JOSH BYRNE & ASSOCIATES

SHIRE OF IRWIN
DONGARA-PORT DENISON
A BRILLIANT BLEND

PORT DENISON FORESHORE MASTERPLAN
CONCEPT DESIGN REPORT

DOCUMENT CONTROL

PROJECT NO. 1811

This document may only be used for the purpose for which it was commissioned in accordance with the Terms of Engagement.

Document Status

DATE OF ISSUE	REVISION NO.	REASON FOR ISSUE	AUTHOR	REVIEWED BY	APPROVED BY
16/11/2018	A	ISSUE FOR APPROVAL	HL/VC	IP	MG
29/11/2018	B	ISSUE FOR APPROVAL	HL/VC	IP	MG
12/06/2019	C	ISSUE FOR CONSULTATION	HL	MG	MG
03/09/2021	D	ISSUE FOR CONSULTATION	JLS/HL	JLS/PV	PV
22/11/2021	E	FINAL ISSUE	HL/JLS	JLS/PV	PV

This document has been prepared by Josh Byrne & Associates for the Shire of Irwin, to provide a written explanation of the design intent and the key features of the Port Denison Foreshore Concept Design.

Please Note:

- The photographic images in this report have been included as indicative only of the style and feel of the project.
- It is anticipated that many items in the Port Denison Foreshore Concept Design will be custom designed or artist created and as such, imagery of these items is not available.

TABLE OF CONTENTS

1.0 INTRODUCTION PG 4

1.1 BACKGROUND 4
1.2 EXECUTIVE SUMMARY 5
1.3 PUBLIC ENGAGEMENT 6

2.0 ANALYSIS PG 7

2.1 CONTEXT AND USES 7
2.2 CHARACTER AND HERITAGE 8
2.3 ACCESS AND CONNECTIONS 8

3.0 DESIGN METHODOLOGY PG 9

3.1 PROJECT ASPIRATIONS 9
3.2 CONCEPT DESIGN VISION 9
3.3 DESIGN PRINCIPLES 9
3.4 DESIGN STRATEGIES 10

4.0 CONCEPT OVERVIEW PG 12

4.1 CONCEPT DESIGN 12
4.2 GRANNIES BEACH PRECINCT 13
4.3 FORESHORE PARK PRECINCT 15
4.4 FORESHORE CORE PRECINCT 16
4.5 BOAT RAMP PRECINCT 19
4.6 OBELISK PRECINCT 20

6.0 SUGGESTED PLANT SCHEDULE PG 22

7.0 OPC PG 24

7.1 GRANNIES BEACH 24
7.2 FORESHORE PARK 24
7.3 FORESHORE CORE 25
7.4 BOAT RAMP 25
7.5 GRANNIES BEACH 26
7.6 FORESHORE SUMMARY 26

8.0 REFERENCES PG 27

1.0 INTRODUCTION

The Port Denison Foreshore, in the township of Port Denison, is located 350km north of Perth, Western Australia. The sister town to Dongara, Port Denison is known for its relaxed lifestyle, scenic beaches, water-based activities and fishing history and industry making the foreshore a popular destination for the locals and visitors and is a valued community asset.

This report sets out Josh Byrne and Associates (JBA) Port Denison Foreshore Masterplan design. It has been prepared as a result of extensive engagement with the Shire and a public engagement process. The masterplan includes enhancements to the foreshore from Grannies Beach in the north to the Obelisk in the South. Five key precincts have been identified within the foreshore - Grannies Beach, Foreshore Park, Foreshore Core, the Boat Ramp and the Obelisk. Each precinct has its own existing character and features and the masterplan seeks to enhance this. The masterplan aims to improve access to and enjoyment of the foreshore by the community and attract visitors to contribute to the local economy.

1.1 BACKGROUND

The Port Denison Foreshore Masterplan project commenced in 2012 and an initial Port Denison Foreshore Masterplan was prepared by RPS in 2013. In 2016 the masterplan was revised to reflect feedback from the funding bodies indicating the need to demonstrate the project's economic viability and long term sustainability. In 2018, the Shire undertook community consultation and Shire workshops to reconsider the masterplan in the light of community feedback. In early 2018 the Shire of Irwin commissioned Josh Byrne & Associates (JBA) to develop concept designs for all five precincts of the Port Denison Foreshore at a more detailed level. JBA's work was informed by the findings and outcomes of the original RPS masterplan together with the evolving aspirations of the Shire and community. JBA worked closely with Shire staff through a series of site visits and meetings ensuring the foreshore vision was further developed within the concept designs. In March 2021, JBA presented the Foreshore Masterplan Concept designs at the Shire of Irwin's Public Consultation event. Considerable feedback was received from the community, which has informed the design in it's development. JBA has also engaged with the Wattandee tribe to understand the importance of the area to the Wattandee and how cultural references can be incorporated into the design.



Remains of the original jetty structure at Port Denison

1.2 EXECUTIVE SUMMARY

This document sets out JBA's design for the Port Denison Foreshore Masterplan. It is the result of detailed engagement with the Shire and community consultation. The Shire and community identified a number of objectives, from which JBA defined a number of design principles:

A CONNECTED PLACE - Create places that are walkable and have strong connections to re-engage the the community with the foreshore, beach and natural environment

A DISTINCT PLACE - Recognise and enhance expression of cultural heritage, meet the needs of the community, and create diverse spaces. Strengthen the unique character of the foreshore precincts. Emphasise themes related to maritime history, fishing, Indigenous History, biodiversity and the natural environment, and its long history as a seaside holiday destination.

AN ACCESSIBLE PLACE - Create welcoming, legible, and intuitive spaces for people of all ages and abilities. Incorporate flexible space that can be adapted for temporary and transitional uses. Provide high quality, continuous walking and cycling routes and establish pedestrian priority

A PLACE TO VISIT - Create places of interest and enhance existing assets and environments to attract visitors. Create a civic heart to bring the community together.

The concept design is developed from design principles and incorporates the distinct characters of each of the five key precincts:

- Grannies Beach Precinct
- Foreshore Park Precinct
- Foreshore Core Precinct
- Boat Ramp Precinct
- Obelisk Precinct

The document describes the background to the design process including public engagement feedback, the design methodology, and concept proposals for each of the precincts. Each of the precincts has a different emphasis based on its existing character. The community's priorities for development are currently Grannies Beach and the Foreshore Core Playground.



1.3 PUBLIC ENGAGEMENT

JBA's foreshore masterplan was presented at the public engagement event on the 4th March 2021. Key feedback included:

GENERAL

- Need for more caravan parking
- Playground and Grannies Beach a priority
- There isn't currently much for teenagers to do
- Lack of indigenous interpretation

GRANNIES BEACH

- Concern over continuous erosion of beach
- Amenity upgrades essential, it is the main swimming beach (used for swimming lessons also) but has no amenities and is too small
- Needs toilets/changerooms, seating, shade, bigger playground
- Road safety issues due to proximity to roundabout and lots of boat movement. Roundabout is confusing and dangerous with too many exits
- Preference for a natural shorelin or terracing to the beach
- Increased parking including pull-in for the bus
- Support for wheelchair access and matting

FORESHORE PARK

- Some suggestion of replacing the playground that was removed
- New plans for Fishermans museum

FORESHORE CORE

- Maintain views
- Playground - would like swings, nature play elements
- Interpret and remember Fishermans Hall
- Majority prefer pavilion on site of existing shelter sheds not William Street axis
- Prefer to be able to park adjacent to Pavilion
- Swimming area in the harbour seen as for visitors as locals don't swim in the harbour except to the south where some small children paddle.

BOAT RAMP

- Some felt more parking was needed but others felt additional parking was only needed occasionally on peak events and people could walk from adjacent parking areas
- Need dual boat ramps (2xlaunch and 2xreceive)
- Require wash pad

OBELISK

- Concern over floating restaurant (detracts from Obelisk, low tide issues)
- Most people feel the private lot development will detract significantly from the Obelisk
- Location of Visitors Centre questioned (sensitiveness to the Obelisk and not central to town)
- Difficult to caravans to manouvre
- Play area well used - this area particularly used by families with young children
- More integration of historical interpretation (Recognise first landing place at break in reef at end of Herbert Street)
- Concern over levels and road around Obelisk, and increase in parking to this sensitive site
- Incorporate shipwreck plaques along promenade below Obelisk

The community feedback has helped to inform revisions to the masterplan design and identification of priorities for the staging of the work by the Shire.



Obelisk and Fishermans memorial

2.0 ANALYSIS

The following analysis diagrams formed the basis from which the concept design is developed. Key points include:

- Context and Use - Existing use of the foreshore is predominantly recreation, beach access, and civic events. Previous Civic use of the Fisherman's Hall ended with its demolition. Recreational events are focused on the Foreshore Park area with its larger areas of lawn and parking. There are already a number of well used playgrounds on the Foreshore as indicated that are approach end of life. Parking at existing locations is required. There are strong winds from the south-easterly direction in the afternoon/evening that discourage use of the foreshore. There is a lack of lighting that limits use of the Foreshore in the evening.
- Character and Heritage - There are a number of key existing features including the Old Jetty, the site of the Fishermans Hall, the Obelisk and Fishermans Memorial, the historic Fig trees, the Shipwreck walk and plaques, remnant dunes, and beaches. The Fishermans Hall building has now been demolished and the plaques along the Shipwreck walk removed. Grannies Beach is the main swimming beach for locals and is used for swimming lessons. Space is heavily restricted and there are issues with road safety, parking and lack of amenities (shade, seating, toilets). There is a coffee van, and it is a popular spot. The foreshore park area is an existing open space already used for major events. The foreshore core lies spatially at the heart of the foreshore but is currently lacking a focus. It has historical links to civic use (Fishremans Hall) and activity (Old Jetty was main water access, and William Street was designed as a main street). The boat ramp precinct is well used and often overcrowded especially on event days and holidays. The Obelisk and Fisherman's memorial is a sensitive site for remembrance and is historically significant. There was a second obelisk now in ruins after being demolished to make way for the breakwater in 1974. Two obelisks were built in 1869 and had lights place on top to guide ships into harbour. The topography changes significantly at this southern end of the foreshore to rise to a hill where the Obelisk stands. There are extensive 360° views from this point.
- There is a footpath that runs the extent of the foreshore from north to south. There are a number of beach access points, many of which must be retained. Key beach access areas include the Grannies, the Foreshore Core, and the Boat Ramp. There is some concern over conflict between pedestrians and cars/boat trailers at the Obelisk, boat ramp, and Grannies Beach. There is currently no formal pedestrian crossing between the foreshore core and the shops/bars on the other side of Point Leander Drive.

2.1 CONTEXT AND USES

LEGEND:

- Recreation and beach access
- Areas for seasonal events and passive recreation
- Playgrounds
- Built form
- Parking

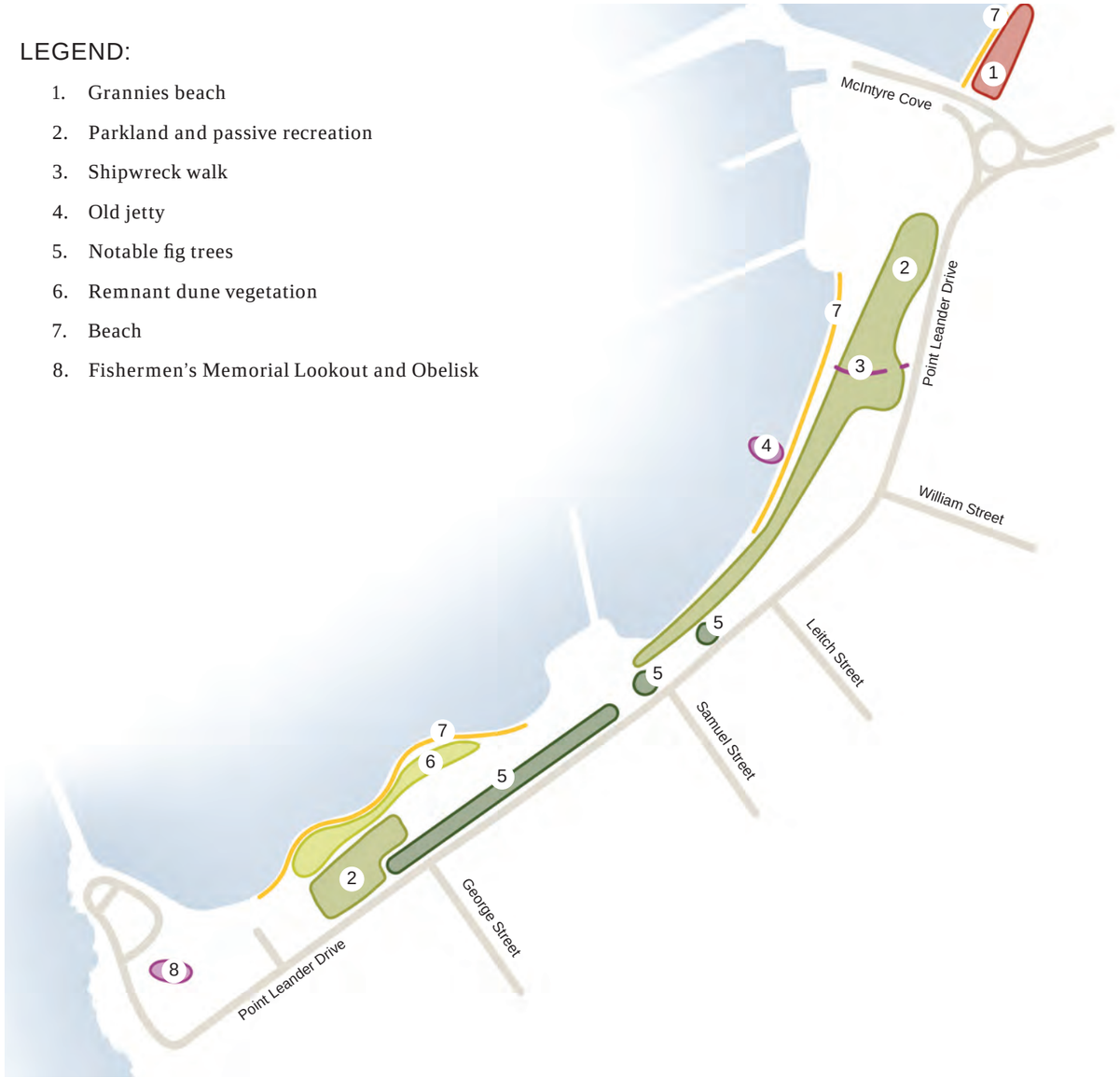
1. Grannies beach
2. Accommodation
3. Geraldton Fishermen's Co-operative
4. Fishermen's Hall
5. Shade structures and toilets
6. Commercial / retail
7. Boat ramp and trailer parking
8. Fishermen's Memorial Lookout and Obelisk



2.2 CHARACTER AND HERITAGE

LEGEND:

1. Grannies beach
2. Parkland and passive recreation
3. Shipwreck walk
4. Old jetty
5. Notable fig trees
6. Remnant dune vegetation
7. Beach
8. Fishermen's Memorial Lookout and Obelisk



2.3 ACCESS AND CONNECTIONS

LEGEND:

- Pedestrian footpath
- Pedestrian crossing over boat ramp
- Shared pedestrian and vehicle path
- Vehicle parking
- Vehicle access for boat launching
- Public access to beach
- views
- Formal pedestrian crossing
- Informal pedestrian crossing
- Fishermen's Memorial Lookout and Obelisk



3.0 DESIGN METHODOLOGY

3.1 PROJECT ASPIRATIONS

The Shire of Irwin have developed a number of objectives, in consultation with the community, to guide development of the masterplan:

- Retain the 'sense of place' for residents of Port Denison/Dongara - a relaxed coastal town on a Rivermouth with strong connections to maritime history, fishing, coastal sports, and the natural environment.
- Recognise and strengthen the character and unique qualities of the Foreshore
- Prioritise pedestrian access to the foreshore by providing connections to all the precincts and across Point Leander Drive
- Establishment of a healthy place by encouraging walking and inclusion of passive recreation and key activity areas along the foreshore
- Recognition and consideration of cultural and historical context and values of the foreshore such as the use of the foreshore by aboriginal people, shipwreck history and the history and role of the obelisk
- Provision of a civic space for events
- Encourage visitors and respond to community needs

3.2 CONCEPT DESIGN VISION

The overarching concept design vision for the foreshore is based on the characteristics of the natural topography, dunes and coastal forms, of the coast and the Irwin River Estuary, and the subsequent human intervention and their impact on the natural environment. Key features of the design are curves and low mounds representing the natural character of the coastal and estuary environment. Amenities and built forms are expressed as linear forms and shapes as human interventions within the landscape.

3.3 DESIGN PRINCIPLES

The design process adopted for the development of the concept design includes consideration of the Port Denison Foreshore Masterplan document, the objectives developed with the Shire and a set of design principles. The principles developed for the foreshore concept design are:

A CONNECTED PLACE

- Create places that are walkable and with strong connection to each other, their respective precincts, and Port Denison township
- Re-engage the interaction of the community with the foreshore and beach
- Reinforce the connection to the environment while addressing the impact of human activity and urbanisation

A DISTINCT PLACE

- Recognise and strengthen the expression of the cultural heritage
- Create places that are welcoming to all community members
- Ensure the foreshore serves the needs of the community well into the future
- Create diverse spaces for visitors and locals to meet and celebrate
- Strengthen the unique character of each of the foreshore precincts, while presenting the foreshore as a unified whole.
- Emphasise themes related to maritime history, fishing, Indigenous history, biodiversity and the natural environment, and its long history as a seaside holiday destination.

AN ACCESSIBLE PLACE

- Create welcoming spaces for people of all ages and abilities
- Create spaces that are familiar, legible and intuitive for users
- Incorporate flexible space that can be adapted for temporary and transitional uses
- Provide a pedestrian priority environment where people come first
- Provide high quality, continuous walking and well connected cycling routes

A PLACE TO VISIT

- Create places of interest to attract visitors
- Enhance existing features and environments to attract visitors and the local community. Recognise that the beach and key open spaces are the feature elements and attractions to the foreshore
- Create a civic heart to bring the community together
- Enhance the foreshore as a place of passive recreation
- Highlight the natural environment and biodiversity of the foreshore



Esperance waterfront, beach side path Img: Peter Bennetts



Iidabashi Plano, interpretation in paving Img: Tadamasa Iguchi

3.4 DESIGN STRATEGIES

AMENITY AND SAFETY

Improving amenity and ensuring the safety of users were key factors in the development of the concept design:

- Reduce the impact of parking areas on the foreshore
- Provide shade and shelter
- Improve amenities (WC facilities, seating, drinking fountains, bins, cycle parking)
- Ensure clear sight lines are maintained and integrate lighting according to the Crime Prevention Through Environmental Design (CPTED) principles to discourage anti-social behaviour through passive surveillance
- Eliminate or minimise conflict of use between pedestrians and vehicles through legibility of pathways to enhance the experience of users along the foreshore. Prioritise pedestrian access to and throughout the foreshore.

ACTIVATION

Engagement with the foreshore will be enhanced by:

- Feature lighting to extend periods of use
- Integration of picnic and BBQ amenities and lockable hub for events
- Create opportunities for gathering by establishing a new civic space for events
- Incorporate activities relating to the existing character and community needs for each precinct

CULTURE AND HERITAGE

The foreshore's unique qualities and 'sense of place' will be retained whilst creating new places of interest. This will be achieved by:

- Recognising the rich history of Port Denison with interpretation opportunities along the foreshore at key points including the Obelisk, Old Jetty, Fishermans Hall. Opportunities include interpretive signage and integration into paving patterns and public art
- Use key themes identified (maritime history, fishing, Indigenous History, biodiversity and the natural environment, and its long history as a seaside holiday destination) to inform material and planting palette, furniture and structure design



Lighting Img: Alison Cartwright

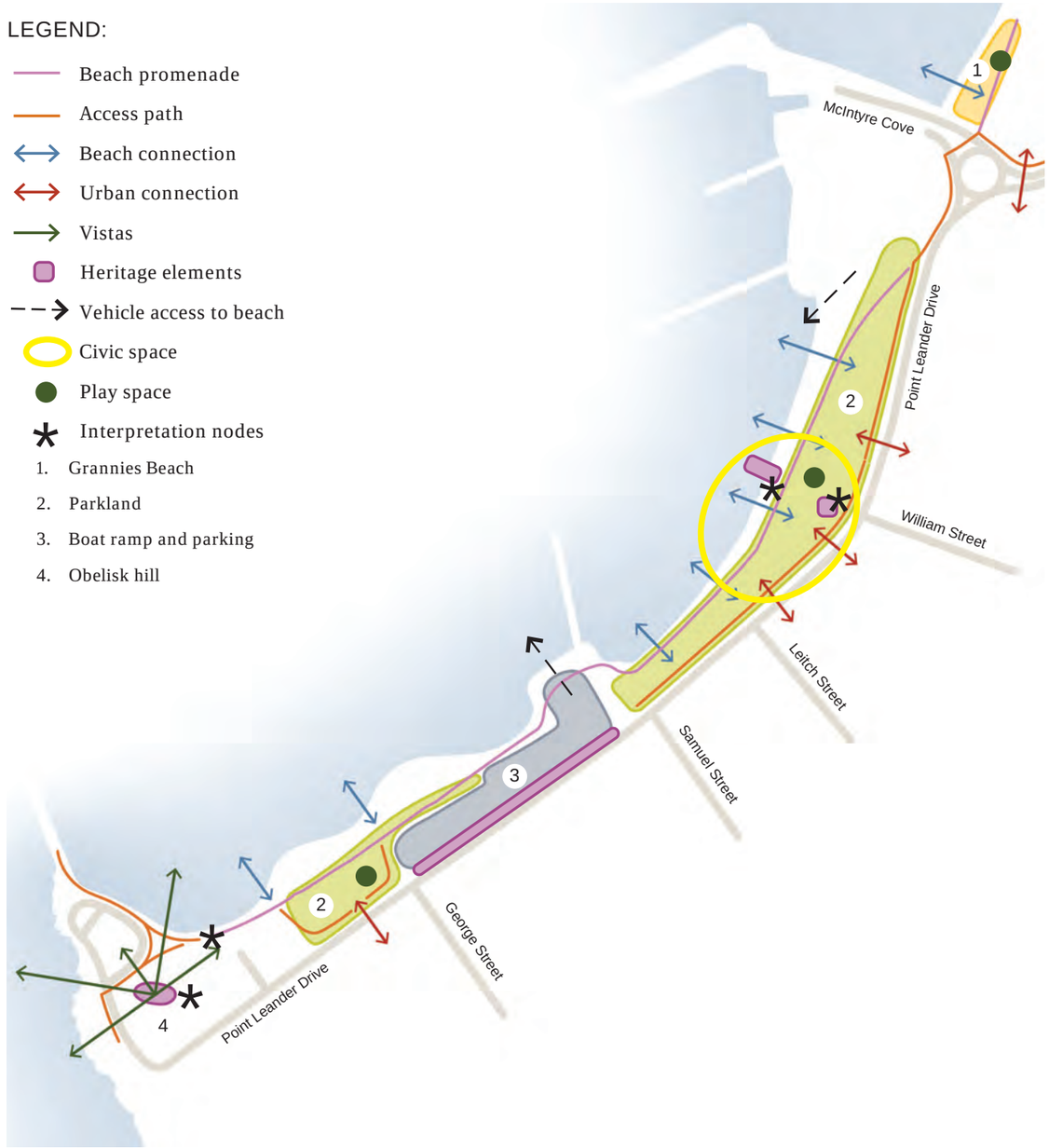


Seating + shade Img: Suzie Balek

LEGEND:

- Beach promenade
- Access path
- Beach connection
- Urban connection
- Vistas
- Heritage elements
- Vehicle access to beach
- Civic space
- Play space
- Interpretation nodes

1. Grannies Beach
2. Parkland
3. Boat ramp and parking
4. Obelisk hill



LANDSCAPE QUALITIES

The landscape character, history and identity of the foreshore is enhanced through key site-specific features and interventions. This will be achieved by:

- Enhance key vistas to the foreshore and key features including the William Street axis, the Obelisk viewing area
- Establish new landscape features (including a playspace) while strengthening the existing coastal character and heritage
- Retain and restore remnant dune vegetation and control weed infestation
- Retain and enhance foreshore 'promenade' as key linking pathway
- Retain heritage significant fig trees and foreshore trees
- Develop a local species planting palette and material palette that reflects the local environment
- Enhance access to the water

MOVEMENT AND ACCESS

The accessibility and wayfinding along the foreshore will be improved through a series of interwoven connections or 'journeys'. This will be achieved by:

- Establish key arrivals points and develop a clear wayfinding strategy for pedestrians and vehicles
- Providing inter-connecting and distinctive accessible paths for pedestrians along the foreshore to encourage self-exploration and discovery
- Provide a continuous foreshore promenade
- Provide new pedestrian crossings across Point Leander Drive to improve pedestrian connection
- Provide parking options for cars, boat trailers, buses, caravans
- Improve universal access
- Improve boat access, parking and amenities at the boat ramp

ENVIRONMENT

The Port Denison Foreshore Concept Design presents the opportunity to integrate Environmentally Sustainable Design (ESD) and Water Sensitive Urban Design (WSUD) principles to the foreshore to ensure that the impact on the environment is well considered. The measures adopted are as follows:

- Address local environmental concerns, including coastal erosion, native revegetation planting and habitat establishment
- Implementation of on-site stormwater capture and treatment in vegetated swales
- Introduction of planting areas with a variety of shrubs and trees to enhance biodiversity of the foreshore
- Coastal revegetation, and native planting palette
- Weed management (including Sicilian Sea Lavendar, Couch, and Kikuyu)
- Use of locally available materials
- Use of LED lighting and intelligent technology to minimise power usage
- Use of Photovoltaic cells (PV) on available structures to supply energy for lighting and power

INFRASTRUCTURE

Provision of electrical and communications services to the foreshore was considered in this design stage to enhance the amenity of the foreshore that is future-proofed and serves the needs of the Shire and the community. The services considered are as follows:

- Provide lighting to key areas of the foreshore (whilst considering ecological impacts of light pollution)
- Provide power outlets stations to areas of the parkland and civic space catering for organised events and seasonal festivals
- Integrate USB charging stations and Wi-Fi connection
- Provide potable water supply for drink fountains and dog bowls
- Reduction of lawn areas and supplement the parkland with drought tolerant and coastal plant species. Application of hydrozoning to better manage water demand for the parkland. Introduction of planting areas that require no irrigation installed such as Water Sensitive Urban Design (WSUD) features and 'at source' stormwater controls.
- Implementation of drip and subsurface irrigation systems to reduce water loss through evaporation and environmental exposure
- Initial consideration of coastal erosion strategies (further investigations by a coastal engineer will be required)



WSUD vegetated stormwater swales Img: Wraight + Associates



Integration of Photovoltaics for lighting Img: Ross Pottinger

4.0 CONCEPT OVERVIEW

4.1 CONCEPT DESIGN

The concept design is developed from the vision and incorporates the distinct characteristics of each of the five precincts. Key features include:

1. GRANNIES BEACH

- A new retaining wall, stairs and ramp access to the beach
- Enhnaced lawn area, playspace, space for food/organised events
- Enhanced amenities (shade, seating, WCs, parking)
- Pathways to connect to the foreshore and the residential areas

2. FORESHORE PARK

- Retain and enhance lawn area for events
- Planting to introduce texture, biodiversity, shade and screening
- The beach promenade will link the all foreshore precincts

3. FORESHORE CORE

- A civic space, pavilion, all ages and abilities playspace, improved ablution facilities, shade shelters and picnic areas.
- Extend the park through foreshore reclamation
- Access stairs to the water
- Historic and cultural interpretation elements of Old Jetty, Fishermans Hall

4. BOAT RAMP

- Provision of improved amenities and shade shelter.
- Planting to screen vehicles and parking from the parkland

5. OBELISK

- Playspace, shade shelters and picnic facilities
- Beach access for small boats and parking rationalised
- Improve access, interpretation, and setting of Obelisk
- Historic and cultural interpretation opportunities of shipwreck walk and landing place



4.2 GRANNIES BEACH PRECINCT

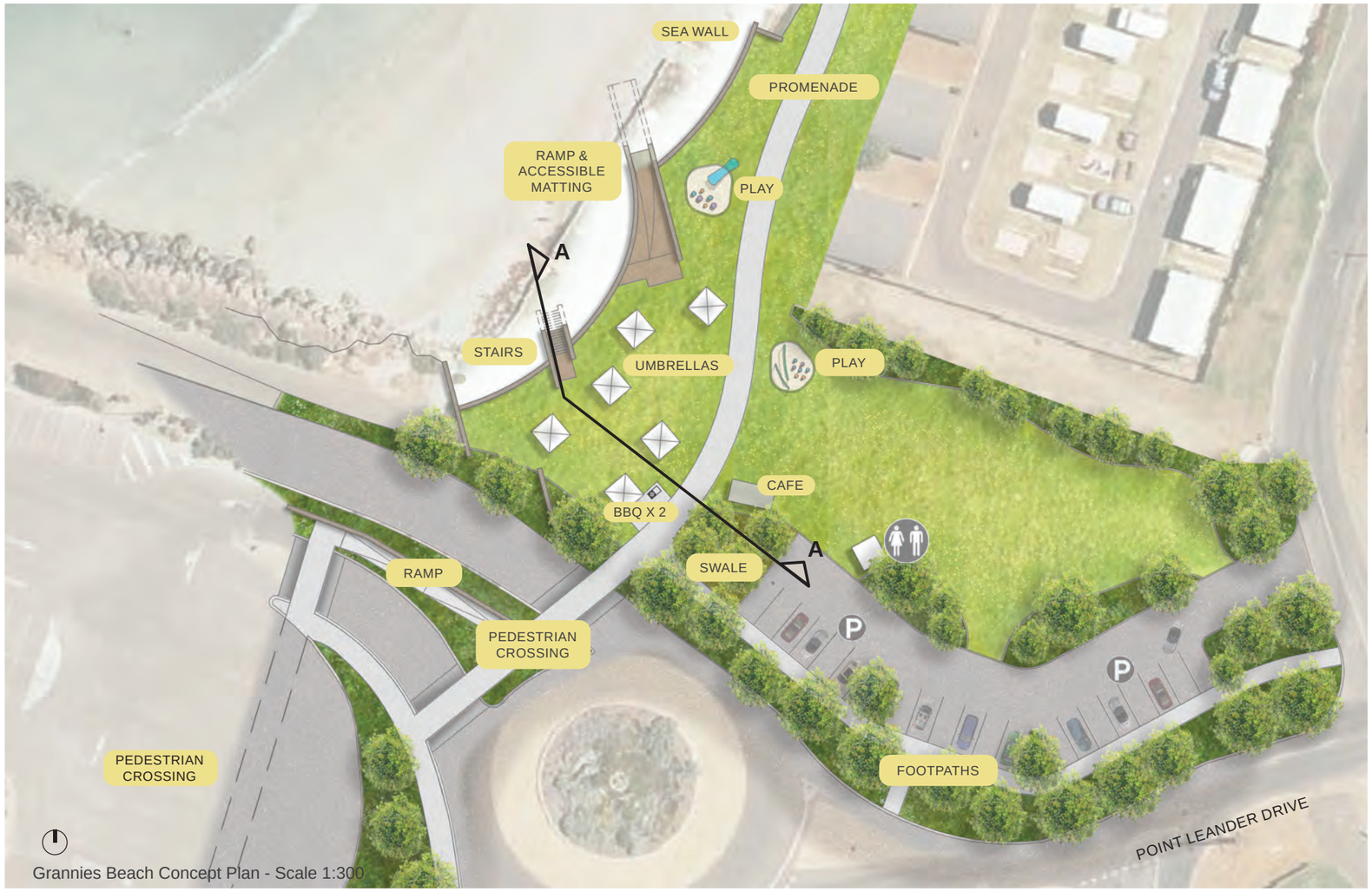
KEY AIMS:

- Retain the low-key aspect of the beach which is the unique character cherished by the local community
- Provide improved amenities and access to make the beach a more functional and practical space and to enhance the experience to beach-goers. The beack needs to cater for swimming lessons
- Implement measures to protect the beach against erosion caused by natural coastal process

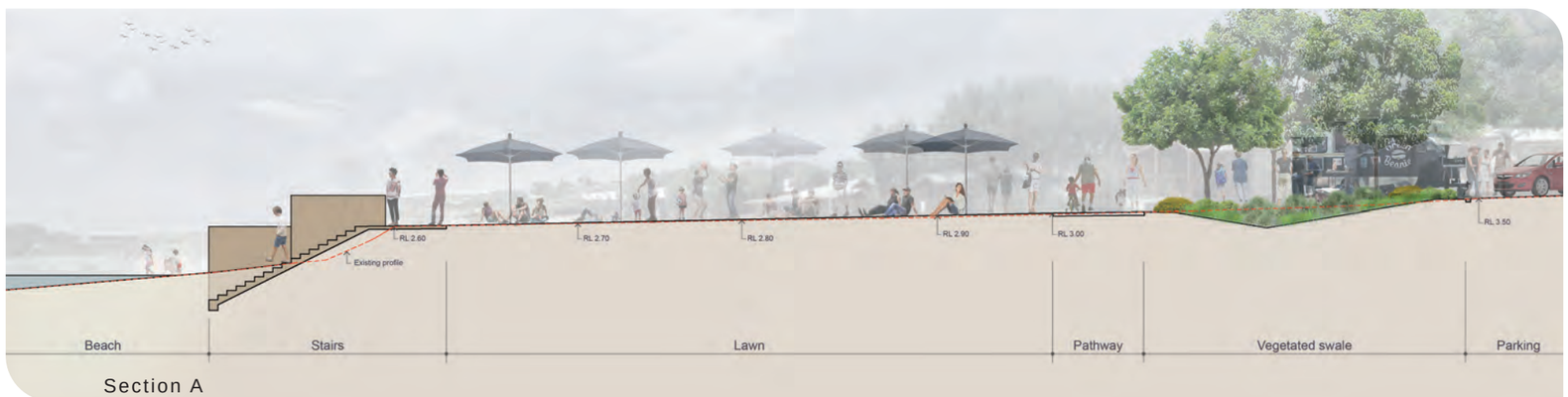
KEY NOTES:

- Transform the primary pathway into a beach promenade linking Grannies Beach to the foreshore to the south
- Provide an accessible route to Port Denison foreshore
- Consolidate the lawn and shade areas for which the beach is known for
- Integrate playspaces for toddlers and the younger age groups within the landscape
- Provide improved access to the beach with wider stairs and ramp that are integrated within the design
- Reconfigure the existing carpark and providing a safer entry and exit point off Ocean Drive and closing the access point adjoining the roundabout. Potentially include bus pull-in
- Provide multi-use spaces for food trucks and organised events
- Provision for a future toilet/changeroom facility
- Provide connection to the adjoining residential areas
- Provision for service and emergency vehicle access
- Consolidate signage
- Improve pedestrian links to Rec centre
- Include public art or playground design elements that reference the Wattandee cultural history and are linked to the foreshore. This could include reference to the fur seals, Ngooyambiddee (Pelicans), Warradha (Eagle hawks), Kakkainyoo (Osprey), Eerinyittee (Sparrow Hawk).

The Shire is currently in dialogue with Big 4 to reclaim the southernmost cabins of the caravan park to increase the amenity area at Grannies. The Shire is also considering removal of the roundabout. Following these negotiations, the design may be further developed, but the design strategy will still be aligned to the key aims and notes outlined above.



Grannies Beach Concept Plan - Scale 1:300



Section A



Prominent beach promenade Img; Andrew Lloyd



Universal and access to the beach Img: Peter Bennetts



Smaller scale playspaces



Stair access to water Img: Simon Wood

4.3 FORESHORE PARK PRECINCT

KEY AIMS:

- Retain a relatively large and continuous span of lawn that is used for events and passive recreation by the community
- Implement hydrozoning measures and introduce planting areas to reduce irrigation requirements
- Provide safe access to the beach for both beach-goers and water-based recreation activities such as fishing and water sports
- Provide shade, shelter and picnic areas
- Provide a buffer between the parkland and Point Leander Drive

KEY NOTES:

- Consolidate pathways and widen foreshore path to form a promenade
- Provide pathways linking the parking bays and connect to the existing road-side path towards Grannies Beach
- Introduce planting areas and shade trees, retain notable existing trees (fig trees and Norfolk Island pine)
- Provide beach-side shade structures and picnic facilities
- Retain areas of lawn for passive recreation and events
- Integrate road-side planting and stormwater swale within the landscape
- Formalise beach access for vehicles
- Provide a dedicated foreshore access for event and emergency vehicles
- Provide parking for boat trailer on the beach - 50m length
- Proposed overflow event parking area
- Potential for public art as key marker, could move with the wind
- Provision for future connection to Fisherman's museum



Artwork Img: Roger D'Souza



Img: Sam Noonan



Foreshore Park Precinct - Concept Plan - Scale 1:500

4.4 FORESHORE CORE PRECINCT

KEY AIMS:

- Provide improved connection to Port Denison township's commercial and residential areas
- Provide improved amenities and a revitalised civic core
- Create diverse activities and recreation spaces
- Integrate opportunities to re-connect the foreshore to the water
- Implement measures to protect sections of the foreshore against erosion caused by the natural coastal process

KEY NOTES:

- Widen the primary path on the beach side to form a promenade
- Provide pathways linking the parking bays and areas of the foreshore parkland
- Provide a pavilion and civic space with forecourt for organised activities and events
- Provide a playspace for all-ages based on a crayfishing theme that has a strong connection to place
- Replace ablution facilities
- Provide shade structures and picnic facilities
- Integrate road-side planting and stormwater swales within the landscape
- Retain notable existing trees including the fig trees and Norfolk Island pine trees
- Introduce planting areas and shade trees
- Provide direct access to the ocean
- Reclaim part of the foreshore as part of the parkland (original shoreline)
- Provide interpretive elements for the former Fishermans Hall, and the Old Jetty. The Old Jetty is the site of the main water access to Port Denison.
- Create floating pontoon swimming area
- Evidence of the old tram system has been uncovered on the William Street axis. Further archeological investigation is recommended and potential inclusion of interpretive landscape elements.



Foreshore Core Precinct - Concept Plan - Scale 1:500

FORESHORE CORE PLAYGROUND

Design considerations/features include:

- The cray fishing theme is a place-based concept and will be unique to Port Denison. The playground is split over three levels, integrating with the natural topography of the site.
- The cray fishing boat is a central feature - it is a multilevel structure split in two, with the highest level providing views over the foreshore. It includes a wheelchair accessible base level with a ‘capstan’ spinner and ‘cray pot tipper’ rocker.
- The wake of the boat becomes a rippling soft fall area and is wheelchair accessible.
- An accessible and playful jetty extends out of a rock embankment. Surrounding it are a series of low-key, nature play items, including rock boulders, timber steppers, balancing logs and hidden rock lobsters.
- There are three large ‘cray pots’ suspended above ground by climbing nets hidden below in the sand areas. There are also small ‘cray pots’ and kitesurfer rockers scattered around the fringe.
- A giant, all-directions basket swing is framed by the original footprint of the Fishermans Hall. A rubber soft fall path to the swing allows universal access.
- The playground can be fenced and gated if required.

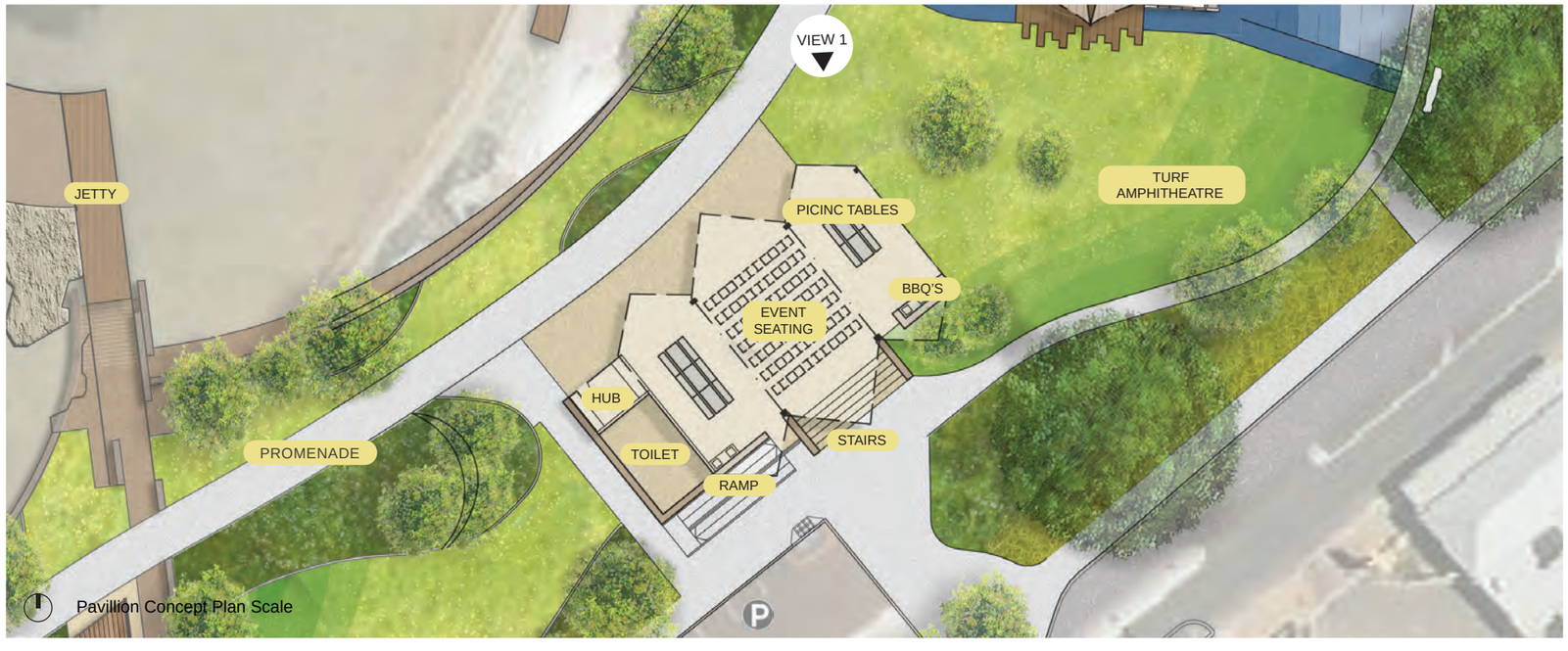




FORESHORE CORE PAVILION

Key design considerations include:

- Pavillion design inspired by the original Fisherman's Hall building (gabled ended, timber frame, corrugated iron clad). Timber reclaimed from the Fisherman's Hall will be integrated into the pavilion or furniture.
- Limestone walls were inspired by the local limestone cliffs.
- Protection from southern wind through screening and vegetation.
- Provision of large picnic/BBQ areas for several different groups or events.
- Provision of a lockable hub with amenities to cater for functions and larger gatherings.
- Amphitheatre turf area connecting the playspace to the pavilion for informal events.
- Additional hardstanding area in front and behind the pavilion for events (marquees, markets).
- Framing of view of the ocean and pontoons through pavilion gable.
- Level and universal access to pathways surrounding points of interest.
- Open middle pavilion to host citizenship ceremonies with framed views of the ocean.
- Direct access from parking to pavilion
- Options for the pavilion location were provided to the Shire and the community. The preferred location was on the site of the existing shelter sheds south of the William Street axis. It doesn't impact existing views, it is close to parking, and the pavilion can connect to the playground on the northern side and shelter from winds on the southern edge.
- Detailed design to include public art elements and interpretation of the Wattandee history, including Wattandee names for the area.
- Existing toilets to be replaced with toilets integrated into the new pavilion





Concept Imagery Form and Materials


Luuwitt Img: Skylab


Fishermans Hall Img: Irwin History.org.au


Marrickville Library Img: Tom Roe


Img: Danica Kus


Imge: Joan Guillamat

4.5 BOAT RAMP PRECINCT

KEY AIMS:

- Retain the existing boat ramp access, parking and ablution facility
- Retain the iconic fig trees
- Ensure safe pedestrian access across the boat ramp area

KEY NOTES:

- Widen the primary path on the beach side to from a promenade
- Retain notable existing trees including the fig trees and Norfolk Island pine trees
- Integrate planting and stormwater swale within the parking area
- Introduce planting areas and shade trees
- Provide pathway access to the beach
- Provide shade structures and picnic facilities



Precedent Coastal gardens Img: Peter Bennetts



4.6 OBELISK PRECINCT

KEY AIMS:

- Provide improved amenities and shade
- Provide additional parking for cars, caravans and boat trailers
- Enhance the interpretation of the cultural and historical heritage of Port Denison
- Provide a setting that promotes self-exploration and discovery

KEY NOTES:

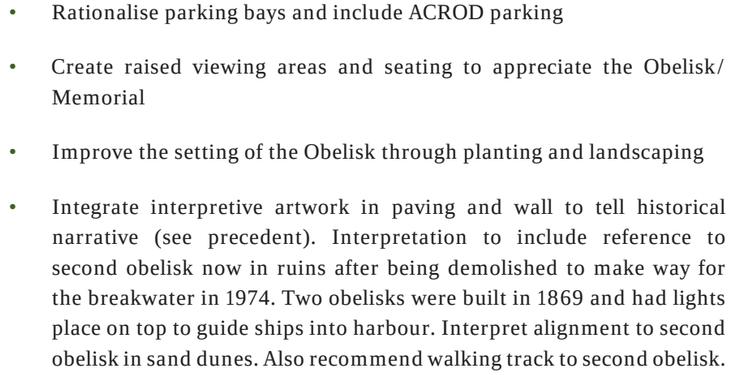
- Widen the primary path on the beach side to form a continuous promenade up to Grannies Beach
- Provide pathways linking the parking bays to the foreshore parkland
- Provide a small scale playspace
- Provide pedestrian access to the beach
- Retain notable existing trees including the fig trees and Norfolk Island pine trees
- Provide shade structures and picnic facilities
- Integrate planting and stormwater swale within the carpark
- Introduce planting areas and shade trees
- Re-configure car parking arrangements to be on-street
- Provide additional parking for caravans and boat trailers
- Formalise beach access for vehicles
- Provision for future cafe
- Integrate interpretive signage and integrated public art landscape elements to describe Port Denisons urban development, maritime history, memorial elements
- Re-create shipwreck walk along promenade integrating existing plaques and seating



OBELISK

KEY DESIGN CONSIDERATIONS INCLUDE:

- Improve pedestrian and vehicular access and circulation around the Obelisk
- Rationalise parking bays and include ACROD parking
- Create raised viewing areas and seating to appreciate the Obelisk/ Memorial
- Improve the setting of the Obelisk through planting and landscaping
- Integrate interpretive artwork in paving and wall to tell historical narrative (see precedent). Interpretation to include reference to second obelisk now in ruins after being demolished to make way for the breakwater in 1974. Two obelisks were built in 1869 and had lights place on top to guide ships into harbour. Interpret alignment to second obelisk in sand dunes. Also recommend walking track to second obelisk.
- Working with existing levels to minimise extent of cut and fill
- Protect from South-western winds with planting and retaining walls
- Universal access to pathways surrounding the obelisk
- Low walls act as safety barriers to roadway and provide seating around Obelisk with opportunities to integrate historical interpretation



Discreet wayfinding signage Img: HTA Landscape





Precedent Art and historical interpretation on paving



Precedent Viewing platform Img Craig Maldonado



Precedent Access pathway



Integrated interpretation Img: Andrew Lloyd

6.0 SUGGESTED PLANT SCHEDULE

The Irwin River Estuary Weed Management Plan (2013) summarised vegetation communities adjacent to the site. While they did not survey the project area, it can be assumed that the dune communities identified in the study continue to the south to include Port Denison Foreshore. These vegetation communities include:

– *Acacia rostellifera* open heath

– *Atriplex cinera* open low heath

– *Spinifex longfolius* grassland western dunes

It is proposed to use communities from these species to revegetate the dune areas and form the basis of the plant palette for WSUD swales and feature planting.

Feature tree species can be drawn from the local vegetation communities as well as the Ficus species for which there is a precedent in Port Denison. Additional trees from the Dongara Dunes have been selected from the publication Trees and Shrubs for the Midlands and Northern Wheatbelt (NACC 2015).

It is recommended that where exotic species have historical significance, for example Moreton Bay Fig and Norfolk Island Pines, they be preserved.

Eucalyptus loxophleba (York gum)



York Gum Image Florabase Img: B.R Maslin S.J Patrick

Ficus macrophylla



Ficus Macrophylla Img:JBA

Eucalyptus erythycorys (illyarrie)



Eucalyptus erythrocorys Img: Jim Barrow

Eucalyptus baudiniana



Eucalyptus baudinana Img: euclid

Eucalyptus obtusiflora



Eucalyptus Obtusiflora Img: Alice Newton

Eucalyptus decipiens



Eucalyptus Decipiens Img: Honkey Nuts.com

Eucalyptus accedens



Eucalyptus accedens Img: Honkey Nuts.com

Banksia prionotes



Banksia prionotes Img: Adam Robinson

Acacia cyclops



mage Credit: katanninglandcare.org

Acacia rostellifora



Image Credit: John Baas

Acanthocarpus preissii



Image Credit: nativ.com.au

Atriplex amnicola



Image Credit: State of Western Australia

Atriplex cinerea



Image Credit: plantthis.com.au

Carpobrotus virescens



Image Credit: Lullfitz.com.au

Casaurina obesa



Image Credit: vhd.heritage.vic.gov.au

Clematis linearifolia



Image Credit: northqueenslandplants.

Convolvulus remotus



Image Credit: Melissa Doherty

Dianella revoluta



Image Credit: Simontheplantman.com

Enchylaena tomentosa



Image Credit: Arthur Chapman

Eucalyptus Camaldulensis



Image Credit: Katanninglandcare.org.au

Ficinia nodosa



Image Credit: Cottesloecoastcare.org

Ficus macrophylla



Ficus Macrophylla (Moreton Bay Fig)

Hardenbergia



Image Credit: waggaflora.com

Hibbertia subvaginata-



Image Credit: Ellenbrook bushland

Lepidosperma



Image Credit: Lullfitz.com.au

Melaleuca cardiophylla-



Image Credit: Geoff Derrin

Melaleuca huegelii



Image Credit: Brian Freeman

Melaleuca lanceolata



Image Credit: nativeshop.com.au

Myoporum montanum



Image Credit: diversitynativeseeds.com

Myoporum tetrandrum



Image Credit: M. Kealley

Pittosporum



Image Credit: Robert Powell

Nitraria billardierei



Image Credit: William Archer

Rhagodia baccata



Image Credit: Cottesloecoastcare.org

Rhagodia preissii



Image Credit: Westgrow.com.au

Santalum acuminatum-



Image Credit: wtlandcare.org

Scaevola crassifolia -



Image Credit: R. Clark

Scaevola thesioides



Image Credit: Porteuspark.org.au

Spyridium globulosum



Image Credit: Cambridgecoastcare.com.

Samolus repens



Image Credit: Trees for life (SA)

Suaeda australis



Image Credit: friendsofwilliamstown.

Templetonia retusa



Image Credit nativ.com.au

Tricoryne elatior



Image Credit: Frasercoastplants

7.0 OPC

7.1 GRANNIES BEACH

ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL
1.00	**PRELIMINARY, SITE WORKS & DEMOLITIONS**				
1.01	Mobilisation, demolition, earthworks and fine grading (allowance)	5,400	m2	$10.00	$54,000.00
	PRELIMINARY, SITE WORKS & DEMOLITIONS TOTAL				**$54,000.00**
2.00	**HARDWORKS - SURFACE TREATMENTS**				
2.01	Paving Type 1 - Bitumen carpark on compacted subgrade	696	m2	$50.00	$34,800.00
2.02	Paving Type 2 - 100mm thick grey concrete	648	m2	$80.00	$51,840.00
2.03	Paving Type 5 - 300mm depth washed white sand (playspace)	50	m2	$30.00	$1,500.00
	HARDWORKS - SURFACE TREATMENTS TOTAL				**$88,140.00**
3.00	**HARDWORKS - INFRASTRUCTURE**				
3.01	Edging Type 1 - Flush kerb (carpark)	186	lin.m	$70.00	$13,020.00
3.02	Edging Type 2 - Concrete garden kerb	141	lin.m	$70.00	$9,870.00
3.03	Wall Type 1 - Sea Wall	94	lin.m	$3,500.00	$329,000.00
3.04	Wall Type 2 - General retaining walls	31	lin.m	$1,200.00	$37,200.00
3.05	Wall Type 3 - Freestanding walls	7	lin.m	$1,200.00	$8,400.00
3.06	Stairs - including handrails, kickrails and tactiles	11	m2	$2,500.00	$27,500.00
3.07	Ramps - including handrails, kickrails and tactiles	63	m2	$2,000.00	$126,000.00
3.08	Bench seats	2	items	$2,500.00	$5,000.00
3.09	Dual bin enclosure (waste and recycling)	1	items	$350.00	$350.00
3.10	Drink fountains	1	items	$7,000.00	$7,000.00
3.11	Bicycle parking racks	3	items	$2,000.00	$6,000.00
3.12	Signage (Entry, directional and interpretative)	1	allowance	$4,000.00	$4,000.00
3.13	Playspace with sculptural element	1	allowance	$180,000.00	$180,000.00
3.14	Double BBQ	2	each	$12,000.00	$24,000.00
3.15	Shade Structure (Large)	2	each	$20,000.00	$40,000.00
3.16	Toilet Block	1	each	$40,000.00	$40,000.00
3.17	Accessible Matting	1	allowance		$10,000.00
	HARDWORKS - INFRASTRUCTURE TOTAL				**$867,340.00**
4.00	**SOFTWORKS**				
4.01	Tubestock planting, 4 per m2	1,678	m2	$12.00	$20,136.00
4.02	Swale planting, 4 per m2 (140L pots)	94	m2	$24.00	$2,256.00
4.03	Trees - 100L	42	each	$430.00	$18,060.00
4.04	Soil Conditioner - 25mm thick	1,772	m2	$6.00	$10,632.00
4.05	Mulch	1,772	m2	$10.00	$17,720.00
4.06	Roll on turf	1,069	m2	$15.00	$16,035.00
4.07	Repair to existing turf areas (20% allowance)	198	m2	$15.00	$2,970.00
	SOFTWORKS TOTAL				**$87,809.00**
5.00	**LIGHTING AND ELECTRICAL**				
5.01	Light posts and associated electrical work (allowance for 1 post per 25m)		item		$24,000.00
5.02	Lighting to built structures		item		$2,000.00
5.03	Conduits, trenching, cabling, cabinets and switchboards, etc	1	item		$78,300.00
	LIGHTING AND ELECTRICAL TOTAL				**$104,300.00**

Sub Total Construction		**$1,201,589.00**
Contingency	30%	**$360,476.70**
Sub total Exc GST		**$1,562,065.70**
GST	10%	**$156,206.57**
TOTAL inc GST		**$1,718,272.27**

7.2 FORESHORE PARK

ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL
1.00	**PRELIMINARY, SITE WORKS & DEMOLITIONS**				
1.01	Mobilisation, demolition, earthworks and fine grading (allowance)	12,000	m2	$10.00	$120,000.00
	PRELIMINARY, SITE WORKS & DEMOLITIONS TOTAL				**$120,000.00**
2.00	**HARDWORKS - SURFACE TREATMENTS**				
2.01	Paving Type 2 - 100mm thick grey concrete	975	m2	$80.00	$78,000.00
2.02	Paving Type 3 - 150mm thick trafficable grey concrete	12	m2	$120.00	$1,440.00
	HARDWORKS - SURFACE TREATMENTS TOTAL				**$79,440.00**
3.00	**HARDWORKS - INFRASTRUCTURE**				
3.01	Edging Type 2 - Concrete garden kerb	512	lin.m	$70.00	$35,840.00
3.02	Wall Type 2 - General retaining walls	28	lin.m	$1,200.00	$33,600.00
3.03	Bridges over swales	69	m2	$1,500.00	$103,500.00
3.04	Custom shelter - 4.5 x 4.5m	5	items	$40,000.00	$200,000.00
3.05	Picnic table settings	5	items	$5,000.00	$25,000.00
3.06	Bench seats	2	items	$2,500.00	$5,000.00
3.07	Double barbeques	3	items	$12,000.00	$36,000.00
3.08	Dual bin enclosure (waste and recycling)	2	items	$350.00	$700.00
3.09	Signage (Entry, directional and interpretative)	1	allowance	$2,000.00	$2,000.00
	HARDWORKS - INFRASTRUCTURE TOTAL				**$441,640.00**
4.00	**SOFTWORKS**				
4.01	Tubestock planting, 4 per m2	2,639	m2	$12.00	$31,668.00
4.02	Feature planting (140L), 4 per m2	236	m2	$24.00	$5,664.00
4.03	Swale planting (140L) 4 per m2	371	m2	$24.00	$8,904.00
4.04	Trees - 100L	90	each	$450.00	$40,500.00
4.05	Soil Conditioner - 25mm thick	3,246	m2	$6.00	$19,476.00
4.06	Mulch	3,246	m2	$10.00	$32,460.00
4.07	Roll on turf	1,146	m2	$15.00	$17,190.00
4.08	Repair to existing turf areas (10% allowance)	605	m2	$15.00	$9,081.00
	SOFTWORKS TOTAL				**$164,943.00**
5.00	**LIGHTING AND ELECTRICAL**				
5.01	Light posts and associated electrical work (allowance for 1 post per 25m)		item		$96,000.00
5.02	Lighting to built structures		item		$4,000.00
5.03	Conduits, trenching, cabling, cabinets and switchboards, etc		item		$142,900.00
	LIGHTING AND ELECTRICAL TOTAL				**$242,900.00**

Sub Total Construction		**$1,048,923.00**
Contingency	30%	**$314,676.90**
Sub total Exc GST		**$1,363,599.90**
GST	10%	**$136,359.99**
TOTAL inc GST		**$1,499,959.89**

7.3 FORESHORE CORE

ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL
1.00	**PRELIMINARY, SITE WORKS & DEMOLITIONS**				
1.01	Mobilisation, demolition, earthworks and fine grading (allowance)	11,000	m2	$10.00	$110,000.00
1.02	Fill required along the beach sea wall average 1m deep)	2,600	m3	$8.00	$20,800.00
	PRELIMINARY, SITE WORKS & DEMOLITIONS TOTAL				**$130,800.00**
2.00	**HARDWORKS - SURFACE TREATMENTS**				
2.01	Paving Type 2 - 100mm thick grey concrete	1065	m2	$80.00	$85,200.00
2.02	Paving Type 4 - 100mm thick insitu exposed aggregate concrete	850	m2	$140.00	$119,000.00
2.03	Paving Type 5 - 300mm depth washed white sand (playspace)	810	m2	$30.00	$24,300.00
2.04	Paving Type 6 - Rubber soft fall	270	m2	$200.00	$54,000.00
	HARDWORKS - SURFACE TREATMENTS TOTAL				**$282,500.00**
3.00	**HARDWORKS - INFRASTRUCTURE**				
3.01	Edging Type 2 - Concrete garden kerb	405	lin.m	$70.00	$28,350.00
3.02	Wall Type 1 - Sea Walls	220	lin.m	$3,500.00	$770,000.00
3.03	Wall Type 2 - General retaining walls	85	lin.m	$1,200.00	$102,000.00
3.04	Wall Type 3 - Freestanding walls	34	lin.m	$1,200.00	$40,800.00
3.05	Bridges over swales	15	m2	$1,500.00	$22,500.00
3.06	Stairs - including handrails, kickrails and tactiles	40	m2	$2,500.00	$100,000.00
3.07	Ramp - including handrails, kickrails and tactiles	30	m2	$2,500.00	$75,000.00
3.08	Custom shelter - 4.5 x 4.5m	3	items	$30,000.00	$90,000.00
3.09	Pavilion and toilet	1	items	$550,000.00	$550,000.00
3.10	Picnic table settings	10	items	$5,000.00	$50,000.00
3.11	Bench seats	3	items	$2,500.00	$7,500.00
3.12	Double barbeques	5	items	$12,000.00	$60,000.00
3.13	Dual bin enclosure (waste and recycling)	3	items	$350.00	$1,050.00
3.14	Drink fountains	2	items	$7,000.00	$14,000.00
3.15	Bicycle parking racks	4	items	$1,000.00	$4,000.00
3.16	Signage (Entry, directional and interpretative)	1	allowance	$5,000.00	$5,000.00
3.17	Public Art Allowance (Integrated or stand alone)	1	allowance	$50,000.00	$50,000.00
3.18	Playspace	1	allowance	$900,000.00	$900,000.00
3.19	Jetty/Pontoon and floating pool	1	allowance	$1,200,000.00	$1,200,000.00
3.20	Upgrades to Existing jetty	1	allowance	$200,000.00	$200,000.00
	HARDWORKS - INFRASTRUCTURE TOTAL				**$4,270,200.00**
4.00	**SOFTWORKS**				
4.01	Tubestock planting, 4 per m2	1,985	m2	$12.00	$23,820.00
4.02	Feature planting, 4 per m2	290	m2	$24.00	$6,960.00
4.03	Swale planting, 4 per m2	410	m2	$15.00	$6,150.00
4.04	Trees - 100L	120	each	$450.00	$54,000.00
4.05	Soil Conditioner - 25mm thick	2,685	m2	$6.00	$16,110.00
4.06	Mulch	2,685	m2	$10.00	$26,850.00
4.07	Roll on turf	3,680	m2	$15.00	$55,200.00
	SOFTWORKS TOTAL				**$189,090.00**
5.00	**LIGHTING AND ELECTRICAL**				
5.01	Light posts and associated electrical work (allowance for 1 post per 25m)		item		$88,000.00
5.02	Feature Lighting to built structures		item		$50,000.00
5.02	Conduits, trenching, cabling, cabinets and switchboards, etc		item		$129,400.00
5.03	Power, USB to shelters		item		$20,000.00
	LIGHTING AND ELECTRICAL TOTAL				**$287,400.00**

Sub Total Construction			**$5,159,990.00**
Contingency	30%		**$1,547,997.00**
Sub total Exc GST			**$6,707,987.00**
GST	10%		**$670,798.70**
TOTAL inc GST			**$7,378,785.70**

7.4 BOAT RAMP

ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL
1.00	**PRELIMINARY, SITE WORKS & DEMOLITIONS**				
1.01	Mobilisation, demolition, earthworks and fine grading (allowance)	2,000	m2	$10.00	$20,000.00
	PRELIMINARY, SITE WORKS & DEMOLITIONS TOTAL				**$20,000.00**
2.00	**HARDWORKS - SURFACE TREATMENTS**				
2.01	Paving Type 2 - 100mm thick grey concrete	597	m2	$80.00	$47,760.00
	HARDWORKS - SURFACE TREATMENTS TOTAL				**$47,760.00**
3.00	**HARDWORKS - INFRASTRUCTURE**				
3.01	Edging Type 2 - Concrete garden kerb	173	lin.m	$70.00	$12,110.00
3.02	Custom shelter - 4.5 x 4.5m	3	items	$40,000.00	$120,000.00
3.03	Picnic table settings	3	items	$5,000.00	$15,000.00
3.04	Bench seats	2	items	$2,500.00	$5,000.00
3.05	Dual bin enclosure (waste and recycling)	1	items	$350.00	$350.00
3.06	Signage (Entry, directional and interpretative)	1	allowance	$2,000.00	$2,000.00
	HARDWORKS - INFRASTRUCTURE TOTAL				**$154,460.00**
4.00	**SOFTWORKS**				
4.01	Tubestock planting, 4 per m2	615	m2	$15.00	$9,225.00
4.02	Trees - 100L	26	each	$450.00	$11,700.00
4.03	Soil Conditioner - 25mm thick	615	m2	$6.00	$3,690.00
4.04	Mulch	615	m2	$10.00	$6,150.00
4.05	Repair to existing turf areas (10% allowance)	73	m2	$15.00	$1,096.50
	SOFTWORKS TOTAL				**$31,861.50**
5.00	**LIGHTING AND ELECTRICAL**				
5.01	Light posts and associated electrical work (allowance for 1 post per 25m)		item		$72,000.00
5.02	Lighting to built structures		item		$6,000.00
5.03	Conduits, trenching, cabling, cabinets and switchboards, etc		item		$119,900.00
	LIGHTING AND ELECTRICAL TOTAL				**$197,900.00**

Sub Total Construction			**$451,981.50**
Contingency	30%		**$135,594.45**
Sub total Exc GST			**$587,575.95**
GST	10%		**$58,757.60**
TOTAL inc GST			**$646,333.55**

7.5 GRANNIES BEACH

ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL
1.00	**PRELIMINARY, SITE WORKS & DEMOLITIONS**				
1.01	Mobilisation, demolition, earthworks and fine grading (allowance)	3,500	m2	$10.00	$35,000.00
	PRELIMINARY, SITE WORKS & DEMOLITIONS TOTAL				**$35,000.00**
2.00	**HARDWORKS - SURFACE TREATMENTS**				
2.01	Paving Type 2 - 100mm thick grey concrete	1574	m2	$80.00	$125,920.00
2.02	Paving Type 3 - 150mm thick trafficable grey concrete	80	m2	$120.00	$9,600.00
2.03	Paving Type 5 - 300mm depth washed white sand (playspace)	87	m2	$30.00	$2,610.00
2.03	Paving Type 1 - Bitumen carpark on compacted subgrade	1970	m2	$50.00	$98,500.00
	HARDWORKS - SURFACE TREATMENTS TOTAL				**$236,630.00**
3.00	**HARDWORKS - INFRASTRUCTURE**				
3.01	Edging Type 2 - Concrete garden kerb	280	lin.m	$70.00	$19,600.00
3.02	Custom shelter - 4.5 x 4.5m	3	items	$40,000.00	$120,000.00
3.03	Picnic table settings	3	items	$5,000.00	$15,000.00
3.04	Bench seats	2	items	$2,500.00	$5,000.00
3.05	Double barbeques	1	items	$10,000.00	$10,000.00
3.06	Dual bin enclosure (waste and recycling)	1	items	$350.00	$350.00
3.07	Drink fountains	1	items	$7,000.00	$7,000.00
3.08	Bicycle parking racks	2	items	$1,000.00	$2,000.00
3.09	Signage (Entry, directional and interpretative)	1	allowance	$5,000.00	$5,000.00
3.10	Public Artwork	1	allowance	$50,000.00	$50,000.00
3.11	Playspace	1	allowance	$200,000.00	$200,000.00
3.12	Viewing platform with seating	1	allowance	$80,000.00	$80,000.00
	HARDWORKS - INFRASTRUCTURE TOTAL				**$513,950.00**
4.00	**SOFTWORKS**				
4.01	Tubestock planting, 4 per m2	2,828	m2	$12.00	$33,936.00
4.02	Swale/Feature planting (140L), 4 per m2	58	each	$24.00	$1,392.00
4.03	Trees - 100L	85	each	$450.00	$38,250.00
4.04	Soil Conditioner - 25mm thick	2,886	m2	$6.00	$17,316.00
4.05	Mulch	2,886	m2	$10.00	$28,860.00
4.06	Repair to existing turf areas (10% allowance)	127	m2	$15.00	$1,905.00
	SOFTWORKS TOTAL				**$121,659.00**
5.00	**LIGHTING AND ELECTRICAL**				
5.01	Light posts and associated electrical work (allowance for 1 post per 25m)		item		$128,000.00
5.02	Conduits, trenching, cabling, cabinets and switchboards, etc		item		$116,750.00
	LIGHTING AND ELECTRICAL TOTAL				**$244,750.00**
	Sub Total Construction				**$1,151,989.00**
	Contingency		30%		**$345,596.70**
	Sub total Exc GST				**$1,497,585.70**
	GST		10%		**$149,758.57**
	TOTAL inc GST				**$1,647,344.27**

7.6 FORESHORE SUMMARY

ITEM	DESCRIPTION	TOTAL
1.00	**GRANNIES BEACH**	
1.01	Preliminary, site works and demolitions	$54,000.00
1.02	Hardworks - Surface Treatments	$88,140.00
1.03	Hardworks - Infrastructure (includes sea wall)	$867,340.00
1.04	Softworks	$87,809.00
1.05	Lighting and Electrical	$104,300.00
	GRANNIES BEACH TOTAL	**$1,201,589.00**
2.00	**FORESHORE PARK PRECINCT**	
2.01	Preliminary, site works and demolitions	$120,000.00
2.02	Hardworks - Surface Treatments	$79,440.00
2.03	Hardworks - Infrastructure	$441,640.00
2.04	Softworks	$164,943.00
2.05	Lighting and Electrical	$242,900.00
	FORESHORE PARK PRECINCT TOTAL	**$1,048,923.00**
3.00	**FORESHORE CORE PRECINCT**	
3.01	Preliminary, site works and demolitions	$130,800.00
3.02	Hardworks - Surface Treatments	$282,500.00
3.03	Hardworks - Infrastructure (includes sea wall)	$4,270,200.00
3.04	Softworks	$189,090.00
3.05	Lighting and Electrical	$287,400.00
	FORESHORE CORE PRECINCT TOTAL	**$5,159,990.00**
4.00	**BOAT RAMP PRECINCT**	
4.01	Preliminary, site works and demolitions	$20,000.00
4.02	Hardworks - Surface Treatments	$47,760.00
4.03	Hardworks - Infrastructure	$154,460.00
4.04	Softworks	$31,861.50
4.05	Lighting and Electrical	$197,900.00
	BOAT RAMP PRECINCT TOTAL	**$451,981.50**
5.00	**OBELISK PRECINCT**	
5.01	Preliminary, site works and demolitions	$35,000.00
5.02	Hardworks - Surface Treatments	$236,630.00
5.03	Hardworks - Infrastructure	$513,950.00
5.04	Softworks	$121,659.00
5.05	Lighting and Electrical	$244,750.00
	OBELISK PRECINCT TOTAL	**$1,151,989.00**
	Sub Total Construction	**$9,014,472.50**
	Contingency 30%	**$2,704,341.75**
	Sub total Exc GST	**$11,718,814.25**
	GST 10%	**$1,171,881.43**
	TOTAL inc GST	**$12,890,695.68**

8.0 REFERENCES

Cover Page Port Denison Foreshore

Photo: Jen Lorrimar-Shanks / Josh Byrne & Associates

Page 4, Figure 1 Port Denison Foreshore

Photo: Ian Pexton / Josh Byrne & Associates

Pages 6, Figure 2 Obelisk and Fishermans memorial

Photo: Jen Lorrimar-Shanks/Josh Byrne & Associates

Page 9, Figure 3 Esperance waterfront

Photo: Peter Bennetts

Source: *www.landezine.com/index.php/2017/03/esperance-waterfront/*

Page 9, Figure 4 Iidabashi Plano

Photo: Tadamasa Iguchi

Source: *www.landezine.com/index.php/2011/12/iidabashi-plano-by-earthscape/*

Page 15, Figure 5 The Edge Park

Photo: Alison Cartwright

Source: *www.landezine.com/index.php/2011/11/the-edge-park-landscape-architecture/*

Page 14, Figure 6 Docklands Park- Stage 1

Photo: Suzie Blake

Source: *www.landezine.com/index.php/2016/08/docklands-city-park-melbourne-stage-1-by-mala-studio/*

Page 16, Figure 7 CentrePort Redevelopment Master Plan

Photo: Wraight + Associates

Source: *blog.waal.co.nz/wsud/*

Page 17, Figure 8 Southport Broadwater Parklands

Photo: Ross Pottinger

Source: *www.landezine.com/index.php/2013/04/southport-broadwater-parklands-by-aecom-design-and-planning/*

Page 26, Figure 17 Elwood Foreshore

Photo: Andrew Lloyd

Source: *www.landezine.com/index.php/2011/04/elwood-foreshore-by-aspect-studios/*

Page 26, Figure 18 Esperance waterfront

Photo: Peter Bennetts

Source: *www.landezine.com/index.php/2017/03/esperance-waterfront/*

Page 26, Figure 19 Evans Boat Harbour

Photo: Simon Wood

Source: *www.landezine.com/index.php/2011/09/tweeds-landscape-architecture/*

Page 27, Figure 20, 21 Esperance waterfront

Photo: Peter Bennetts

Source: *www.landezine.com/index.php/2017/03/esperance-waterfront/*

Page 27, Figure 22 Jubilee Gardens

Photographer: West 8

Source: *www.landezine.com/index.php/2015/02/jubilee-gardens-by-west-8/*

Page 27, Figure 23 Koombana Beach

Photo: Vincent Chan Kun Wa

Page 28, Figure 24 AVIC Park

Photo: YIYU design

Source: *www.landezine.com/index.php/2017/04/avic-park-hongdu-nanchang-by-yiyu-design/*

Page 28, Figure 25 Yallingup Foreshore Playspace

Photo: Morgan Gillham / Josh Byrne & Associates

Page 28, Figure 26 Ian Potter Children's WILD PLAY

Photo: Brett Boardman

Source: *www.landezine.com/index.php/2017/12/ian-potter-childrens-wild-play-by-aspect-studios/*

Page 28, Figure 27 Vistula Boulevards

Photo: RSAK

Source: *www.landezine.com/index.php/2018/02/vistula-boulevards-by-rs-architektura-krajobrazu/*

Page 28, Figure 28 Henley Square

Photo: Sam Noonan

Source: *www.landezine.com/index.php/2018/01/henley-square-by-tcl-troppo-architects/*

Page 29, Figure 29 On the Way to The Sea

Photo: Derman Verbakel

Source: *www.landezine.com/index.php/2013/01/on-the-way-to-the-sea-by-derman-verbakel-architecture/*

Page 29, Figure 30 Elwood Foreshore

Photo: Andrew Lloyd

Source: *www.landezine.com/index.php/2011/04/elwood-foreshore-by-aspect-studios/*

Page 29, Figure 31 Henley Square

Photo: Sam Noonan

Source: *www.landezine.com/index.php/2018/01/henley-square-by-tcl-troppo-architects/*

Page 29, Figure 32 Perth Stadium

Photo: Ian Pexton / Josh Byrne & Associates

Page 29, Figure 33 Elwood Foreshore

Photo: Andrew Lloyd

Source: *www.landezine.com/index.php/2011/04/elwood-foreshore-by-aspect-studios/*

Page 30, Figure 34 Elwood Foreshore

Photo: Andrew Lloyd

Source: *www.landezine.com/index.php/2011/04/elwood-foreshore-by-aspect-studios/*

Page 30, Figure 35 Bicycle racks and bin enclosures

Photo: Furphy Foundry

Source: *www.furphyfoundry.com.au/the-projects/item/bicycle-parking-spiral-bike-racks*

Page 30, Figure 36 The Edge Park

Photo: Alison Cartwright

Source: *www.landezine.com/index.php/2011/11/the-edge-park-landscape-architecture/*

Page 31, Figure 37 Elwood Foreshore

Photo: Andrew Lloyd

Source: *www.landezine.com/index.php/2011/04/elwood-foreshore-by-aspect-studios/*

Page 31, Figure 38 Stevenage Town Centre Gardens

Photo: HTA Landscape

Source: *www.landezine.com/index.php/2013/06/stevenage-town-centre-gardens-by-hta-landscape/*

Page 31, Figure 39 'Little Treasures' at Hamilton Northshore Parkland

Photo: Roger D'Souza,

Source: *www.uapcompany.com/studio/fionafoley*

Page 31, Figure 40 Esperance waterfront

Photo: Peter Bennetts

Source: *www.landezine.com/index.php/2017/03/esperance-waterfront/*

Page 31, Figure 41 Footscray Park Memorial Garden

Photographer: Andrew Lloyd

Source: *www.landezine.com/index.php/2013/01/footscray-park-memorial-garden-by-fitzgerald-frisby-landscape-architecture/*

JOSH BYRNE & ASSOCIATES
LANDSCAPE • SUSTAINABILITY • COMMUNICATIONS

T 08 9433 3721 E admin@joshbyrne.com.au W joshbyrne.com.au
A Suite 109 Atwell Buildings 3 Cantonment Street Fremantle WA 6160