers & Associates in 2010, explored two primary options which were formulated by Sinclair Knight Mertz in 2006. After thorough consideration, Option A was preferred. Despite slightly over-representing 10 metre boat sizes, it provided a realistic distribution of boat sizes that would be utilised and offered better value when compared to Option B over first 20 years of operation. Ultimately, 150 pens were delivered in these stages.

Stage 3 & 4 Business Case

By 2019, the needs and vision for Port Coogee Marina had evolved, with growing demand for more pens prompting a new business case with updated options. In this Business Case, Option 2 was chosen as the preferred option. It successfully met the target for a majority of 15m berths and increased the average pen size from 12.7m to 14.3m, better accommodating the needs of larger vessels and enhancing the marina's overall capacity. In the end, 70 pens were delivered in stage 3.

Previous Expansion Proposals for Port Coogee Marina Expansions

STAGE	OPTION	NUMBER OF PENS	ADDITIONAL INFORMATION	PENS DELIVERED	SOURCE
1 & 2	Option A	300 pens • 14 x 8m • 121 x 10m • 85 x 12m • 57 x 15m • 1 x 16m • 22 x 20m	• Slightly over-represents 10m boat size • Provides a realistic distribution of boat sizes that would be consumed • Offers slightly better return when compared to Option B	• Total: 150	Port Coogee Marina – Layout Investigations & Preliminary Business Case, MP Rogers & Associates, 2010
1 & 2	Option B	261 pens • 4 x 8m • 82 x 10m • 80 x 12m • 69 x 15m • 26 x20m	• Well balanced in terms of distribution of pens sizes • A lot less pen sizes when compared to Option A • Less short-term / visitor berths	N/A	Port Coogee Marina – Layout Investigations & Preliminary Business Case, MP Rogers & Associates, 2010
3 & 4	Option 1	107 pens • 5 x 10m • 2 x 11m • 2 x 12m • 3 x 14m • 53 x 15m • 1 x 16m • 13 x 18m • 27 x 20m • 1 x 30m	▪ Pen mix for stages 3 and 4. ▪ Majority of pens are adjacent to Maraboo Island ▪ Layout makes efficient use of the available berthing space, however, it is not well-aligned with the prevailing strong south-west wind direction.	N/A	Port Coogee Marina Expansion Business Case, International Marina Consultants. 2019
3 & 4	Option 2	103 pens • 5 x 10m • 1 x 12m • 3 x 14m • 53 x 15m • 1 x 16m • 11 x 18m • 27 x 20m • 1 x 22m • 1 x 30m	▪ Pen mix for stage 3 and 4. ▪ Pen size mix meets target majority of 15m berths ▪ Increases overall marina average pen size from 12.7m to 14.3m.	▪ Stage 3: 70	Port Coogee Marina Expansion Business Case, International Marina Consultants. 2019

Sources: MP Rogers & Associates; International Marina Consultants Pty Ltd; City of Cockburn

Preferred Option

Stages Delivered Map

Source: Nearmap

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PROJECT NEED

PROJECT NEED | DEFINED CATCHMENT

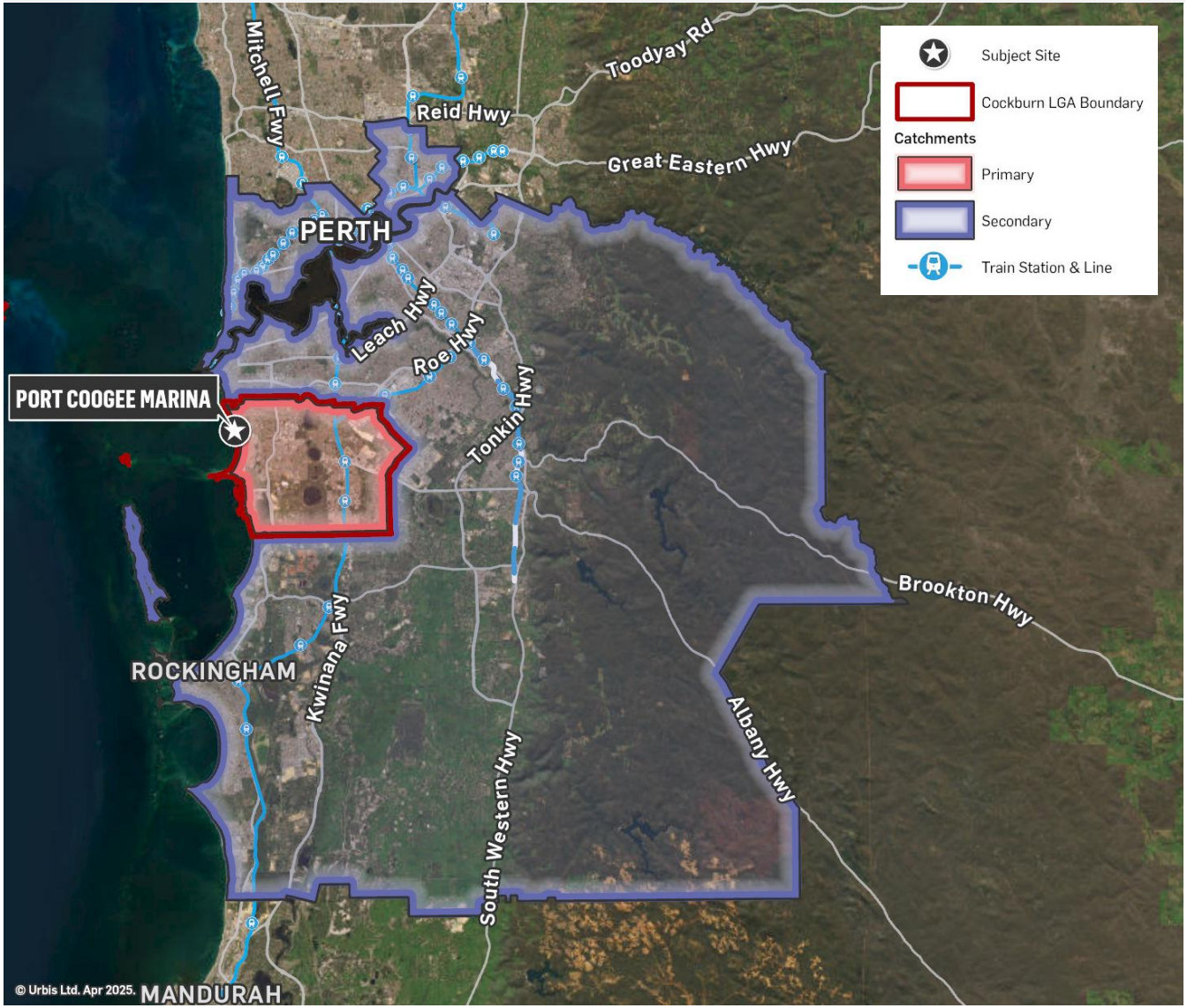
The map adjacent depicts the catchment that was defined for the proposed expanded facility. The catchment was based on the following:

- Place of residence of current users;
- Resident populations; and
- Travel times.

The City of Cockburn Local Government Area (LGA) was selected as suitable for the primary study area after analysis of membership data. Coastal suburbs up to Scarborough were included in the secondary study area due to the above.

Demand from as far south as Rockingham is prevalent due to the high count of residents with boats, exacerbated by the lack of facilities south of Cockburn until Mandurah.

Catchment Area Map



PROJECT NEED | CATCHMENT DEMOGRAPHICS

Residents living within the Primary and Secondary Study Areas both have incomes and per capita incomes that are higher than that of Greater Perth.

The average age of the study area is below Greater Perth, more so in the Primary catchment. Data shows slightly higher concentrations of young to middle-aged adults, and slightly lower proportions of retirees.

Reflective of the younger demographic, there is a higher proportion of employed people in the Primary study area and more households with a mortgage.

The above suggest residents in the primary study area have less disposable income. Coupled with the younger demographic, the primary may expect to see less demand for boating, as majority of boat owners are in the higher age brackets (approx. 47% in Coogee). However, trends have emerged of the younger generation of middle-aged (around 46 years) entering the market post-COVID[1].

Furthermore, the State Government has recently published new population projections for the City of Cockburn. These projections are detailed on the next page.

Key Demographic Characteristics of Catchment Area

	CITY OF COCKBURN (PRIMARY)	SECONDARY	GREATER PERTH
Income:			
Average Household Income	$127,300	$128,400	$125,900
Average Per Cap. Income	$49,842	$51,360	$48,700
Gender:			
Male	49%	N/A	49%
Female	51%	N/A	51%
Age Distribution:			
Aged 0-14	19%	18.6%	19%
Aged 15-24	12%	12.3%	12%
Aged 25-39	24%	22.7%	22%
Aged 40-54	21%	19.6%	20%
Aged 55-64	11%	11.1%	11%
Aged 65+	13%	15.6%	16%
Average Age	37.5	38.5	38.6
Labour Force:			
Status – employed	69%	65%	65%
Status – unemployed	3%	4%	4%
Status - not in the labour force	27%	31%	31%
White collar occupation	68%	71%	69%
Blue collar occupation	32%	29%	31%
Diversity:			
Australian Born	64%	62%	62%
Overseas Born	36%	38%	38%
Housing Tenure:			
Owned Outright	27%	30%	29%
Owned with a Mortgage	48%	41%	43%
Rented	26%	30%	27%

NOTE: Numbers Rounded

[1] *www.marinadockage.com – Introducing a Younger Generation to the World of Boating*

PROJECT NEED | POPULATION FORECASTS

Significant population growth in the City of Cockburn could potentially drive increased need for boat pens in the municipality.

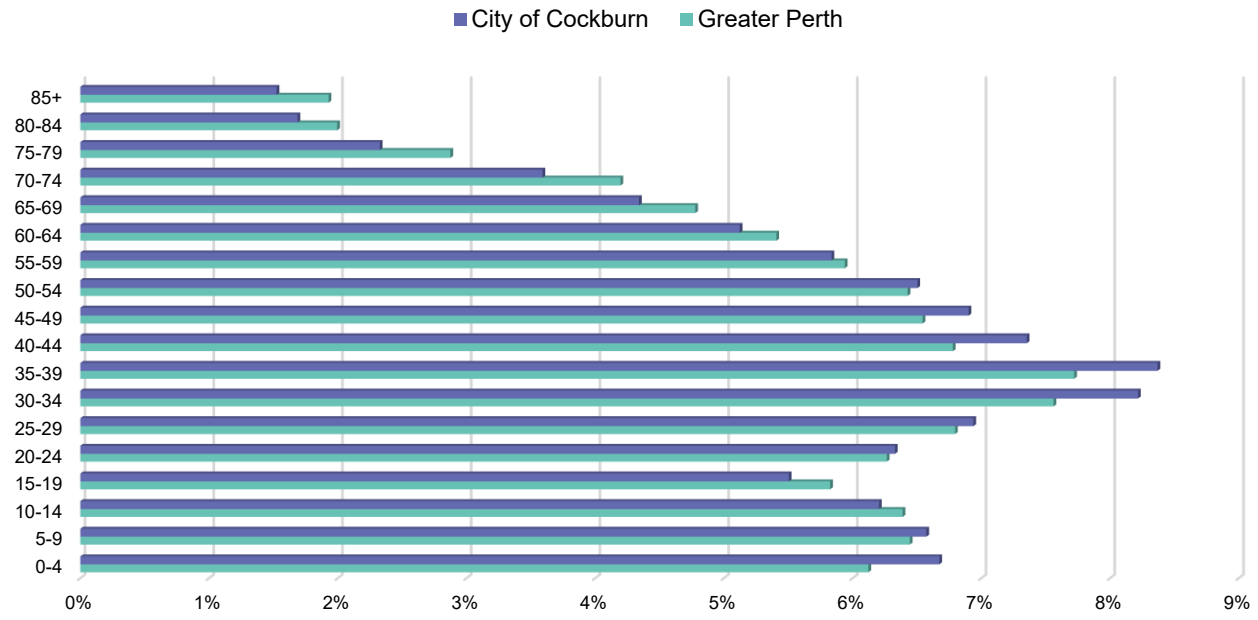
As at 2024, the City of Cockburn has 135,150 residents. The number of residents is forecast to increase by an average of 2.3% p.a. between 2024 and 2036, with 178,010 residents expected to reside in the City.

WA Tomorrow data indicates that the age structure of the City will slightly change across the 2024-2036 period. The growth of the population aged 0-19 is expected to be the weakest, averaging 1.32% p.a. and growing by a total of 5,770 residents over the period. Conversely, there is a large increase of 13,570 residents aged 60+ over the period, averaging 3.73% growth p.a. The slight shift to an older population suggests an increased need for boat pens, given the increase in leisure time experienced by retired residents.

Population Forecasts, City of Cockburn, 2024-2036

POPULATION (NO.)*	YEAR				CHANGE
Residents	**2024**	**2026**	**2031**	**2036**	**2024 to 2036**
City of Cockburn	135,150	142,720	158,370	178,010	42,860
Aged 0 – 19	34,000	34,850	36,820	39,780	5,770
Aged 20 – 39	40,880	42,680	46,930	53,190	12,300
Aged 40 – 59	35,670	37,460	41,760	46,880	11,210
Aged 60 +	24,590	27,730	32,870	38,160	13,570

Population Age Structure 2021, City of Cockburn vs Greater Perth



Source: ABS Census 2011-2021, forecast i.d, Western Australian Planning Commission, Urbis

PROJECT NEED | STAKEHOLDER ENGAGEMENT

The nature of this project means that buy-in and participation from key stakeholders is essential for the Port Coogee Marina expansion to be successful and to maximise the desired positive community outcomes.

Targeted engagement was undertaken for this business case in order to better understand the demand for pens from the local community, broader catchment area and wider state. This information was used to inform the options. Engagement was undertaken with the following stakeholders:

- Department of Transport;
- City of Cockburn;
- Frasers Property;
- Marina and Yacht Clubs;
- Commercial Cruise Operator; and
- Boat pen users.

The table on the right identifies key stakeholders and their potential roles in the delivery of this project.

Key Stakeholder Roles

STAKEHOLDER	POTENTIAL ROLES / OPPORTUNITIES
Department of Transport	• **Regulatory Oversight**: Ensure compliance with maritime regulations and safety standards. • **Environmental Management**: Oversee environmental impact assessments. • **Benchmarking**: Provide an overview of other competitive marinas and boat harbours, including pricing, facilities, and services, to help maintain competitive standards and identify areas for improvement.
City of Cockburn	• **Economic Development**: Promote the marina expansion as a catalyst for local economic growth, attracting tourism and investment. • **Planning and Approvals**: Facilitate the necessary planning approvals and permits required for the expansion. • **Infrastructure Development**: Collaborate on the development of supporting infrastructure, such as roads, utilities, and public amenities.
Frasers Property	• **Partnership Opportunities**: Engage in partnerships to provide services and amenities that complement the marina, such as retail, dining, and recreational activities. • **Marketing and Promotion**: Collaborate on marketing initiatives and community events to attract visitors and promote the marina as a premier destination.
Marina and Yacht Clubs	• **Benchmarking**: Provide an overview of other competitive marinas and boat harbours, including pricing, facilities, and services, to help maintain competitive standards and identify areas for improvement.
Commercial Cruise Operator	• **Passenger Transportation**: Provide safe, reliable, and enjoyable transportation services for passengers between various destinations. • **Tourism Promotion**: Promote local attractions and experiences, contributing to the growth of the tourism industry in the regions they serve. • **Economic Contribution**: Generate economic benefits for local communities through passenger spending on accommodations, dining, shopping, and activities.
Boat Pen Users	• **Marina Users Input**: Participate in consultation processes to provide feedback and suggestions, ensuring the expansion meets gaps at the marina, ensuring the expansion benefits the boat pen users.

PROJECT NEED | CONSULTATION RESULTS

The themes emerging from stakeholder consultation included:

- Tourism Attraction;
- Rottnest Island Ferry Service / Public Jetty;
- Pen Size; and
- Services / Infrastructure.

Each of these areas presents unique opportunities to shape a thriving, accessible and sustainable marina environment for residents and visitors alike.

Adjacent, the summary findings for each theme are detailed, reflecting the collective vision and feedback from the engaged stakeholders.

Consultation Results Summary

	INSIGHTS AND MARKET UNDERSTANDING	CHALLENGES AND CONSTRAINTS
TOURISM ATTRACTION	• Port Coogee Marina is a significant asset for the City in driving the visitor economy. Opportunity to promote marina with boutique commercial activities. • Future tavern, short stay accommodation, restaurants/cafes, apartments earmarked for vacant development sites adjacent to Stage 4 marina expansion. • Unique offering compared to Fremantle, Rockingham and Rottnest Island.	• Parking constraints will be exacerbated with additional pens (users plus guests) and extra requirements if there were plans for a commercial Rottnest Island service. • Market conditions dictate when building will take place. Uncertainty of timeframe as Frasers Property is exiting WA and selling the balance of the estate. • Potential noise complaints from residents on increased commercial activities.
POTENTIAL ROTTNEST ISLAND FERRY SERVICE / PUBLIC JETTY	• Potential to make Port Coogee Marina a destination with a public jetty attracting day trippers to the area. • Potential to expand services to Garden Island once AUKUS commence around 2027. • Potential place activation at Port Coogee Marina with potentially up to 200 passenger per Rottnest Island ferry service.	• Would require minimum 100 carparking bays for passengers (all day). Public transport route will need to be coordinated. Consider pedestrian and traffic congestion. • Involves City financial assistance to ensure initial commercial viability of service. Demand analysis need to factor in Fremantle terminal is only 15 minutes away. • Minimum boat size is 35m. To ensure viability, 35m would be required, therefore existing pens would need to be removed to cater for the ferry.
PEN SIZE	• All marinas have a waitlist which indicate a strong demand. Between Port Coogee Marina, Fremantle Sailing Club and Mandurah Ocean Marina, there are 144 on the waitlist for 8m-12m boat pens. A large percentage of pen sizes at neighboring marinas are 12m and under, identifying a requirement for 12m+ boat pens.	• Pens for vessels 12m and under should be recommended due to current channel width from Jetty C, consideration for tight navigation. • To cater for 15m vessels, approximately 3 boat pens from Jetty C would have to be removed to widen the channel width.
SERVICES / INFRASTRUCTURE	• Facilities provided are at industry standard and users are satisfied. • Opportunity for providing a Jib crane for maintenance tasks on vessels. • Potential commercial equipment kiosk could be leased out from the lower level of Marina Office.	• Waste management would need to improve, current bins fill up fast. • Increase security measures – cameras, gated entry, lighting. • Potential commercial lease space (3m x 4m) currently used by the Community Association, lacks street exposure.

PROJECT NEED | COMPETITOR BENCHMARKING

Port Coogee's current pen mix is expansive and diverse when compared to similar facilities. There are also no substantial gaps in the on and off-shore facilities provided when benchmarked against competing locations, as the marina has a majority of them.

By comparing these marinas to the current offerings of Port Coogee Marina, features and services that can be incorporated into its expansion are identified. Additionally, industry norms and minimum service requirements have been extracted from this analysis and are shown on the following page.

It is important to note that the current construction of Ocean Reef Marina in Ocean Reef (approx. 37 km north from Port Coogee) is expected to deliver substantial future supply and could compete with Port Coogee Marina depending on their pricing. The proposed Wanliss St Marina in Rockingham (approx. 20 km south of Port Coogee) proposal in 2018, fell through and state government recently in February 2025 went out for an Expression of Interest campaign to seek interest from marina developers however there was low interest.

Ultimately, the competition analysis has revealed the following advantages and disadvantages of the current Port Coogee Marina, which are outlined in the adjacent table.

Comparative Facilities – Pen Sizes & Mix

	PORT COOGEE MARINA	COCKBURN POWER BOATS	FREMANTLE SAILING CLUB	FREMANTLE FISHING BOAT HARBOUR	MANDURAH OCEAN MARINA	STH OF PERTH YACHT CLUB	PIER 21 MARINA	AQUARAMA MARINA	OCEAN REEF MARINA (UNDER CONSTRUCTION)	WANLISS ST MARINA (PROPOSED)
Number of Pens	231	50	712	209	425	473	176	210	Circa 500-600	2018 proposal: 500
Pen Sizes & Mix*	10 x Jet Ski (4%) 5 x 8m (2%) 64 x 10m (28%) 47 x 12m (20%) 61 x 15m (26%) 1 x 16m (0%) 10 x 18m (4%) 31 x 20m (13%) 1 x 25m (0%) 1 x 30m (0%)	5 x 9m (13%) 26 x 12m (67%) 8 x 15m (21%)**	274 x 10m (39%) 231 x 12m (33%) 139 x 15m (20%) 2 x 16m (0%) 5 x 16.5m (1%) 42 x 18m (6%) 13 x 21m (2%) 4 x 25m (1%)**	6 x 11m (3%) 21 x 12m (10%) 66 x 15m (32%) 33 x 18m (16%) 69 x 20m (33%) 4 x 22m (2%) 6 x 24m (3%) 1 x 30m (0%) 1 x 35m (0%) 2 x 40m (1%)	22 x 8m (5%) 47 x 9m (11%) 98 x 10m (23%) 141 x 12m (33%) 71 x 15m (17%) 5 x 16m (1%) 23 x 18m (5%) 20 x 20m (5%)	5m – 25m	7m – 24m Note: Marina will be closed from July 25 for 2 years for redeve-lopment	52 x 9.5m (29%) 73 x 12m (41%) 3 x 13m (2%) 35 x 15m (20%) 15 x 17m (8%)**	TBC	TBC Note: Feb 2025 EOI for new developer. Low interest.

**Note: Catamaran and multihull pens have been combined with same pen sizes.*
***Note: Urbis estimate, gaps in data.*

Competitive Advantages / Disadvantages of Port Coogee Marina

ADVANTAGES	DISADVANTAGES
• Expansive pen mix with a variety of pen sizes • Equipped with essential service facilities to ensure convenience and functionality • Located near popular destinations: Coogee Beach, Rottnest, Garden and Carnac Islands	• Median number of pens offered • Lower catchment area population

PROJECT NEED | COMPETITOR BENCHMARKING

Comparative Facilities – Additional Information

	PORT COOGEE MARINA	COCKBURN POWER BOATS	FREMANTLE SAILING CLUB	FREMANTLE FISHING BOAT HARBOUR	MANDURAH OCEAN MARINA	SOUTH OF PERTH YACHT CLUB	PIER 21 MARINA	AQUARAMA MARINA
On-Water Facilities								
• Fuel	✓	✓	✓	✓	✓	✓	✓	✓
• Sullage	✓	✓	✓	✓	✓	x	x	x
• Public Jetty	✓	✓	x	✓	✓	x	x	✓
On-Shore Facilities								
• Car Parking	✓	✓	✓	✓	✓	✓	✓	✓
• Shower	✓	✓	✓	x (Planned)	✓	✓	✓	x
• Toilets	✓	✓	✓	x (Planned)	✓	✓	x	x
• Food & Beverage Outlets	✓	✓	✓	✓	✓	✓	✓	
• Accommodation	x	x	x	✓	✓	x	✓	x
Local Demographics*								
• Population	3.7K	5.3k	9.3K	9.3k	8.8K	7.2K	3.9K	7.8K
• Median Age	46	47	41	41	50	44	48	44
Local Economy Catalyst Impact	Medium	Low	Medium	Medium	Medium	Low	Medium	Medium
Site Navigational Accessibility	High	High	Medium	Medium	Medium	Medium	Low	Medium
Proximity to Destination Locations	High	Low	High	High	High	Medium	Medium	Medium
Occupancy Rates	90% (Max Capacity)	100%	95%**	100%***	81%	N/A	100%	95%****
Waitlists	Yes	N/A	No	Yes	Yes	Yes	Yes	Yes

** Source: ABS Quickstats, 2021. Note: Demographics data relates to suburb facility is located within.*
*** Note: Occupancy based on vacant listings as at 17th April 2025.*
**** In reference to long term vacancies.*
**** Note: Occupancy as at 2021.*

PROJECT NEED | PRICING

Overall, the current pricing appears to be competitive based on the level of services and amenity provided at Port Coogee Marina.

The table adjacent details the annual fees by pen size for the subject site and competing marinas.

Examining marina rates is essential for maintaining Port Coogee's competitive edge. This analysis not only ensures that the marina's rates are in line with other facilities but also provides valuable insights for pricing additional pens.

Currently, a majority of Port Coogee's pens are priced in line with Cockburn Power Boats and Fremantle Fishing Boat Harbour pens. Otherwise, the pens are priced above Mandurah Ocean Marina and well below Fremantle Sailing Club, Pier 21 Marina and Aquarama Marina.

Comparative Facilities – Annual Fees by Pen Size

PEN SIZE	PORT COOGEE MARINA	COCKBURN POWER BOATS	FREMANTLE SAILING CLUB	FREMANTLE FISHING BOAT HARBOUR*	WANLISS ST MARINA (PROPOSED)	MANDURAH OCEAN MARINA	STH OF PERTH YACHT CLUB	PIER 21 MARINA	AQUARAMA MARINA**
Jet Ski	$3,445	-	-	-	N/A	-	-	-	-
8	$5,488	$5,950 (-8%)	-	-	N/A	$4,869 (13%)	-	-	-
10	$6,910	-	$8,322 (-17%)	-	N/A	$6,086 (14%)	-	-	$6,360 (9%)
12	$8,331	$7,930 (5%)	$9,978 (-17%)	$8,598 (-3%)	N/A	$7,304 (14%)	-	-	$10,470 (-20%)
15	$10,797	$10,570 (2%)	$12,462 (-13%)	$10,748 (0%)	N/A	$9,130 (18%)	-	-	$13,440 (-20%)
16	$11,707	-	$13,290 (-12%)	-	N/A	-	-	-	-
18	$13,462	-	$14,946 (-10%)	$12,897 (4%)	N/A	$10,956 (23%)	-	$19,668 (-32%)	$16,320 (-18%)
20	$15,128	-	-	$14,330 (6%)	N/A	$12,173 (24%)	-	$21,840 (-31%)	-
23	$19,070	-	-	-	N/A	-	-	$27,276 (-30%)	-
25	$21,902	-	-	$17,913 (22%)	N/A	-	-	-	-
30	$27,787	-	-	$21,495 (29%)	N/A	-	-	-	-

** Note: Annual fee prices are based on a fee per metre, per month with an additional annual rates levy.*
*** Note: Annual fee prices have been recorded in the nearest length available.*

PROJECT NEED | MIX DEMAND

Port Coogee Marina offers a variety of pen sizes, from jet ski docks to 30m vessels, catering to a wide range of boating needs. There are currently 231 private pens and the variety makes it a popular choice for both casual sailors and serious mariners.

Occupancy rates are high, reflecting the marina's prime location and excellent facilities. This strong demand has led to many pens being fully occupied and a growing waitlist, highlighting the marina's reputation and desirability.

Due to physical constraints, the analysis focused on 10, 12, and 15-metre pens for the Stage 4 expansion. The study found that an even split among these sizes is most suitable based on current availability and occupancy. This balanced approach ensures the marina can continue to meet diverse needs, providing ample space for various boat sizes. Aligning the expansion with existing demand patterns will help maximise occupancy rates for the life of the infrastructure and maintain high service levels.

Port Coogee Marina Pen Mix, Occupancy & Waitlist

PEN SIZE	PEN COUNT	PEN OCCUPANCY	WAITLIST OPEN?	WAITLIST ENTRIES
Jet Ski	10	84%	Yes	5
8m	5	100%	No	21
10m	64	99.0%	No	29
12m	41	99.7%	No	33
12m cat	6	100%	No	18
15m	53	95.6%	No	56
15m cat	8	99.2%*	No	20
16m	1	100%	Yes	6
18m	9	61.6%	Yes	11
18m cat	1	100%	Yes	1
20m	31	65.1%	Yes	11
25m	1	100%	Yes	13
30m	1	-	Yes	11

Source: City of Cockburn.
**Note: Average applied.*

Port Coogee Marina Pens Grouped (10-15m)

PEN GROUP	AVAILABLE	OCCUPIED	PEN OCCUPANCY	WAITLIST ENTRIES
10m	64	64	100%	29
12m	47	47	100%	51
15m	61	61	100%	76

Source: City of Cockburn.

PROJECT NEED | BOATING TRENDS

Over the past five years, Australia has seen notable changes in the lengths of boats, reflecting evolving preferences and trends in recreational boating. The most significant growth has been in the Personal Watercraft (PWC) category (i.e. jet ski), which surged by 33.7%. This increase highlights the rising popularity of these versatile and agile watercraft.

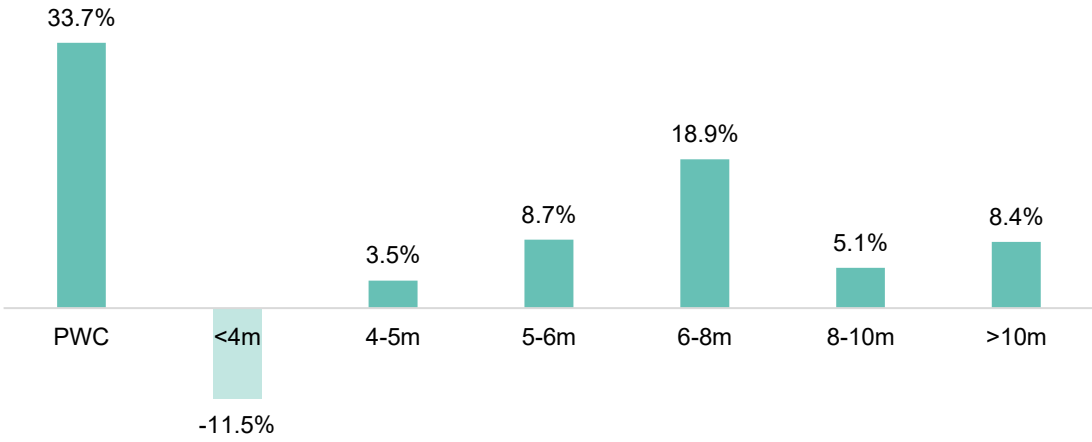
In contrast, boats under 4 metres experienced a decline of 11.5%. This reduction suggests a shift away from smaller vessels, possibly due to a growing preference for larger, more capable boats that offer greater comfort and utility.

Boats in the 4-5 metres range saw a modest increase of 3.5%, indicating steady interest in this size category. Meanwhile, the 5-6 metre segment grew by 8.7%, reflecting a stronger demand for mid-sized boats.

The 6-8 metres category experienced a significant rise of 18.9%, the second-highest growth after PWCs. This trend points to a preference for boats that offer more substantial capabilities and amenities, suitable for longer trips and a variety of water activities.

Boats in the 8-10 metre range saw a 5.1% increase, showing a steady interest in larger vessels that provide more comfort and advanced features. Finally, boats over 10 metres grew by 8.4%, indicating a robust market for boats greater than 10 metres in size.

Australia - Change In Boat Length Over 5 Years (2019-24)



Source: Boating Industry Association

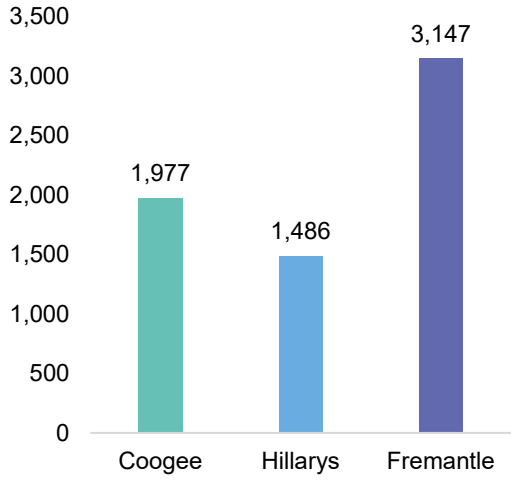
PROJECT NEED | VESSEL REGISTRATIONS

Vessel Registrations data provided by the Department of Transport for Coogee, Hillarys and Fremantle, has revealed the following:

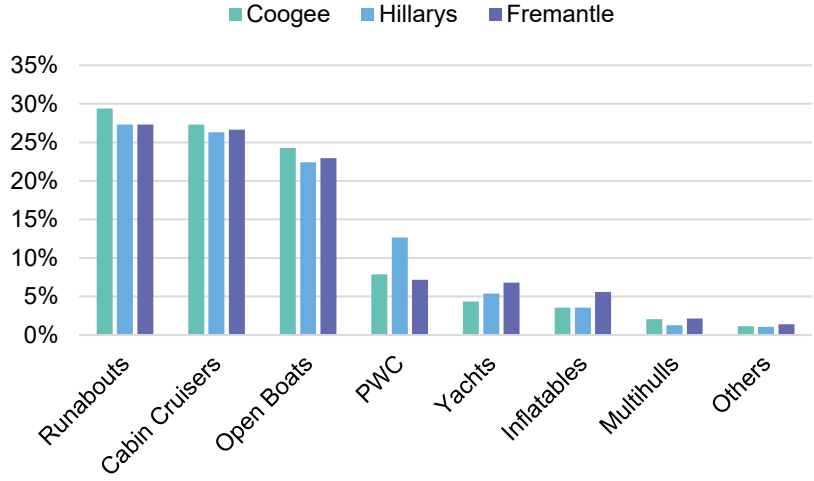
- A large proportion of vessels registered in Coogee are for runabouts, cabin cruisers and open boats.
- Most vessels (94%) registered in Coogee and the surrounding areas were for 10 metres and below.
- Registrations for vessels above 20 metres are relatively low in Coogee and the competing towns.
- Vessels in Coogee are primarily held by those aged 55-64.

These registrations ultimately indicate demand for pens around 10 metres in length for use by residents in Coogee and surrounds.

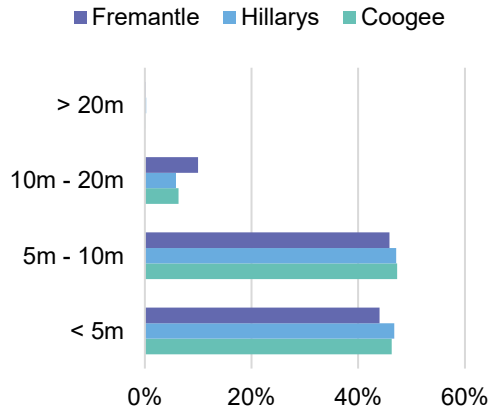
Vessel Registrations by Area



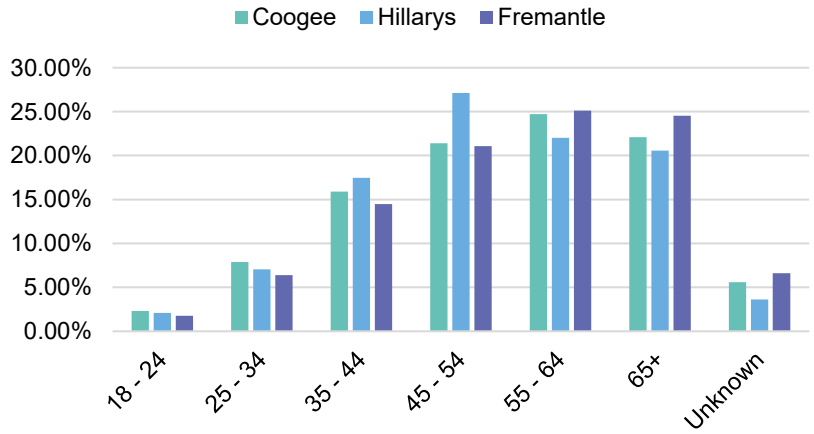
Vessel Registrations by Type



Vessel Registrations by Length



Vessel Registrations by Age



Source: Department of Transport

PROJECT NEED | CONSTRAINTS, RISKS AND OPPORTUNITIES

In order to enhance the marina's operations and user experience, the current facility's constraints, risks and opportunities were explored.

These insights and recommended actions are crucial for guiding the marina's stage 4 expansion, overall long-term success and community satisfaction.

Precinct Constraints, Risks & Opportunities

		EXPLANATION	RECOMMENDED ACTIONS
CONSTRAINT			
	**Lack of dedicated car parks**	Easily accessible and sufficient car parks for marina patrons are an essential component of a marina facility. Car parking must be closely located and secure, given that vehicles may be parked unattended for multiple days. The addition of boat pens and thus increased patronage of the marina increases the need for dedicated parking.	▪ Expand existing parking facilities ▪ Review plans for additional parking
	**Limited on-shore amenities**	The addition of boat pens and thus increased use of marina facilities may require the expansion of onshore amenities and larger/more bins for waste disposal.	▪ Assess current and future amenity needs ▪ Upgrade waste disposal storage or increase waste collection days
RISK			
	**Marina competition**	Competition from other marinas poses a risk to the occupancy of Port Coogee Marina. The State Government has recently sought for a marina developer for a new marina at Rockingham, which may capture existing or potential patrons who reside south of North Coogee. Ocean Reef Marina has also just commenced however it is located 43 km north.	▪ Enhance marina facilities and services ▪ Develop unique selling points ▪ Increase marketing and promotion
	**Community objection**	Objections from the community may hinder the approval of additional boat pens. A prominent issue raised in community consultations is the need for appropriate car parking, as well as ensuring the marina onshore area is a community asset and can be enjoyed by all.	▪ Offer community benefits ▪ Consult with community
OPPORTUNITY			
	**Competitive pricing**	Boat owners have been identified as being highly sensitive to price. In 2018 a rental increased implemented at the Department of Transports (DoT) Marinas saw a 13% reduction in their occupancy. Conduct annual pricing reviews of neighbouring marinas to ensure pen holders receive value for money for the services and facilities provided, thereby maintaining high occupancy rates.	▪ Maintain competitive pricing ▪ Enhance customer experience
	**Demand for boat pens**	There is strong demand for boat pens, with high occupancy rates across marinas in the Perth metropolitan region. Vessel registrations in the Southern Metropolitan area of Perth is forecast to increase from 26,798 in 2018 to around 37,600 by 2036. To meet the resulting rising demand for boat pens, the DoT recommended that Port Coogee Marina develop up to 150 additional boat pens between 2018-2036, as per their Recreational Boating Facilities Study Review 2019, of which only 70 have been built to date.	▪ Accelerate development plans ▪ Secure funding and approvals ▪ Promote the expansion

Source: Urbis, Department of Transport:

03

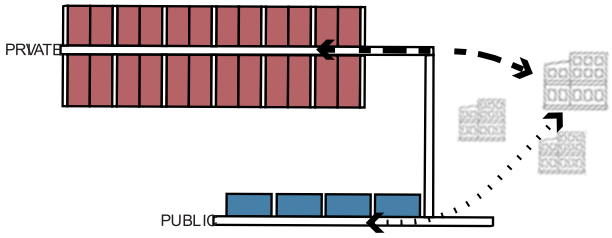
OPTIONS ANALYSIS

OPTIONS ANALYSIS | DESIGN PRINCIPLES

The following design principles outlined informed the options on the following pages.

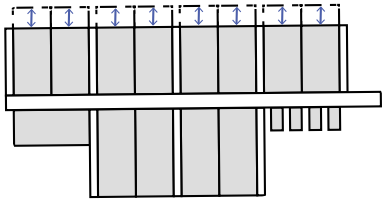
A Great Experience for Everyone

An accessible, safe, and easy-to-use marina for everyone. The design will feature clear, simple pathways for boats and users, ensuring a great experience for both private pen holders and public visitors.



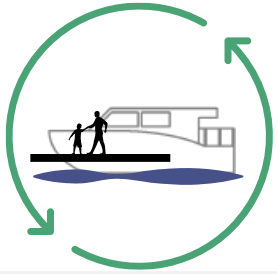
A Vibrant Community Hub

Through close collaboration with the City, the expansion will offer both accessible public day-use pens and secure berths. This balanced access is made even more appealing by the marina's location, which is just a short walk from the Port Coogee commercial and retail precinct, inviting visitors to enjoy the local shops and cafes and fostering a vibrant community atmosphere.



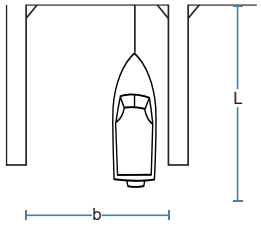
A Proactive Design for a Sound Investment

A design guided by robust research. By carefully studying local market and community trends, every design decision – from the overall layout to the specific mix of pen sizes – has been evidence-based. This data driven approach ensures we build what people need, securing high occupancy, future adaptability, and a strong, financially viable asset for the City.



Built with Care for our Coast

The expansion will be built sustainably, using environmentally responsible materials and methods. This commitment ensures we create a durable, high-quality facility that serves the community while protecting and respecting our unique coastal environment.



Smart Design & Compliance

Ensuring all aspects of the marina's design and construction strictly adhere to relevant Australian Standards, particularly AS 3962 for marina design. This commitment to technical excellence guarantees a safe, durable, and high-quality facility that meets all regulatory requirements and reflects industry best practice.

OPTIONS ANALYSIS | LONG LIST OPTIONS OVERVIEW

Stage 4 of the Port Coogee Marina expansion explored the potential to involve the following components:

- additional secure pens;
- a public jetty; and
- a commercial Rottnest Island ferry service.

An opportunities and needs workshop was conducted to evaluate several development options for this final expansion, which are outlined in the tables adjacent.

A site assessment was conducted to identify key challenges, opportunities, and potential risks, which influenced the design options. The key considerations outlined are:

1. Optimising the jetty configuration to provide maximum boat pens in the restricted waterways for the Stage 4 expansion.
2. The existing configurations of adjacent Jetty C pens.
3. The small water space in which the seawall impacts the minimum channel width, which must adhere to the standard of 1.5 times the boat length, limiting pen size to a maximum of 15 metres.
4. Balancing the removal of existing pens, which is necessary to achieve an optimal mix of pen sizes.
5. The length of commercial vessels influences the channel width.
6. The public jetty must provide infrastructure for community use.
7. There is a need to accommodate the increasing demand for jet ski pens.

Following the workshop, 8 private pen configurations were evaluated in a multi-criteria assessment to short list two potential options. (See Appendix A)

Ultimately, Option 2 and 5C were short-listed for assessment to determine the preferred option for the Stage 4 expansion.

Other options such as 3A, 3B and 4 were not prioritised due to factors such as:

- The low financial benefit of including only one pen size;
- The feasibility uncertainty associated with operating a ferry service at this point in time; and
- Potential safety concerns surrounding the movement of a ferry service in the marina.

Options Summary – Private Pen Configuration

OPTIONS	JET SKI	8M	10M	12M	15M	20M	PUBLIC JETTY	FERRY SERVICE
Option 1								
Option 2								
Option 4								
Option 5								
Option 5A								
Option 5B								
Option 5C								
Option 6								

Source: Urbis

Options Summary – Ferry Configuration

OPTIONS	JET SKI	8M	10M	12M	15M	20M	PUBLIC JETTY	FERRY SERVICE
Option 3A (Ferry)								
Option 3B (Ferry)								

Source: Urbis

OPTIONS ANALYSIS | ASSESSMENT APPROACH

The two options were assessed against assessment criteria to determine which option best achieves the objectives of this project.

Key considerations included:

- **Social / community benefits:** benefits expected to be supported by the increase in available pens and additional infrastructure;
- **Design life flexibility:** ensure a variety of pen sizes to meet changing demands and future-proof the marina.
- **Economic benefits:** boost local economy through increased visitor spending and activation.
- **Risk:** create a safe marina environment, minimising hazards and vessel conflicts.
- **Financial return:** achieve financial sustainability by balancing net revenue with capital costs, benefitting the City.

Assessment Criteria

	CRITERION	DESCRIPTION
	**Social / Community Benefits**	Provide social and community benefits that cater to the diverse needs of the community marina users (number of net additional pens and public jetty spaces).
	**Design Life Flexibility**	Provides diverse mix of pens to accommodate evolving demand and future-proof the marina (ability to cater to different boat sizes).
	**Economic Benefits**	Support visitor expenditure and activation and generates a positive economic multiplier effect (local visitor expenditure impact).
	Risk	Provide a safe marina environment and minimise risks and hazards for all users (relative risk of vessel conflict and accidents).
	**Financial Return**	Provide a financial return that benefits the City, ensuring sustainable financial viability (net revenue versus capital cost).

Source: Urbis

OPTIONS ANALYSIS | ASSESSMENT FINDINGS

Each option was assessed against the assessment criteria and a score of 1 (low) to 5 (high) was given against each criterion, with the higher the score the better the alignment of the option with the criterion.

The overall score was based off the criteria and assigned weightings. The higher weighting was given to design life flexibility and financial returns.

The total score was used to determine the preferred option.

Option 5C is the preferred option over Option 2 for several reasons. It offers better social and community benefits, enhanced design life flexibility, stronger economic benefits, improved safety, and better financial returns.

Firstly, Option 5C maximises the ability to cater for a larger variety of vessel sizes (up to 15 metres). In contrast, Option 2 caters up to 12 metres, which lacks the same level of adaptability.

Both options include aluminum gangways and a public jetty, but the diversified pontoon lengths in Option 5C allow for a more tailored approach to berthing arrangements. This makes Option 5C a more attractive and practical solution for the marina's expansion, better meeting the needs of its users.

Additional information on Option 5C meeting the assessment criterion best is outlined adjacent.

The concept plan for Option 5C is on the next page (and Option 2 can be seen in Appendix B)

Assessment Summary

ASSESSMENT CRITERION	WEIGHTING	OPTION 2	OPTION 2 DESCRIPTION	OPTION 5C	OPTION 5C DESCRIPTION
Social / Community Benefits	**15%**	**4**	More private pens however less variety in size, 3 berths at public jetty provide moderate benefits.	**4.5**	Less private pens however more berths at public jetty (4 in total), enhancing recreational facilities.
Design Life Flexibility	**30%**	**3**	Pen mix (up to 12m) offers limited flexibility and future-proofing.	**4.5**	Varied pen mix (up to 15m) ensure flexibility and future-proofing.
Economic Benefits	**15%**	**2**	Lower capacity and infrastructure attract fewer visitors, offering moderate economic benefits.	**2**	Lower capacity and infrastructure attract fewer visitors, offering moderate economic benefits.
Risk	**10%**	**3**	Moderate safety and management of berthing spaces enhance safety.	**3**	Moderate safety and management of berthing spaces enhance safety.
Financial Return	**30%**	**4**	Balanced return - higher potential revenue, though accompanied by higher construction costs.	**4**	Balances revenue with costs, achieving financial sustainability through lower construction expenses despite generating lower revenue.
Overall Score		**3.3**		**3.8**	

Source: Urbis

OPTIONS ANALYSIS | RECOMMENDED CONCEPT PLAN OPTION 5C

The recommended concept plan Option 5C is characterised by 32 private pens (see below mix), aluminum gangways and a combination of three floating jetty pontoons:

- 32.5m x 2.5m
- 10m x 2.5m
- 75.7m x 2.5m

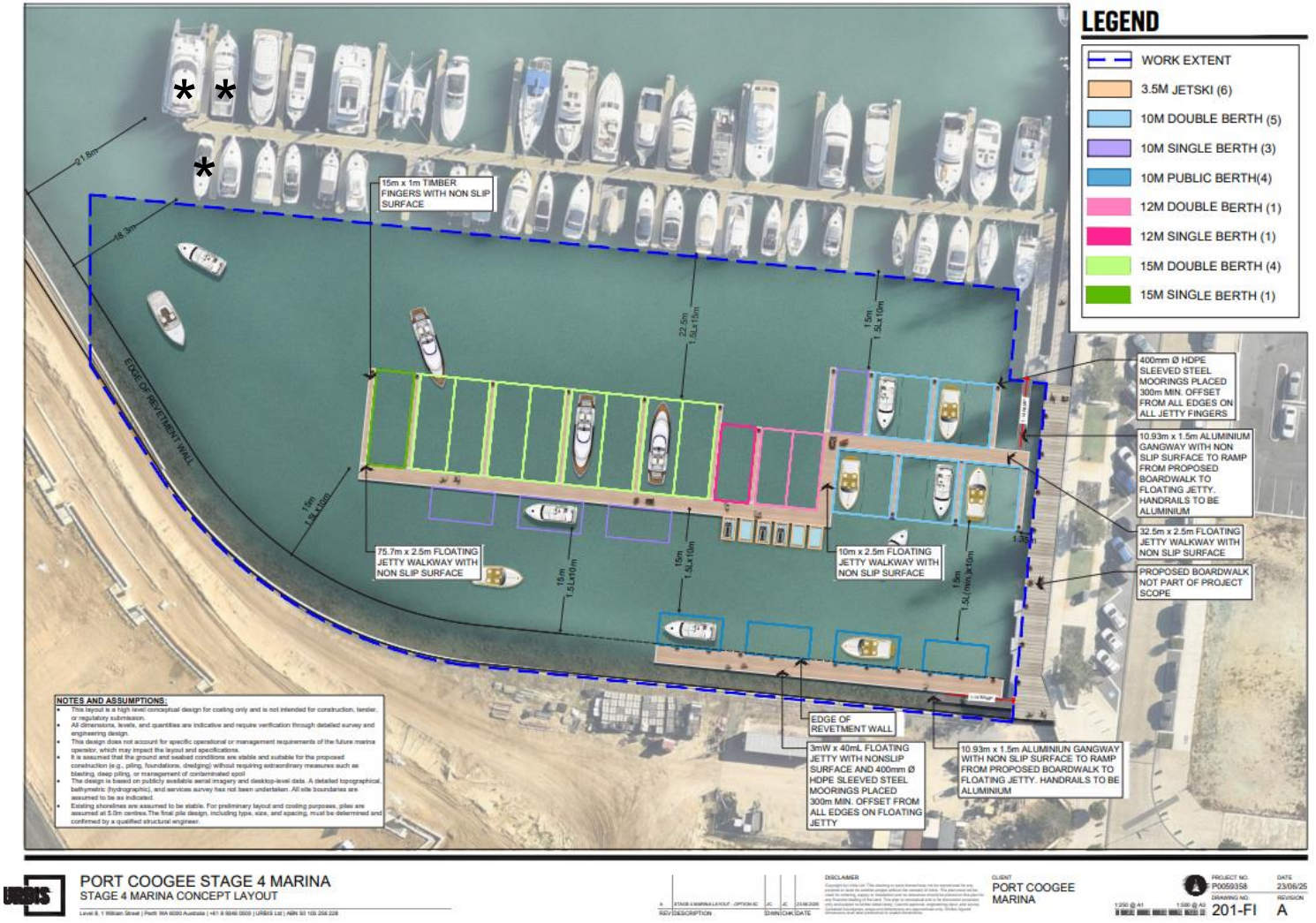
To the south, there is a public jetty offering 4 berths for 10m vessels.

To cater for Option 5C, 2 to 3 pens may need to be removed from Jetty C (this has been factored into the financial analysis).

Option 5C Pen Size Mix

PEN SIZE	NUMBER OF PENS
Jet Ski	6
10m – double (5)	10
10m – single	4
12m – double (1)	2
12m – single	1
15m – double (4)	8
15m - single	1
Total	**32**
10m – public	4

Option 5C Concept Plan



Source: Urbis

** Asterix denotes pens to be removed from Jetty C*

04

BUDGET AND FUNDING STRATEGY

BUDGET AND FUNDING STRATEGY | BUDGET SUMMARY

The total budget estimated to design and construct option 5C for the Stage 4 expansion of Port Coogee Marina is estimated as $4.1 million (ex GST) under a P90 estimate (Source: Trinacria Consulting). This cost allows a risk factored contingency of $680,300 above the base case estimate (i.e. 20% contingency cost).

The difference between the Base Case Estimate and the P90 estimate reflects the total risk allocation, encompassing both inherent and contingent risks. Inherent risks are tied to uncertainties in measured items and assumptions, such as quantities, productivity rates, and prices. Contingent risks involve unmeasured items that may or may not impact project costs, like extreme weather or unexpected heritage issues. The P90 estimate is a risk profile scenario using the Monte Carlo simulation to determine probabilistic cost estimates, with the P90 estimate commonly used for budgeting. This figure can be refined after detailed design or with contractor input.

These cost estimates allow for cost escalation (6%), incorporate a range of sub-categories (shown adjacent in table) and are subject to the exclusion of the temporary mooring for contractor floating plant (i.e. piling barge assumed to be moored at Port Coogee Marina overnight during construction phase).

Full cost can be found in Appendix C.

Ongoing Viability and Sustainability

Following practical completion, the City will be responsible for the ongoing maintenance of the Stage 4 expansion. The City will assess and undertake required maintenance as per the City's asset management policies, and fund and budget upgrades as required through its annual budget processes. An allowance of 1% of capital cost has been allowed in the budget.

Estimated Capital Costs

$3.4M
Base Estimate (ex GST)

$4.1M
P90 Estimate (ex GST)

Source: Trinacria Consulting

Capital Cost Sub-Categories

SUB-CATEGORY
Preliminaries
Jetty & Abutment Works
Services (Water, Lighting, Power Supply, Fire Fighting)
Public Jetty
Miscellaneous Items
Engineering & Project Management
Allowance for Escalation

The stage 4 marina expansion (excluding the public jetty) could be funded through a loan from the WA Treasury Corporation. This approach is deemed most suitable for the following reasons:

- The Stage 4 expansion and the broader Port Coogee Marina are shown to provide significant economic and social benefits to the local community and the state's economy.
- The expansion of the Port Coogee Marina aligns with various City strategies.
- The expansion of the marina has already been recognised as a key project for the City to pursue.

Funding Options Assessment

FUNDING OPTION	ASSESSMENT FINDINGS
City Reserves	▪ There is considered to be insufficient existing municipal reserves of this magnitude to cover the cost of the marina expansion. ▪ Required to be utilised to fund the public jetty.
Western Australian Treasury Corporation (WATC) Loan	▪ The WATC provides relatively low cost debt financing to local councils in Western Australia. ▪ There is a risk of being too highly geared, which would impact on further debt financing needs and future infrastructure investment, in which case pressure for rate rises and/or spending cuts may be evident. ▪ There is potential for higher long term interest rates due to higher debt burden which would limit future investment. ▪ Additional revenue could be used to help service debt interest and repayments. ▪ There are opportunities for alternative loan terms (e.g. 10, 15 and 20 years).
External Grant Funding	▪ External funding opportunities are competitive in nature and generally have explicit requirements which may not be compatible with the project. ▪ There are limited grant funding opportunities available and none directly aligned to this stage 4 expansion. ▪ The public jetty, due to its recreational nature, could receive up to 75% funding through a successful submission to the Department of Transport for a Recreational Boating Facilities Scheme grant.

05

FINANCIAL ANALYSIS

FINANCIAL ANALYSIS | OPTION 5C

Based on the proposed mix of pens for Option 5C, we conducted a financial analysis comparing different loan terms and interest rates. Adopted assumptions include:

- **Project Timing**: The project expansion and loan commencement are set to start in FY 28. Following this, revenue and expenditure for stage 4 are projected for FY 29 onwards, when the marina is expected to be operational.
- **Loan Amount**: P90 estimates from the QS have been used for the loan scenario, accounting for the total project cost deducted by detailed design fees (assumed to be paid in FY 26 and 27) and public jetty costs*.
- **Revenue:** Revenue includes existing berth marina income (net 3 pens lots from Jetty C in FY29 $28,781) and additional income anticipated from the stage 4 marina expansion, with an assumed annual escalation of 5%. Occupancy rate assumptions are FY 29 @85%, FY30 @85%, FY31 @90%, FY 32 @95%, FY 33+ @97%.
- **Operating Expenses**: Staffing costs, materials and contracts, utilities and internal recharging are assumed to increase and escalated at 5% each year.
- **Maintenance Cost**: Based on QS advice, 1% of the construction cost is assumed annually for maintaining the new stage 4 marina from FY 29 and escalated at 5% each year.
- **Contributions**: The Net Operating Income (NOI) includes contributions for depreciation, replacement, and a marina expansion loan up to FY 43.

With revenue support from the existing marina, the cumulative position across the 15 and 20 loan term options is expected to support the annual debt servicing amount each year. However, the 10 year loan term presents a more aggressive approach and is anticipated to encounter a negative cumulative position during entire term. (See appendix D for full cashflow)

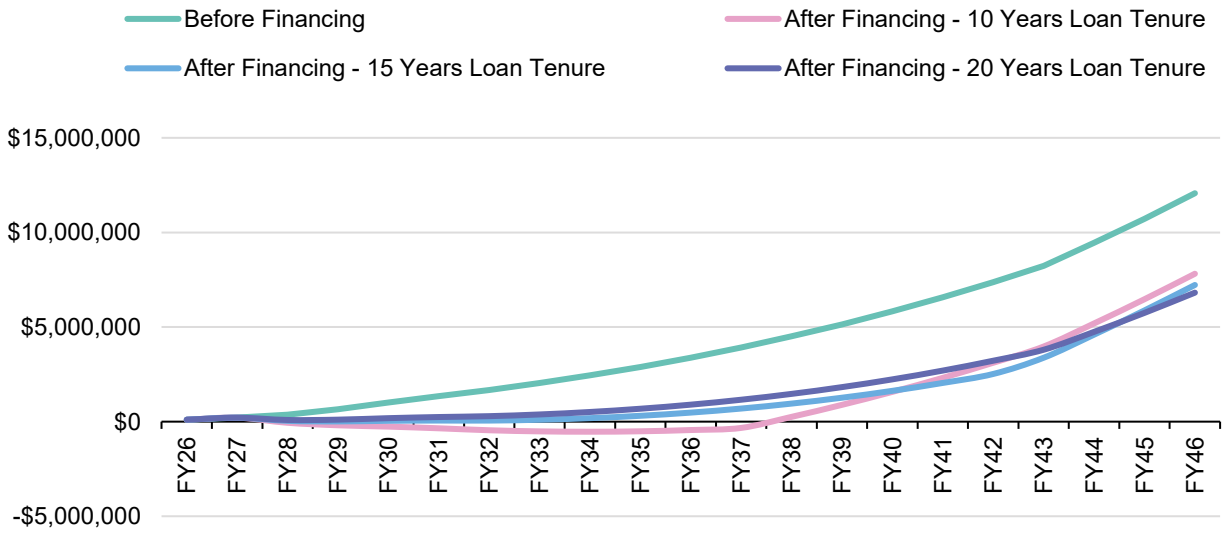
*Note: The public jetty construction cost of $497,618 has been excluded from the loan amount (as outlined in section 4).

Debt Funding Cost Assumptions

	10 Years	15 Years	20 Years
Loan Amount	$3,406,461	$3,406,461	$3,406,461
Loan Term (years)	10	15	20
Interest Rate	4.60%	5.00%	5.30%
Start Date	1-Jul-27	1-Jul-27	1-Jul-27
Debt Amount	$3,406,461	$3,406,461	$3,406,461
Total Amount Spent on Interest	$849,754	$1,442,393	$2,125,417
Total Interest and Principal Payment	$4,256,215	$4,848,854	$5,531,878
Annual Debt Servicing Amount (Principle+Interest)	$425,621 /pa	$323,257 /pa	$276,594 /pa

Source: City of Cockburn, Urbis

After Financing Cumulative Position of Current and Stage 4 Marina



Source: Urbis

06

ECONOMIC ANALYSIS

ECONOMIC ANALYSIS | ONGOING ECONOMIC AND EMPLOYMENT BENEFITS

A high level socio-economic analysis of the expanded marina has been developed based off Option 5C. This assessment estimated the economic value of the expanded marina at approximately $3 million per annum, which is $400,000 more annually than the marina operating as business as usual.

This estimate is based on a review of the economic, social and environmental contribution of the aforementioned expansion at Port Coogee Marina.

The **expanded Marina** will provide the following economic contribution:

- **On-site employment** – **6** jobs (3 full-time and 3 part-time / casual).

It is important to note that the monetised benefits exclude the public jetty and associated visitor expenditure this would support.

Estimated Economic Value Assumptions

The economic value of a boat pen is measured as an estimate of the recreational value created per boat per day. Following a review of relevant literature, the value per day per boat was estimated at USD$69.34. This value was taken from research by the American Water Resources Association. This number is adjusted to allow for inflation and exchange rate. The number of boat pens at the final built out marina is assumed to be 8 public and 260 private. Boat usage per year for the boats that are stored at Port Coogee is estimated to be 20%.

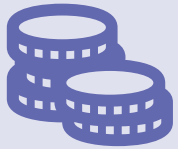
Estimated Annual Economic Value – Business As Usual Marina

$2.6M
Economic Benefit

4
Jobs

Sources: Urbis, American Water Resources Association, Department of Transport

Estimated Annual Economic Value – Expanded Marina



$3M
Economic Benefit

+$400K

6
Jobs

Sources: Urbis, American Water Resources Association, Department of Transport

ECONOMIC ANALYSIS | ADDITIONAL ECONOMIC AND SOCIAL DEVELOPMENT BENEFITS

Expanding the number of pens and facilities at Port Coogee Marina presents a valuable opportunity to enhance both the social and economic landscape of the area. By increasing marina capacity, the community can enjoy a range of benefits that contribute to a vibrant and thriving local environment.

Key advantages include those shown in the adjacent tables, which are also summarised below:

Economic Benefits:

- **Local Business Growth:** Stimulates demand for nearby businesses.
- **Property Value Increase:** Enhances the attractiveness of nearby properties.
- **Tourism Revenue:** Increases spending in the local area.

Social Benefits:

- **Enhanced Community Engagement:** Serves as a hub for recreational facilities.
- **Increased Recreational Opportunities:** Promotes a healthy, active lifestyle.
- **Tourism Attraction:** Draws more visitors, boosting local tourism.

By investing in the expansion of Port Coogee Marina, the community stands to gain significant social and economic rewards, fostering a more dynamic and prosperous future.

Economic Benefits

BENEFIT	DESCRIPTION
Local Business Growth	Increased marina capacity can drive demand for local businesses, including restaurants, shops, and marine services, stimulating the local economy.
Property Value Increase	Enhanced marina facilities can increase the attractiveness of nearby properties, potentially raising property values and local tax revenues.
Tourism Revenue	Attracting more visitors to the marina can boost spending in the area, contributing to overall economic growth and sustainability.

Social Benefits

BENEFIT	DESCRIPTION
Community Engagement	Enhanced marina facilities can serve as a hub for community activities, fostering social interaction and a sense of community.
Recreational Opportunities	More pens and improved facilities provide greater access to recreational boating, promoting a healthy, active lifestyle.
Tourism Attraction	A well-equipped marina can attract tourists, boosting local tourism and providing residents with more leisure options.

07

IMPLEMENTATION PLANS

IMPLEMENTATION PLANS | PROJECT PLAN

The key milestones and anticipated timeframes are outlined at a high level to facilitate the project's delivery.

Key future tasks include:

- Endorsement of this business case;
- Commitment of funding to the Stage 4 Expansion;
- Ongoing engagement with stakeholders;
- Technical investigations and detailed design;
- Site works approvals/contract procurement and award; and construction of preferred option.

Key Milestones

MILESTONE	TIMING	MAY 25	JUN 25	JUL 25	AUG 25	SEP 25	OCT 25	NOV 25	DEC 25	JAN 26	FEB 26	MAR 26
Preparation of Business Case												
Draft Business Case												
Caretaker Period												
Public Consultation												
Business Case Endorsed												
Corporate Planning Cycle	FY26											
Detailed Design	FY26 to FY27											
Delivery	FY28											
Operational	FY29											

IMPLEMENTATION PLANS | RISK MANAGEMENT PLAN

To guide the effective risk management, a preliminary risk identification process has been undertaken as part of this project plan. A detailed risk management plan should be developed as part of further project planning.

ID	RISK CATEGORY	EVENT	CAUSE	CONSEQUENCE	INHERENT RISK ANALYSIS			CONTROL ASSESSMENT	
					LIKELIHOOD	CONSEQUENCE	RISK RATING	MITIGATION MEASURES	EFFECTIVENESS
1	Regulatory	Approvals (e.g. utilities, development, building, environmental)	Miscalculation during planning process Unexpected findings on site	Delay commencement and completion of project	Unlikely	Moderate	Medium	Appropriate studies undertaken prior to approvals process to ensure the state of the site is known. Project manager to liaise with approval authorities at an early stage. Appropriately qualified consultants to undertake studies.	Excellent
2	Regulatory	Contractor non-compliant with legislation	Mismanagement by builder	Project completion delayed	Unlikely	Moderate	Medium	Periodic audit of contractor's project plan. Contractor documentation fully verified prior to commencement and throughout life of contract.	Good
3	Procurement	Insufficient responses received	Highly competitive market	Delay commencement and completion of project	Unlikely	Moderate	Medium	Identify potential tenderers with capability to undertake the works prior to initiating project. Undertake tender procurement process at an early stage to ensure sufficient lead time is provided to receive responses and allow successful tenderer to ensure resources will be available when needed.	Excellent
4	Market	Change in demand	Change in vessel size ownership	Low occupancy rate of pens	Unlikely	Moderate	Medium	Implementing a diverse mix of pens to accommodate varying vessel sizes and evolving demand, thereby future-proofing the marina. The future redevelopment of Stages 1 and 2 in circa 15 years will further mitigate risks and adapt to changing demand.	Excellent
5	Financial	Inaccurate capital cost estimates	Costs exceeding proposed building costs	Project completion delayed	Possible	Moderate	Medium	Sign contract for construction by set project milestone. Ensure accurate budgets are prepared and subsequently managed by qualified project manager. Capital cost estimate conducted by Quantity Surveyors.	Excellent
6	Financial	Budget exceeded	Unforeseen building problems incurred	Project completion delayed	Possible	Moderate	Medium	Past and forthcoming expenditure to be reviewed at each project team meeting ensuring it is on budget. Up to date cost estimates obtained. Project to be managed by qualified project manager.	Good
7	Site/Construction	Poor quality to finished product	Mismanagement by builder	Project needs to be upgraded	Possible	Major	High	Introduce hold points to ensure works meet specification and quality. PM may consider rejection of poor quality of works/materials.	Excellent
8	Site/Construction	Not meeting project milestones	Miscalculation during planning process	Project completion delayed	Possible	Minor	Medium	Continual review of project and scheduling at project team meetings. Detailed schedule of works to be completed upon appointment of contractor.	Excellent
9	Site/Construction	Contractors go out of business	External events	Project completion delayed	Possible	Major	High	Due diligence completed during tender process to ensure contractors have proven track record, are financially sound and have the capability to complete works.	Good
10	Site/Construction	Extreme weather conditions	External events	Project completion delayed	Possible	Minor	Medium	Include contingencies for inclement weather and/dangerous work conditions. Timing of ground works.	Good
11	Site/Construction	Undue impacts on environmental features	Site environmental features are not adequately assessed	Project completion delayed Meeting approval requirements costly	Unlikely	Minor	Low	Further studies required to assess potential impact on environmental features.	Good

08

APPENDICES

APPENDIX A| LONG LIST OF OPTIONS – VERSION 2 MCA

CRITERIA	CRITERIA WEIGHTING	OPTION 1: 10M PENS PUBLIC JETTY	OPTION 2: 10M + 12M PENS PUBLIC JETTY	OPTION 4: 20M PENS	OPTIONS 5, 5A, 5B, 5C: JET SKIS + 10M +12M + 15M PENS PUBLIC JETTY	OPTION 6: 8M + 15M PENS
Social / Community Benefits	15%	5	4	2	4.5	3
Design Life Flexibility	30%	2	3	5	4.5	4.5
Economic Benefits	15%	3	2	1	2	1
Risk	10%	3	3	3	3	3
Financial Return	30%	4	4	2	4	4
Overall Score		3.3	3.3	2.9	3.8	3.5

APPENDIX B | OPTIONS ANALYSIS | SHORT-LISTED OPTION 2 (NOT PREFERRED)

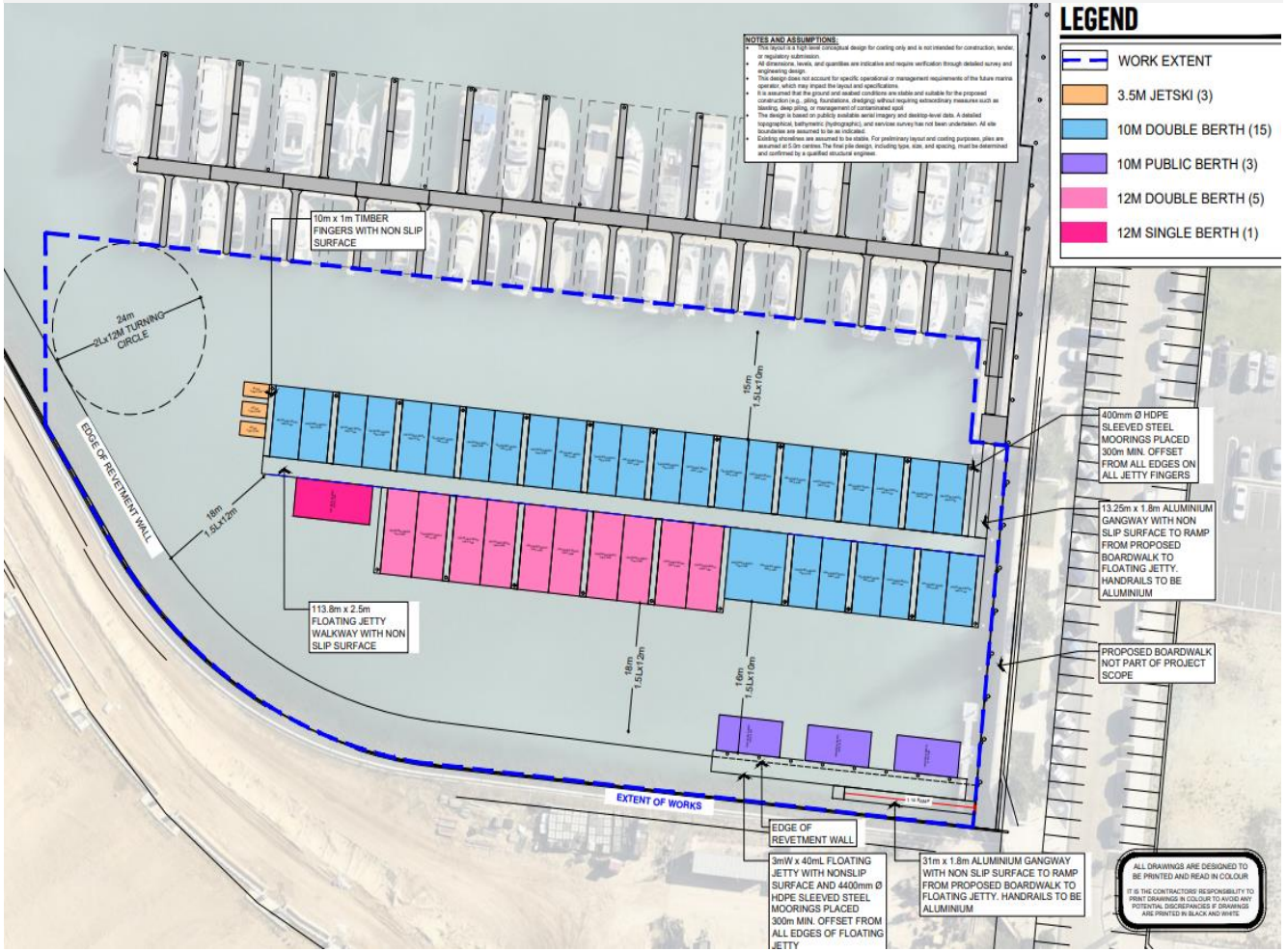
Option 2 is characterised by 44 private pens and a single 113.8m x 2.5m floating jetty pontoon and aluminum gangway.

To the south, there is a public jetty offering 3 berths for 10m vessels.

Option 2 Pen Size Mix

PEN SIZE	NUMBER OF PENS
Jet Ski	3
10m – double (15)	30
12m – double (5)	10
12m – single	1
Total	**44**
10m – public	3

Option 2 Plan



Source: Urbis

APPENDIX CI COST ESTIMATES

Port Coogee Marina
Stage 4

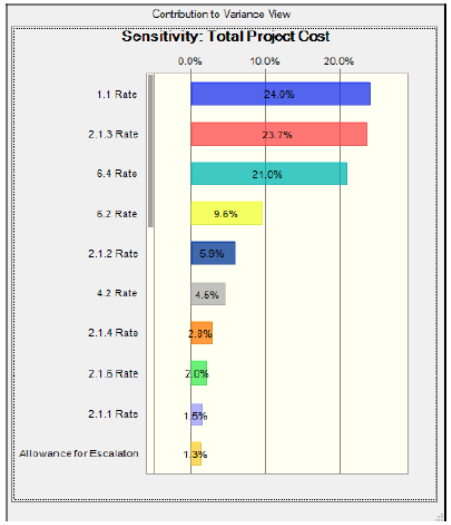
TRINACRIA CONSULTING

Project	**Port Coogee Stage 4 Marina**
Item	**Probabilistic Cost Estimate**
Option	**Option 5C**
References	**URBIS Drawing SK5C Revision B**
Revision	**A**
Client	**URBIS**
Author	**Nello Siragusa**
Date	**10/06/2025**

Item	Description	Unit	Quantity		Rate		Amount			Comment
			Best Qty	Worst Qty	Best Rate	Worst Rate	Base Estimate	P50 Estimate	P90 Estimate	
1	**Preliminaries**									
1.1	Mobilisation/Demobilisation, Insurances, Site Establishment, Insurances, Preparation of Management Plans, Other indirect Costs	Item	1		353,200	706,500	353,200			20% - 30% of Direct Costs Upper limit increased to cover Indirect Cost Increases
	Sub Total Item 1 Preliminaries						***353,200***	***461,595***	***596,909***	
2	**Jetty & Abutment Works**									
2.1	***Jetty***									
2.1.1	Supply and Install Walkway Piles	Ea.	7	8	25,610	32,013	179,270			406x12.7 CHS Piles Cut off level +3.2 Average length 15m Includes HDPE Sleeve & Bird Cap
2.1.2	Supply & Install Finger Jetty Piles	Ea.	14		25,610	32,013	358,540			Pile productivity assumed 1 pile per day
2.1.3	Supply and Install Walkway	m^2	296		2,019	3,029	597,624			2.5m wide Walkway
2.1.4	Supply and Install 15m Fingers	No	6		33,305	49,958	199,830			
2.1.5	Supply and Install 12m Fingers	No	1		28,436	42,654	28,436			0.9m wide Finger Jetty
2.1.6	Supply and Install 10m fingers	m	7		26,199	39,299	183,393			0.9m wide Finger Jetty
2.1.7	Supply & Install Gangway	Item	1		54,700	82,050	54,700			13.25 * 1.8m wide Gangway
2.1.8	Supply and Install Jet ski Dock Block Pens	No	6		4,500	6,750	27,000			
2.1.9	Allowance for abutment Works	Item	1		5,000	7,500	5,000			
2.1.10	Security Gate (Not Required)	Item			8,000	12,000	0			*Assume No Requirement*
	Sub Total Item 2 Jetty & Abutment Works						***1,633,793***	***1,746,176***	***1,896,652***	
3	**Services**									
3.1	***Water***									
3.1.1	Supply & lay 40 mm Water Main from existing supply main at the abutment	m	120	144	100	200	12,000			
3.2	***Lighting***									
3.2.1	Supply and Install Solar Powered Lights to Jetty	No	4	5	8,000	12,000	32,000			Solar Powered Lighting Assumed
3.3	**Power Supply**									
3.3.1	Switchboard	Item	1		50,000	75,000	50,000			
3.3.2	LV Retic from abutment	m	120		250	375	30,000			
3.3.3	Allowance for Service pillars on jetties	No	13		4,500	6,750	65,000			
3.4	**Fire Fighting**									
3.4.1	Supply and install Booster station on shore	Item	-		13,000	19,500	0			Check if required
3.4.2	Supply & Install 150 mm Fire main	m	120	144	250	375	30,000			Assume water service available at abutment
3.4.3	Supply & Install Hydrants	No	4		4,000	6,000	16,000			
3.4.4	Supply & Install Hose Reels & Cabinets	No	4		3,500	5,250	14,000			
3.4.5	Allowance for Valves & Fittings	Item	1		20,000	30,000	20,000			
3.4.6	Allowance for CCTV	Item	1		10,000	15,000	10,000			
	Sub Total Item 3 Services						***279,000***	***301,206***	***322,389***	

APPENDIX C| COST ESTIMATES (CONT.)

4	**Public Jetty**									
4.1	Supply and Install Piles	No.	4	5	23,748	29,685	94,992			356x12.7 CHS Piles 15m long
4.2	Supply and Install Floating Walkway	m^2	120		2,019	3,029	242,280			3m wide x 40m long
4.3	Supply and Install Landing Pontoon	m^2	5		2,019	3,029	10,095			
4.4	Supply and Install Gangway	Item	1		54,700	82,050	54,700			13.25 * 1.8m wide Gangway
4.5	Allowance for Dive team to remove rocks for pile driving	Days	2		5,000	7,500	10,000			
	Sub Total Item 4 Public Jetty						***412,067***	***442,371***	***497,618***	
5	**Miscellaneous Items**									
5.1	Allowance Navigation Beacons	No	1	2	5,000	7,500	5,000			
5.2	Allowance for Traffic Management (Land & Water)	Item	1		15,000	30,000	50,000			
	Sub Total Item 5 Miscellaneous Items						***5,000***	***7,968***	***10,606***	
	Total Direct Costs						***2,354,860***	***2,512,718***	***2,670,759***	
6	**Engineering & Project Management**									
6.1	Geotechnical Investigations -(Not Required)	Item	1		0	0	0			
6.2	Design	Item	1		117,700	147,125	117,700			5% of Direct Costs
6.3	Environmental Approvals (Excluded from Estimate)	Item	1		0	0	0			Excluded from estimate
6.4	Planning, Project Management & Contract Administration	Item	1		423,900	508,680	423,900			15% of Direct Costs
6.5	Notice to Mariners & Project Signs	Item	1		5,000	10,000	5,000			
6.6	Environmental & Heritage Monitoring	Item	1		50,000	75,000	50,000			
	Sub Total Item 6 Engineering & Project Management						***596,600***	***655,300***	***744,262***	
7	**Allowance for Escalation**									
7.1	Allowance for Escalation	Item	1		6%	10%	141,292			
	Sub Total Item 7 Allowance for Escalation						***141,292***	***200,602***	***241,978***	
	Total Project Cost						***3,445,952***	***3,847,843***	***4,126,204***	
	Risk Based Contingency							12%	20%	



Exclusions
Business Case Expenses
Temporary Mooring for Contractor Floating Plant

Prepared By
Nello Siragusa
Trinacria Consulting

Page 1 of 1

APPENDIX C| COST ESTIMATES (CONT.)

Port Coogee Stage 4

Basis of Cost Estimate June 2025

General

The estimates are based on URBIS Concept Drawings SK2 and SK5C - Port Coogee Stage 4 Marina Concept Option 2 and Option 5C,

Rates for similar work in the metropolitan region have been used.

The current contracting environment is still strong due to many projects being brought forward by both the Government and the private sector as a COVID measure and the reported shortage of skilled trades. In recent times (post COVID) transport costs have risen due to increases in fuel prices. The cost of steel and aluminium has increased by up to 50%, when compared to pre-COVID rates, this has also been exacerbated by the rise in shipping costs although steel costs have come off slightly in recent times.

Preliminaries

Contractor Preliminaries and indirect costs including, mobilization/demobilization, office overheads, insurances, management plans etc. and normally in the range of 20% to 30% of direct costs. For this estimate a lower band of between 15% and 30% has been used as there are several competent local contractors in this industry capable of executing the work.

Marine Infrastructure

Steel Piles for jetties have been based on a supply rate of $3,000 per tonne. The pile layout is based on the client preference for no independent rear mooring piles between double pens. Piles sizes are assumed to be 406 x 12.5mm CHS sections for the pen system and 355x12.7mm CHS for the public jetty. It is possible that following the detailed design some pile sizes may be reduced slightly.

Floating jetty pontoons and aluminium gangways have been based on a unit rate for fabrication of $1,800/m^2 plus delivery and installation. The gangway has been costed on a width of 1.8m as shown on the drawings, however this may reduce to 1.5m at the detailed design phase.

Contractor daily costs including floating plant and labour have been costed at $12,000 per day.

Services

All pens will be supplied with power and water via a service pedestal – one pedestal shared between two pens. It has been assumed that adequate power and water supply will be available at the abutment. Rates for services based on Rawlinsons and recent DoT and RIA projects in Fremantle, Hillarys and Rottnest Island.

Risk Management

Risk has been considered for both quantities and rates.

Where quantities which could vary due to inaccuracies in estimates or due to latent conditions, these have been assigned a risk profile by selecting a suitable statistical distribution for the best and worst estimate quantities. In this instance a Weibull distribution was used with a bias toward the best estimate quantity as shown in Figure 1 below.

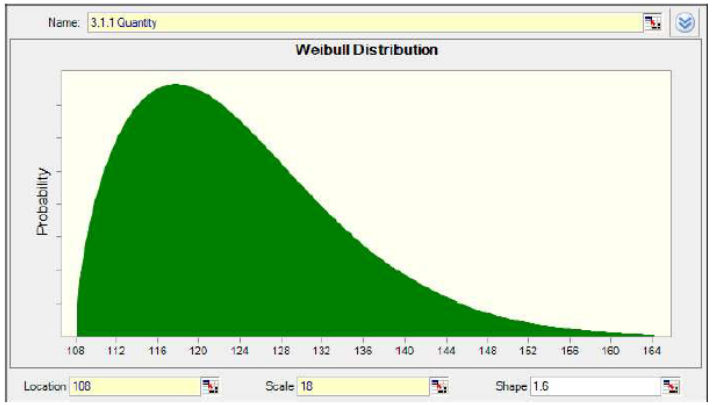


Figure 1: Example Distribution where quantity may vary - in this case the length of water main.

Similarly for rates, those activities which may vary rates due to complexities, latent conditions or lack of competition have been allocated a risk profile. An example is shown in Figure 2 below where the rate for installed piles may vary due to steel costs and latent conditions.

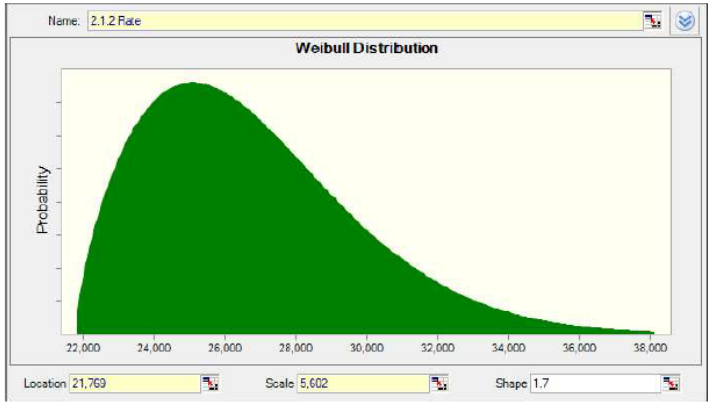


Figure 2: Distribution used for Supply and installation of piles

For Items where the Quantity or Rates may vary between discrete lower and upper bounds a Uniform Distribution has been utilised. This has been applied to the Allowance for Escalation. The allowance for escalation of 6% is based on Rawlinsons forecast for building and construction works.

A Monte Carlo analysis was then undertaken where the differing quantities and rates were randomly selected from within the defined risk profiles to arrive at a cost. The analysis was undertaken for a run of 10,000 trials to produce various probabilities including the P90 estimate. Note that by definition P90 means that there is a 10% probability that this estimate will be exceeded.

Risk Breakdown

The difference between the Best Estimate and the P90 estimate is a measure of the total risk allocation both Inherent and Contingent risk.

Inherent risk is a function of measured items and assumptions and considers the uncertainty as to the accuracy or reliability of those assumptions in the Base Estimate. These uncertainties can be applied to the assumed quantity, productivity rate, price of equipment, labour, etc. Inherent risks have been accounted for as described above. (These can be described as known unknowns).

Contingent risk relates to unmeasured items that may not occur and may or may not contribute to project cost. Typical contingent risks include extreme weather or latent conditions such as contaminated soil, rock, unexploded ordinances, unexpected heritage issues etc (i.e. unknown unknowns). These have been accounted for in increased rates for activities such as pile driving which may encounter hard rock.

The values expressed in the P50 Estimate and P90 Estimate amount columns are not the output from the risk model, but rather are the input values to the risk model. These input values form part of the Monte Carlo simulation to arrive at the probabilistic cost estimate, which is then expressed as a percentage of the Base Cost. In other words, the sum of the individual P90 subtotals does not equal the P90 for the total project cost. The P90 Total project cost estimate is the figure generally used for budgeting purposes. This figure and the risk allocation can be refined after the detailed design phase or by seeking contractor input.

APPENDIX D| OPTION 5C | FINANCIAL ANALYSIS CASH FLOW (FY26 – FY35)

			FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
Revenue	***Assumed Occupancy***			0%	0%	85%	85%	90%	95%	97%	97%	97%
10m	14		$0	$0	$0	$99,950	$104,947	$116,677	$129,317	$138,641	$145,573	$152,852
12m	3		$0	$0	$0	$25,822	$27,113	$30,144	$33,409	$35,818	$37,609	$39,490
15m	9		$0	$0	$0	$100,397	$105,417	$117,199	$129,896	$139,262	$146,225	$153,536
20m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12m x 7m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12m x 7.5m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15m x 7.5 m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15m x 8.5m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Jet Ski	6		$0	$0	$0	$21,356	$22,424	$24,930	$27,631	$29,623	$31,104	$32,659
8m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
18m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
25m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
18 x 9.8m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
20m Single			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Commercial - Rottnest			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Stage 4 Berth Revenue			$0	$0	$0	$247,525	$259,901	$288,949	$320,252	$343,344	$360,511	$378,537
Total Existing Berth Revenue			$2,062,562	$2,165,690	$2,273,975	$2,358,892	$2,476,837	$2,600,679	$2,730,713	$2,867,248	$3,010,611	$3,161,141
Total Berth Revenue			**$2,062,562**	**$2,165,690**	**$2,273,975**	**$2,606,418**	**$2,736,738**	**$2,889,628**	**$3,050,965**	**$3,210,592**	**$3,371,122**	**$3,539,678**
Fuel Facility			$20,000	$21,000	$22,050	$23,153	$24,310	$25,526	$26,802	$28,142	$29,549	$31,027
Reimbursement - Utilities			$22,000	$23,100	$24,255	$25,468	$26,741	$28,078	$29,482	$30,956	$32,504	$34,129
Misc Income			$10,000	$10,500	$11,025	$11,576	$12,155	$12,763	$13,401	$14,071	$14,775	$15,513
Total Revenue			$2,114,562	$2,220,290	$2,331,305	$2,666,614	$2,799,945	$2,955,995	$3,120,650	$3,283,762	$3,447,950	$3,620,347
Operating Costs	**Escalation**	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Salaries			$399,206	$419,167	$440,125	$462,131	$485,238	$509,500	$534,975	$561,724	$589,810	$619,300
Additional Staffing Allocation				$153,867	$161,560	$169,638	$178,120	$187,026	$196,378	$206,196	$216,506	$227,332
Superannuation and Accrued Leave		15.0%	$59,881	$85,955	$90,253	$94,765	$99,504	$104,479	$109,703	$115,188	$120,947	$126,995
Total Employee Costs - Salaries & Direct Oncosts			**$459,087**	**$658,989**	**$691,938**	**$726,535**	**$762,862**	**$801,005**	**$841,055**	**$883,108**	**$927,263**	**$973,627**
Uniforms			$3,308	$3,473	$3,647	$3,829	$4,020	$4,221	$4,432	$4,654	$4,887	$5,131
Employee Costs - Indirect Oncosts			**$3,308**	**$3,473**	**$3,647**	**$3,829**	**$4,020**	**$4,221**	**$4,432**	**$4,654**	**$4,887**	**$5,131**
Materials & Contracts			$416,600	$437,430	$459,302	$482,267	$506,380	$531,699	$558,284	$586,198	$615,508	$646,283
Other Expenses (Licensing/ESL)			$12,550	$13,178	$13,836	$14,528	$15,255	$16,017	$16,818	$17,659	$18,542	$19,469
Equipment Maintenance Costs (for Stage 4 Marina)	1%	$3,028,540				$30,285	$31,800	$33,390	$35,059	$36,812	$38,653	$40,585
Materials & Contracts			**$429,150**	**$450,608**	**$473,138**	**$527,080**	**$553,434**	**$581,106**	**$610,161**	**$640,669**	**$672,703**	**$706,338**
Total Utilities			**$41,978**	**$44,077**	**$46,281**	**$48,595**	**$51,025**	**$53,576**	**$56,255**	**$59,067**	**$62,021**	**$65,122**
Internal Recharging			**$176,200**	**$185,010**	**$194,261**	**$203,974**	**$214,172**	**$224,881**	**$236,125**	**$247,931**	**$260,328**	**$273,344**
Total Expenses excluding contributions			$1,109,723	$1,342,156	$1,409,264	$1,510,012	$1,585,513	$1,664,789	$1,748,028	$1,835,430	$1,927,201	$2,023,561

Source: Urbis
**Excluding Internal Activity Based Costing (ABC)*

APPENDIX D | OPTION 5C | FINANCIAL ANALYSIS CASH FLOW (FY36 – FY47)

			FY36	FY37	FY38	FY39	FY40	FY41	FY42	FY43	FY44	FY45	FY46	FY47
Revenue	***Assumed Occupancy***		97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%
10m	14		$160,494	$168,519	$176,945	$185,792	$195,082	$204,836	$215,078	$225,832	$237,123	$248,980	$261,429	$274,500
12m	3		$41,464	$43,537	$45,714	$48,000	$50,400	$52,920	$55,566	$58,344	$61,261	$64,324	$67,541	$70,918
15m	9		$161,213	$169,273	$177,737	$186,624	$195,955	$205,753	$216,041	$226,843	$238,185	$250,094	$262,599	$275,729
20m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12m x 7m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12m x 7.5m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15m x 7.5 m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15m x 8.5m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Jet Ski	6		$34,292	$36,007	$37,807	$39,697	$41,682	$43,766	$45,955	$48,252	$50,665	$53,198	$55,858	$58,651
8m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
18m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
25m			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
18 x 9.8m Catamaran			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
20m Single			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Commercial - Rottnest			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Stage 4 Berth Revenue			$397,464	$417,337	$438,204	$460,114	$483,119	$507,275	$532,639	$559,271	$587,235	$616,596	$647,426	$679,798
Total Existing Berth Revenue			$3,319,198	$3,485,158	$3,659,416	$3,842,387	$4,034,506	$4,236,232	$4,448,043	$4,670,445	$4,903,968	$5,149,166	$5,406,624	$5,676,956
Total Berth Revenue			**$3,716,662**	**$3,902,495**	**$4,097,620**	**$4,302,501**	**$4,517,626**	**$4,743,507**	**$4,980,683**	**$5,229,717**	**$5,491,202**	**$5,765,763**	**$6,054,051**	**$6,356,753**
Fuel Facility			$32,578	$34,207	$35,917	$37,713	$39,599	$41,579	$43,657	$45,840	$48,132	$50,539	$53,066	$55,719
Reimbursement - Utilities			$35,836	$37,627	$39,509	$41,484	$43,558	$45,736	$48,023	$50,424	$52,946	$55,593	$58,373	$61,291
Misc Income			$16,289	$17,103	$17,959	$18,856	$19,799	$20,789	$21,829	$22,920	$24,066	$25,270	$26,533	$27,860
Total Revenue			$3,801,364	$3,991,433	$4,191,004	$4,400,555	$4,620,582	$4,851,611	$5,094,192	$5,348,902	$5,616,347	$5,897,164	$6,192,022	$6,501,623
Operating Costs	**Escalation**	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Salaries			$650,265	$682,778	$716,917	$752,763	$790,401	$829,921	$871,418	$914,988	$960,738	$1,008,775	$1,059,214	$1,112,174
Additional Staffing Allocation			$238,698	$250,633	$263,165	$276,323	$290,139	$304,646	$319,878	$335,872	$352,666	$370,299	$388,814	$408,255
Superannuation and Accrued Leave		15.0%	$133,345	$140,012	$147,012	$154,363	$162,081	$170,185	$178,694	$187,629	$197,011	$206,861	$217,204	$228,064
Total Employee Costs - Salaries & Direct Oncosts			**$1,022,308**	**$1,073,423**	**$1,127,095**	**$1,183,449**	**$1,242,622**	**$1,304,753**	**$1,369,990**	**$1,438,490**	**$1,510,414**	**$1,585,935**	**$1,665,232**	**$1,748,494**
Uniforms			$5,388	$5,657	$5,940	$6,237	$6,549	$6,876	$7,220	$7,581	$7,960	$8,358	$8,776	$9,215
Employee Costs - Indirect Oncosts			**$5,388**	**$5,657**	**$5,940**	**$6,237**	**$6,549**	**$6,876**	**$7,220**	**$7,581**	**$7,960**	**$8,358**	**$8,776**	**$9,215**
Materials & Contracts			$678,598	$712,527	$748,154	$785,561	$824,840	$866,081	$909,386	$954,855	$1,002,598	$1,052,727	$1,105,364	$1,160,632
Other Expenses (Licensing/ESL)			$20,443	$21,465	$22,538	$23,665	$24,848	$26,091	$27,395	$28,765	$30,203	$31,713	$33,299	$34,964
Equipment Maintenance Costs (for Stage 4 Marina)	1%	$3,028,540	$42,615	$44,745	$46,983	$49,332	$51,798	$54,388	$57,108	$59,963	$62,961	$66,109	$69,415	$72,885
Materials & Contracts			**$741,655**	**$778,737**	**$817,674**	**$858,558**	**$901,486**	**$946,560**	**$993,888**	**$1,043,583**	**$1,095,762**	**$1,150,550**	**$1,208,077**	**$1,268,481**
Total Utilities			**$68,378**	**$71,797**	**$75,386**	**$79,156**	**$83,114**	**$87,269**	**$91,633**	**$96,214**	**$101,025**	**$106,076**	**$111,380**	**$116,949**
Internal Recharging			**$287,011**	**$301,362**	**$316,430**	**$332,251**	**$348,864**	**$366,307**	**$384,623**	**$403,854**	**$424,046**	**$445,249**	**$467,511**	**$490,887**
Total Expenses excluding contributions			$2,124,739	$2,230,976	$2,342,525	$2,459,651	$2,582,634	$2,711,765	$2,847,354	$2,989,721	$3,139,208	$3,296,168	$3,460,976	$3,634,025

Source: Urbis
**Excluding Internal Activity Based Costing (ABC)*

APPENDIX D| OPTION 5C | FINANCIAL ANALYSIS CASH FLOW (FY26 – FY35)

		FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
Operating Surplus / Deficit											
Total Revenue		$2,114,562	$2,220,290	$2,331,305	$2,666,614	$2,799,945	$2,955,995	$3,120,650	$3,283,762	$3,447,950	$3,620,347
Total Expenses excluding contributions		$1,109,723	$1,342,156	$1,409,264	$1,510,012	$1,585,513	$1,664,789	$1,748,028	$1,835,430	$1,927,201	$2,023,561
Net Operations Surplus Before Contributions		**$1,004,839**	**$878,134**	**$922,041**	**$1,156,602**	**$1,214,432**	**$1,291,206**	**$1,372,622**	**$1,448,332**	**$1,520,749**	**$1,596,786**
Net Margin			**40%**	**40%**	**43%**	**43%**	**44%**	**44%**	**44%**	**44%**	**44%**
Before Financing Net Cash Flow		**$1,004,839**	**$878,134**	**$922,041**	**$1,156,602**	**$1,214,432**	**$1,291,206**	**$1,372,622**	**$1,448,332**	**$1,520,749**	**$1,596,786**
Cumulative Position - Before Financing		$1,004,839	$1,882,973	$2,805,014	$3,961,615	$5,176,047	$6,467,253	$7,839,875	$9,288,207	$10,808,955	$12,405,741
Contributions for Current Marina											
Marina Asset Replacement		$400,000	$400,000	$400,000	$500,000	$500,000	$600,000	$700,000	$735,000	$771,750	$810,338
Marina Expansion Loan (Current Marina)		$375,600	$371,400	$367,200	$363,000	$358,803	$354,610	$350,420	$346,236	$342,058	$337,887
Total Contributions for Current Marina		**$775,600**	**$771,400**	**$767,200**	**$863,000**	**$858,803**	**$954,610**	**$1,050,420**	**$1,081,236**	**$1,113,808**	**$1,148,224**
Net Operations Surplus After Contributions of Current Marina		**$229,239**	**$106,734**	**$154,841**	**$293,602**	**$355,628**	**$336,596**	**$322,202**	**$367,096**	**$406,941**	**$448,562**
Cumulative Position - After Contributions of Current Marina		$229,239	$335,973	$490,814	$784,415	$1,140,044	$1,476,640	$1,798,842	$2,165,938	$2,572,879	$3,021,441
Term				0	1	2	3	4	5	6	7
		FY26	**FY27**	**FY28**	**FY29**	**FY30**	**FY31**	**FY32**	**FY33**	**FY34**	**FY35**
Total Project Cost (incl Public Jetty cost)	$4,126,204										
Public Jetty cost	$497,618										
Detailed Design (funded by marina reserve)	$222,125										
Debt Amount (Stage 4 Expansion excluding Public Jetty)	$3,406,461										
10 Years Loan Term											
Annual Debt Servicing Amount - 10 Years Loan Term		$0	$0	$425,621	$425,621	$425,621	$425,621	$425,621	$425,621	$425,621	$425,621
After Financing Net Cash Flow -10 Years Loan Term		$229,239	$106,734	-$270,781	-$132,020	-$69,993	-$89,025	-$103,420	-$58,525	-$18,681	$22,940
Cumulative Position - 10 Years Loan Term (After Contributions of Current Marina)		**$229,239**	**$335,973**	**$65,192**	**-$66,828**	**-$136,821**	**-$225,846**	**-$329,266**	**-$387,791**	**-$406,471**	**-$383,531**
15 Years Loan Term											
Annual Debt Servicing Amount - 15 Years Loan Term		$0	$0	$323,257	$323,257	$323,257	$323,257	$323,257	$323,257	$323,257	$323,257
After Financing Net Cash Flow -15 Years Loan Term		$229,239	$106,734	-$168,416	-$29,655	$32,372	$13,340	-$1,055	$43,839	$83,684	$125,305
Cumulative Position -Tenure 15 Years (After Contributions of Current Marina)		**$229,239**	**$335,973**	**$167,557**	**$137,902**	**$170,273**	**$183,613**	**$182,557**	**$226,397**	**$310,081**	**$435,386**
20 Years Loan Term											
Annual Debt Servicing Amount - Tenure 20 Years		$0	$0	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594
After Financing Net Cash Flow -Tenure 20 Years		$229,239	$106,734	-$121,753	$17,008	$79,035	$60,003	$45,608	$90,502	$130,347	$171,968
Cumulative Position -Tenure 20 Years (After Contributions of Current Marina)		**$229,239**	**$335,973**	**$214,220**	**$231,228**	**$310,262**	**$370,265**	**$415,872**	**$506,375**	**$636,722**	**$808,689**

Source: Urbis
**Excluding Internal Activity Based Costing (ABC)*

APPENDIX D| OPTION 5C | FINANCIAL ANALYSIS CASH FLOW (FY36 – FY47)

		FY36	FY37	FY38	FY39	FY40	FY41	FY42	FY43	FY44	FY45	FY46	FY47
Operating Surplus / Deficit													
Total Revenue		$3,801,364	$3,991,433	$4,191,004	$4,400,555	$4,620,582	$4,851,611	$5,094,192	$5,348,902	$5,616,347	$5,897,164	$6,192,022	$6,501,623
Total Expenses excluding contributions		$2,124,739	$2,230,976	$2,342,525	$2,459,651	$2,582,634	$2,711,765	$2,847,354	$2,989,721	$3,139,208	$3,296,168	$3,460,976	$3,634,025
Net Operations Surplus Before Contributions		**$1,676,625**	**$1,760,457**	**$1,848,479**	**$1,940,903**	**$2,037,949**	**$2,139,846**	**$2,246,838**	**$2,359,180**	**$2,477,139**	**$2,600,996**	**$2,731,046**	**$2,867,598**
Net Margin		**44%**	**44%**	**44%**	**44%**	**44%**	**44%**	**44%**	**44%**	**44%**	**44%**	**44%**	**44%**
Before Financing Net Cash Flow		**$1,676,625**	**$1,760,457**	**$1,848,479**	**$1,940,903**	**$2,037,949**	**$2,139,846**	**$2,246,838**	**$2,359,180**	**$2,477,139**	**$2,600,996**	**$2,731,046**	**$2,867,598**
Cumulative Position - Before Financing		$14,082,366	$15,842,823	$17,691,302	$19,632,206	$21,670,154	$23,810,000	$26,056,838	$28,416,018	$30,893,158	$33,494,154	$36,225,200	$39,092,798
Contributions for Current Marina													
Marina Asset Replacement		$850,854	$893,397	$938,067	$984,970	$1,034,219	$1,085,930	$1,140,226	$1,197,238	$1,257,099	$1,319,954	$1,385,952	$1,455,250
Marina Expansion Loan (Current Marina)		$333,724	$329,570	$325,426	$321,294	$317,173	$313,065	$308,970	$304,890				
Total Contributions for Current Marina		**$1,184,578**	**$1,222,967**	**$1,263,493**	**$1,306,264**	**$1,351,391**	**$1,398,994**	**$1,449,196**	**$1,502,127**	**$1,257,099**	**$1,319,954**	**$1,385,952**	**$1,455,250**
Net Operations Surplus After Contributions of Current Marina		**$492,047**	**$537,489**	**$584,986**	**$634,639**	**$686,557**	**$740,852**	**$797,642**	**$857,053**	**$1,220,040**	**$1,281,042**	**$1,345,094**	**$1,412,348**
Cumulative Position - After Contributions of Current Marina		$3,513,488	$4,050,977	$4,635,963	$5,270,603	$5,957,160	$6,698,012	$7,495,654	$8,352,706	$9,572,746	$10,853,788	$12,198,882	$13,611,230
Term		8	9	10	11	12	13	14	15	16	17	18	19
		FY36	**FY37**	**FY38**	**FY39**	**FY40**	**FY41**	**FY42**	**FY43**	**FY44**	**FY45**	**FY46**	**FY46**
Total Project Cost (incl Public Jetty cost)	$4,126,204												
Public Jetty cost	$497,618												
Detailed Design (funded by marina reserve)	$222,125												
Debt Amount (Stage 4 Expansion excluding Public Jetty)	$3,406,461												
10 Years Loan Term													
Annual Debt Servicing Amount - 10 Years Loan Term		$425,621	$425,621	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
After Financing Net Cash Flow -10 Years Loan Term		$66,426	$111,868	$584,986	$634,639	$686,557	$740,852	$797,642	$857,053	$1,220,040	$1,281,042	$1,345,094	$1,412,348
Cumulative Position - 10 Years Loan Term (After Contributions of Current Marina)		**-$317,105**	**-$205,237**	**$379,749**	**$1,014,388**	**$1,700,945**	**$2,441,797**	**$3,239,439**	**$4,096,492**	**$5,316,531**	**$6,597,573**	**$7,942,667**	**$9,355,015**
15 Years Loan Term													
Annual Debt Servicing Amount - 15 Years Loan Term		$323,257	$323,257	$323,257	$323,257	$323,257	$323,257	$323,257	$0	$0	$0	$0	$0
After Financing Net Cash Flow -15 Years Loan Term		$168,790	$214,232	$261,729	$311,383	$363,300	$417,595	$474,385	$857,053	$1,220,040	$1,281,042	$1,345,094	$1,412,348
Cumulative Position -Tenure 15 Years (After Contributions of Current Marina)		**$604,176**	**$818,408**	**$1,080,137**	**$1,391,520**	**$1,754,820**	**$2,172,415**	**$2,646,800**	**$3,503,853**	**$4,723,892**	**$6,004,934**	**$7,350,028**	**$8,762,376**
20 Years Loan Term													
Annual Debt Servicing Amount - Tenure 20 Years		$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594	$276,594
After Financing Net Cash Flow -Tenure 20 Years		$215,453	$260,895	$308,392	$358,046	$409,963	$464,258	$521,048	$580,459	$943,446	$1,004,448	$1,068,500	$1,135,755
Cumulative Position -Tenure 20 Years (After Contributions of Current Marina)		**$1,024,143**	**$1,285,038**	**$1,593,430**	**$1,951,476**	**$2,361,439**	**$2,825,697**	**$3,346,745**	**$3,927,204**	**$4,870,649**	**$5,875,097**	**$6,943,597**	**$8,079,352**

Source: Urbis
**Excluding Internal Activity Based Costing (ABC)*

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