

OYSTER HARBOUR FORESHORE MANAGEMENT PLAN

APRIL 2023

Acknowledgement

City of Albany acknowledges the Menang Noongar people as traditional custodians of the land on which we have worked for this project. We recognise their cultural heritage, beliefs and relationship to the land, which continue to be important to the Menang Noongar people today.

We pay our respects to Elders past and present, and to the land which they have cared for.

Disclaimer

Shape Urban are proud to partner with SeeDesign Studio to deliver this project.

Document Control

Oyster Harbour Foreshore Management Plan - April 2023

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2				
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1. Introduction



1.1 Background

The City of Albany (the City) has undertaken a Coastal Hazard Risk Management and Adaptation Plan (CHRMAP) to plan and manage the future of coastal assets for the stretch of coastline between Middleton Beach and Emu Point. This area of coast is highly valued for its social, environmental and economic aspects.

In order to provide more detailed plans for management of specific areas, the City has prepared this Foreshore Management Plan (FMP) for Oyster Harbour.

A CHRMAP investigates the risks to a coastal area in relation to sea level rise and inundation and options to manage the impacts on the coast through various adaptation options. It is typically a document that describes limitations on development and activities in vulnerable areas over the **long term**.

A FMP provides more detailed planning for how a coastal area will respond to the changes identified in the CHRMAP in the **short term**. An FMP helps to show how the community can continue to use and enjoy much valued coastlines, at the same time as managing impacts to assets.

1.2 Foreshore Management Plan Area

The Oyster Harbour FMP covers the Oyster Harbour foreshore between Swarbrick Street in the north west and Cunningham Street in the south east as shown in Figure 1.

1.3 Purpose

The purpose of the Oyster Harbour FMP is to provide detailed planning for existing and future assets and infrastructure within the Oyster Harbour foreshore area, so that the community can continue to enjoy the beach and coastline safely.

1.4 Aims and Objectives

The aim of the Oyster Harbour FMP is to maintain and enhance the recreational opportunities and amenity values of the area and to provide a framework for implementing the key recommendations of the Middleton Beach to Emu Point CHRMAP.

The objectives of the Oyster Harbour FMP are:

- To respond and align with the findings of the Middleton Beach to Emu Point CHRMAP.
- To provide guidance for future development along the Oyster Harbour foreshore area.
- To provide recommendations on appropriate land uses and functions that respond to changing coastline.
- To inform and consult with the local community and stakeholders to deliver the FMP.

1.5 Site Context

Emu Point is approximately 6 kilometres north east of the city centre, with Oyster Harbour beach located with a northern orientation. Oyster Harbour is a popular destination for locals and tourists, in particular families with young children due to its protection from prevailing winds allowing for a calm and shallow swimming location.

The site area extends from the eastern point of Oyster Harbour (Emu Point) to the edge of the boat ramp car park to the west and captures existing parkland extent along both Mermaid Avenue and Roe Parade. It is characterised by unique laterite terrace walling, grass banks, shady picnic areas and established trees, and a calm protected swimming beach. Existing activities along the site include fishing, swimming (including seasonal swimming lessons), a playground and proximity to Emu Point Cafe.



Figure 2 Location in context of Albany central business district



Figure 1 Site -----



Figure 3 Access
 Dual use cycle and pedestrian path ↔
 Major roads to Oyster Harbour/Emu Point ↔

1.6 Existing Conditions

Oyster Harbour Beach is located at the entrance of the Oyster Harbour Estuary, north of Emu Point and Middleton Beach.

A swimming pontoon is located approximately 40 metres from the shoreline that can be accessed by the public. A number of public facilities are located along the foreshore area including public toilets, a playground, car parking, footpaths and other assets including rubbish bins and benches. Memorial seats which have been purchased by families, are located in the area and cannot be moved.

The area is used by VacSwim during the summer months which has a significant impact on the area.

A residential area is located adjacent to the foreshore, characterised by single houses on individual lots. At the northeast extent of the foreshore is a small boat harbour.

The foreshore management plan area can be divided into four zones - each with similar characteristics and uses. These zones are shown in Figure 4.

ZONE 1

Characterised by its well utilised park, and defined by its large grassed, shady picnic areas and established trees. Locals and tourists are attracted to the site due to its proximity to its beaches, fishing, parking, cafe and public toilets (Figure 5).

ZONE 2

A busy zone for active and passive recreation. With close access to the nearby cafe and parking, this popular spot offers direct access to the beach. Large grass banks and existing shade trees offer sheltered locations, path for picnics, play, exercise and barbecues. A busy car park and road turn around is located along its length including vehicle beach access (Figure 6).

ZONE 3

Terrace walling and grass banks continue along the extent of this zone. The terrace banks offer less shade due to minimal existing large trees. A mix of informal car bays are located along the length of Roe Parade with limited access due to lack of existing footpaths. Residential housing fronts onto the public open space and beach front (Figure 7).

ZONE 4

Large open parkland space with additional amenities including ablution block and picnic facilities. Adjacent boat ramp car park offers access for visitors although this area is often at capacity during peak periods. Informal beach parking occurs in this zone often utilised for additional boat trailer parking. A significant level change occurs from Roe Parade down to the parkland with stair access only offered to pedestrians (Figure 8).

ZONE 5

A fifth zone has been considered in this foreshore management plan due to its immediate proximity and the nature of shared activity between Zone 4 and Zone 5.

Zone 5 comprises the area of the Emu Point Boat Harbour, which includes boat ramps and pens, a restaurant and a boat dealership and boat lifter. The marina is relatively small, but very well used by local boaties. The ramp is busy, and there is often over flow boat trailer parking on the beach in Zone 4 (Figure 8).

A significant aquaculture development is progressing at the northern most extent of Zone 5, which is not considered directly by this plan.



Figure 4 Oyster Harbour Zones



Figure 5 Shade trees and adjacent infrastructure (Site photo)



Figure 6 Existing terrace walling (Site photo)



Figure 7 Informal parking and significant level changes (Site photo)



Figure 8 Informal vehicle access to beach (Site photo)



1.7 Key Issues

This FMP outlines recommended management actions for Oyster Harbour. These actions aim to address the key issues in the area of:








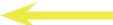





1. Short term extreme beach erosion vulnerability
2. Long term vulnerability of assets from erosion
3. Long term vulnerability to inundation for the northwest portion of foreshore
4. Moderate condition of northern groyne and grouted rock wall (15 years assumed remaining design life)
5. Disjointed pathways and public spaces, interrupted in places by traffic and inefficient parking areas

These are shown spatially on Figure 9.

Figure 9 Oyster Harbour Foreshore Management Area and Key Issue Areas (map source: Google Maps)

ZONE 1 ANALYSIS

LEGEND

-  Barbecue
-  Bins
-  Furniture (shelter/seat)
-  Fence
-  Existing Trees/Shade
-  Vehicle access
-  Pedestrian access
-  Pedestrian ramp
-  Terrace walls
-  Fishing spot
-  Car parking and road (asphalt)
-  Public Toilet
-  CoA lease



ZONE 1 LANDSCAPE CHARACTER

1. Existing terrace walls and shade trees
2. Stair access to beach and grass banks
3. Existing groin and beach interface
4. Vehicle turnaround, residential access and parking
5. Ramp access to beach adjacent turf and no connection to footpath/hard surface to assist with disability access
6. Existing ramp access to grass with no connection to footpaths



1.



2.



3.



4.



















5.

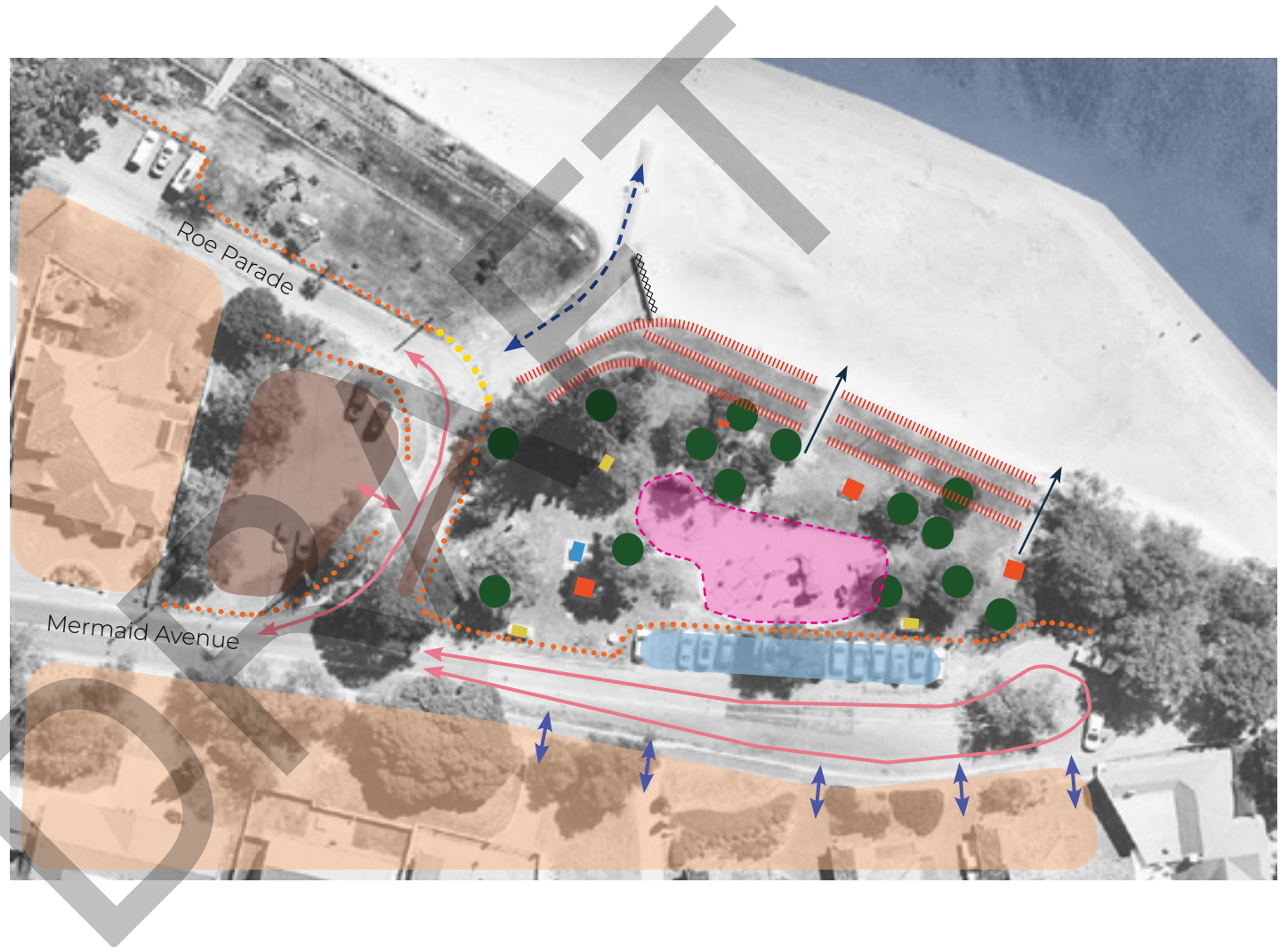


6.

ZONE 2 ANALYSIS

LEGEND

-  Barbecue
-  Bins
-  Furniture (shelter/seat)
-  Pine bollards
-  Moveable bollards
-  Existing Trees/Shade
-  Vehicle access
-  Vehicle access (residential)
-  Vehicle access to beach
-  Pedestrian path
-  Wind Break
-  Terrace walls
-  Car parking (asphalt)
-  Car parking (turf/gravel)
-  Residential Zone
-  CoA Playground



ZONE 2 LANDSCAPE CHARACTER

1. Existing playground, level changes and shade trees
2. Proximity of parking to playground including lack of connection/footpaths
3. Existing picnic amenities within the parkland. Currently there are no sheltered facilities.
4. Vehicle access to beach and wind/sand mitigation measures
5. Informal parking along Roe parade and residential streets
6. Significant level changes occur between beach vehicle access separating the length of the grass banks across the site and impacting on pedestrian access.



1.



2.



3.



4.

















5.



6.

ZONE 3 ANALYSIS

LEGEND

-  Barbecue
-  Bins
-  Furniture (shelter/seat)
-  Pine bollards
-  Existing Trees/Shade
-  Vehicle access
-  Vehicle access (residential)
-  Vehicle access to beach
-  Pedestrian path
-  Wind Break
-  Terrace walls
-  Car parking (asphalt)
-  Car parking (turf/gravel)
-  Residential Zone



ZONE 3 LANDSCAPE CHARACTER

1. Grass banks and terrace walls with limited shade trees and beach access
2. Limited access for both pedestrian and cyclists along the waterfront
3. Parking along Roe Parade includes poor connectivity for pedestrians and cyclists.
4. Significant level change between Roe parade and parkland below including minimal access for both pedestrians and cyclists.
5. Residential proximity to Oyster Harbour parkland
6. Limited amenities are located within zone 3



1.



2.



3.



4.





















5.



6.

ZONE 4 ANALYSIS

LEGEND

-  Barbecue
-  Bins
-  Furniture (shelter/seat)
-  Pine bollards
-  Existing Trees/Shade
-  Vehicle access
-  Vehicle access (residential)
-  Vehicle access to beach
-  Pedestrian path
-  Terrace walls
-  Car parking (Informal beach)
-  Car parking (asphalt)
-  Car parking (turf/gravel)
-  Residential Zone
-  Storm water drain
-  Vegetation
-  Public Toilet
-  Art work



ZONE 4 LANDSCAPE CHARACTER

1. Storm water overflow integrated in to terrace wall causing water flow to stretch across beach front
2. Significant level change separates Roe parade (and pedestrian/cyclists access) and the large open parkland below
3. Large open parkland space including minimal picnic facilities (no shelters available)
4. Existing ablution facilities with access via one footpath
5. Vehicle beach access via boat ramp car park
6. Informal beach parking is located within this zone, often utilised as overflow zone for boat trailer parking during peak periods



1.



2.



3.



4.



5.



6.

ZONE 5 LANDSCAPE CHARACTER

1. The interface with Zone 4 changes immediately from natural and parkland to hard edges, rock and asphalt
2. Minor art works reflect the coastal nature of the maritime environment, with typical Department of Transport signage
3. The waterfront contains a narrow strip between car and the water, the waters edge requires management for safety, and is not a continuous pedestrian area
4. Cars are parked side-by-side with large dry-docked boats awaiting servicing
5. Built form is typical of large over-sized maritime sheds for boat servicing and repair
6. Large areas of hardstand for boat and trailer parking dominate the interface with Zone 4. Circulation priority is not always clear



1.



2.



3.



4.



5.



6.

EXISTING PARKING

Figure 10 indicates the existing parking numbers and locations along Oyster Harbour in Zones 1-4. In peak periods vehicles are often located on informal verge treatments with limited formal path access including limited disabled access. Parking is also located within the boat harbour area, however, this parking is considered separately to the parking for the foreshore management plan area of influence

■ Formal parking bays	69
■ Informal parking bays	31 (approx)
■ Disabled bays	3



Figure 10 Oyster Harbour Parking

1.8 Existing Activities

Figure 11 indicates the various locations and spread of existing activities along the Oyster Harbour site. These will assist the overall landscape master plan to not only enhance but also increase the opportunities for new activities across the site.












-  Dog exercise area
-  Swimming
-  Kayaking
-  Jogging/exercise
-  Parking
-  Boating
-  Barbecue
-  Picnic area
-  Play area
-  Fishing
-  Education / Swimming lesson



Figure 11 Existing Activities along Oyster Harbour site

2. Planning Context

2.1 State Planning Context

STATE PLANNING POLICY 2.6: STATE COASTAL PLANNING POLICY (SPP2.6) (WESTERN AUSTRALIAN PLANNING COMMISSION, 2013)

The purpose of State Planning Policy 2.6: State Coastal Planning Policy (SPP 2.6, WAPC) is to;

'...provide guidance for decision-making within the coastal zone including managing development and land use change; establishment of foreshore reserves; and to protect, conserve and enhance coastal values.'

The Emu Point to Middleton Beach Coastal Hazard Risk Management Adaptation Plan (CHRMAP), which has been used to guide the preparation of this FMP, was prepared in accordance with SPP 2.6.

SPP 2.6 provides a definition for an FMP and the general requirements for its development. Further guidance within the SPP 2.6 suite of documents is provided through the State Coastal Planning Policy Guidelines (WAPC 2020) and the Coastal Planning and Management Manual (WAPC 2003).

This FMP responds to the guidance provided. More detail on the Emu Point to Middleton Beach CHRMAP is provided in Section 3.

2.2 Regional Planning Context

LOWER GREAT SOUTHERN STRATEGY (WAPC, 2016)

The Lower Great Southern Strategy was prepared by the Western Australian Planning Commission to guide land use planning and the strategic direction for the next 20 years within the region. The Lower Great Southern Strategy encompasses the City of Albany and Shires of Denmark, Plantagenet and Cranbrook.

Whilst there are no specific references to the Oyster Harbour foreshore area, the strategy does state that planning proposals in coastal areas are to be in accordance with SPP 2.6.

This FMP is therefore consistent with the Lower Great Southern Strategy.

2.3 Local Planning Context

CITY OF ALBANY LOCAL PLANNING SCHEME NO. 1

The City's current Local Planning Scheme No. 1 (LPS1) provides the rules and requirements for land use and development within the City of Albany.

The land within the Oyster Harbour FMP is classified as local Parks and Recreation reserve under LPS1 (Figure 12). In addition there is a small parcel of land zoned for Special Use - specifically for restaurant and convenience store. This site is where the existing Emu Point Cafe is located.

Under the Local Planning Scheme No. 1 the objective of the Parks and Recreation reserve is 'Public Purposes which specifically provide for a range of public recreational facilities.'

DRAFT CITY OF ALBANY LOCAL PLANNING SCHEME NO. 2

The City has recently completed a review of LPS1 and a seriously entertained draft Local Planning Scheme No. 2 (LPS2) is with the WAPC for gazettal. Upon gazettal, LPS2 will replace LPS1.

LPS2 proposes to change the Parks and Recreation reserve to an Environmental Conservation reserve (Figure 13). The purpose of such a reserve is to identify and protect areas of biodiversity and conservation value. Consistent with the recommendations of

the CHRMAP, a Special Control Area (No. 17) has been included covering the majority of the Parks and Recreation reserve to ensure appropriate coastal management.

The Emu Point Cafe site has been zoned Neighbourhood Centre, retaining use consistent with LPS1. The Emu Point Boat Harbour has been reserved for Car Park and the water body of the jetties and pens has been reserved for Infrastructure Services. Whilst the name has changed for this area, the outcomes are functionally the same.

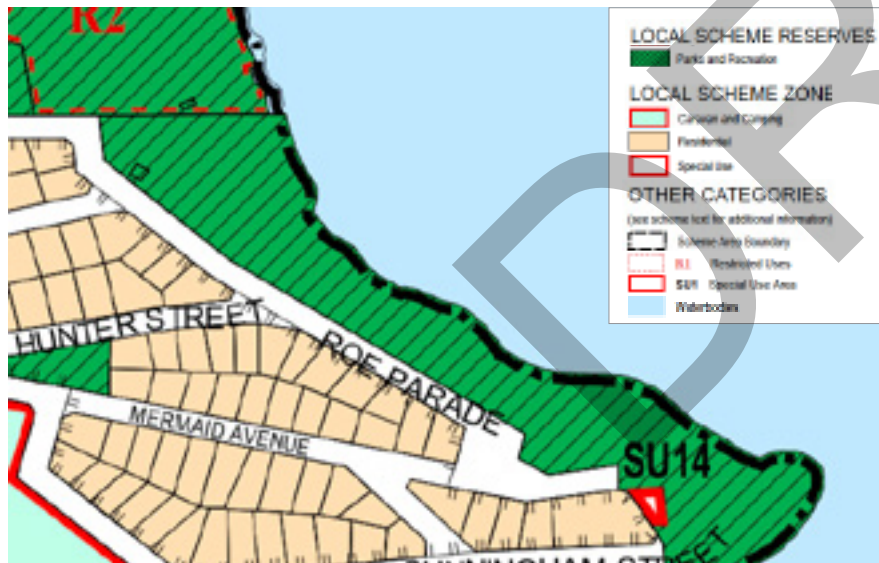


Figure 12 City of Albany Local Planning Scheme No.1 Extract

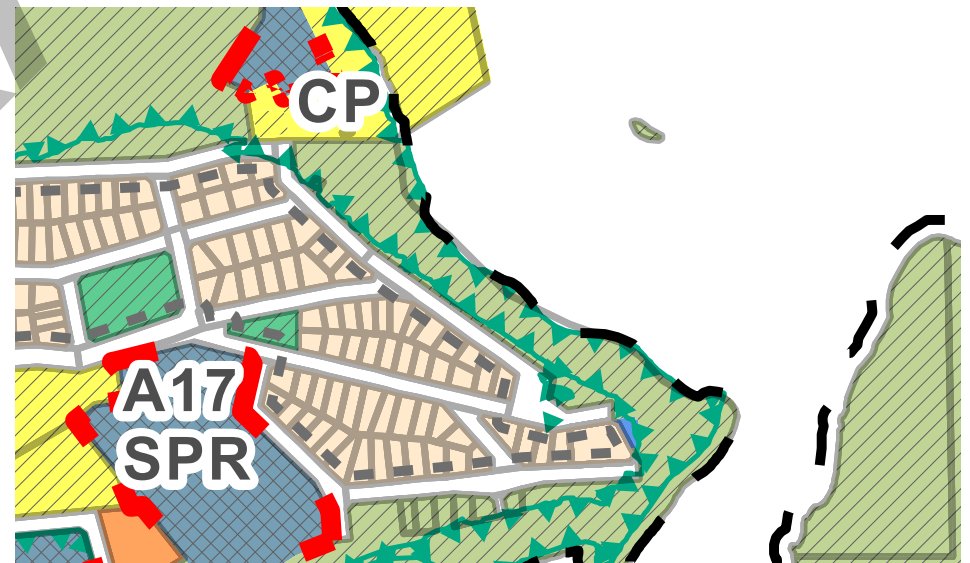


Figure 13 City of Albany Local Planning Scheme No.1 Extract

LOCAL PLANNING STRATEGY (2019)

The City's Local Planning Strategy (LPS) provides the long term vision for future development in the City.

The LPS identifies coastal planning and management as an area of strategic importance. The strategic direction for coastal planning and management is to 'Ensure that planning proposals on the coast will not be impacted by coastal processes.'

The actions in response to this are:

1. Require that coastal planning strategies or foreshore management plans are carried out as early as possible in the planning process. Foreshore management plans are to determine suitable setbacks and land required to be ceded for public foreshores reserves by an assessment of coastal processes in accordance with State Planning Policy 2.6 – State Coastal Planning.
2. Pursue funding and progressively undertake Coastal Hazard Risk Management Adaptation Plans for priority areas, including Princess Royal Harbour, Oyster Harbour, Goode Beach and the Whaling Station area.
3. Implement the recommendations of the CHRMAP for Emu Point to Middleton Beach through an Investigation Area (IA12).

The preparation of this FMP responds specifically to all three of these actions.

Oyster Harbour was recognised as a future neighbourhood centre and Emu Point (adjacent to Oyster Harbour) as a local centre, in the LPS hierarchy of activity centres. The LPS predates draft LPS2, which presents Emu Point as a Neighbourhood Centre.

COUNCIL MANAGEMENT PLAN, MIDDLETON BEACH (CITY OF ALBANY, 2010)

The Council Management Plan, Middleton Beach, includes the Oyster Harbour foreshore area covered by this FMP.

The purpose of the Council Management Plan is to provide a framework for the future management of the area, particularly in relation to sustainability and environmental protection.

The Council Management Plan has been considered as part of the preparation of the Oyster Harbour FMP, although this FMP supersedes it.

COASTAL PARKS ENHANCEMENT PLAN (CITY OF ALBANY)

The Coastal Parks Enhancement Plan provides recommendations for enhancement for five coastal park areas. The plan includes the Emu Point - Estuary, which corresponds with the area in the Oyster Harbour FMP. The plan includes 20 recommendations relating to activities, amenities, access, natural environment and vehicular movement and parking.

These recommendations have been considered as part of the preparation of the Oyster Harbour FMP.

EMU BEACH FORESHORE MANAGEMENT PLAN (CITY OF ALBANY 2020)

The Emu Beach Foreshore Management Plan was prepared for the foreshore immediately adjacent to the east and south at Emu Point and interfaces At the Emu Point Cafe (approximately). There is substantial cross-over between it and this document, including pathways and parking.

This FMP is consistent with, and complements, the Emu Beach Foreshore Management Plan.

2.4 Heritage

FIRST NATIONS HERITAGE

Oyster Harbour is identified as a Registered Aboriginal Site (site number 636).

TRADITIONAL OWNERSHIP

The traditional custodians of land within the City of Albany are the Menang Noongar people(s). (City of Albany, 2017)

EUROPEAN HERITAGE

There are no sites within the Oyster Harbour FMP area included on the State Register of Places. There are also no sites within the Oyster Harbour FMP that are included on City's Heritage List or Local Heritage Survey (both adopted October 2020).

There is one site, Johnson's Ferry (HCWA place number 15614), located within close proximity to the foreshore, that was adopted under the City of Albany Municipal Inventory in 1999. The Municipal Heritage Inventory was updated and replaced with the City's Local Heritage Survey in October 2020. The Johnson's Ferry site was not included in the LHS.

2.5 Native Title

Native Title is the recognition of Aboriginal and Torres Strait Islander people rights and interests on land and in water. Native Title can often co-exist with other use of the land and is different from recognised sites which comprise artefacts or locations of heritage significance that require protection, management or avoidance.

Whilst Oyster Harbour is a Registered Aboriginal site, it is also important to understand that the broader area is subject to Native Title claims that may confer rights and interests to local Traditional Owners. In addition, it is possible that changes to the area could result in finding new artefacts or places of significance.

The South West Native Title Settlement applies to Oyster Harbour. Section 4 provides further more detailed information.

2.6 Bushfire

The north west portion of the FMP area has been identified within a bushfire prone area (Figure 14).

The FMP does not propose to alter the existing hazard in any way that is likely to increase impact.



Figure 14 Bushfire Prone Areas (DFES, 2021)





3. Coastal Context

3.1 Coastal Processes

This section of the shoreline is sheltered from ocean storms and is a low energy environment impacted by locally generated waves. The presence of the swimming facility causes wave sheltering resulting in a bulge in the shoreline (short term accretion) and adjacent erosion requiring periodic sand management to maintain a stable beach profile (moving sand to 'nourish' the beach where it has been lost).

The Emu Point to Middleton Beach CHRMAP Coastal Hazard Risk Management Adaptation Plan (CHRMAP 2019) was prepared to respond to the observed impacts of coastal hazards, and to provide an evidence base on which to plan for adaptation.

EMU POINT TO MIDDLETON BEACH COASTAL HAZARD RISK MANAGEMENT ADAPTATION PLAN (CITY OF ALBANY 2019)

This CHRMAP was prepared to '*...provide strategic guidance on coordinated, integrated and sustainable planning and management for key coastal assets in the Emu Point to Middleton Beach area.*'

The CHRMAP divided the study area into five individual management units which identify sections of the coastline that share similar characteristics. Management Unit 5 - Oyster Harbour Beach, covers the area between the northern groyne and the boat pens to the north west, which is the subject of this FMP.

The CHRMAP identifies that in the short term (0-10 years), the beach at Oyster Harbour is vulnerable to extreme erosion due to the very low adaptive capacity resulting from the vertical grouted laterite wall. The wall is seasonally affected by storm waves and which may eventually be undermined.

In the long term (by 2070) the north west portion of foreshore at Oyster Harbour will also be vulnerable to inundation and predicted sea level rise will likely see the base of the lower walls exposed to year round water and waves and undermining.

Table 1 provides an example of the change in vulnerability over time until 2120, for erosion.

Figure 15 and Figure 16 show the coastal vulnerability hazard lines at several periods from 2017 to 2120. They show the two scenarios where the existing Emu Beach walls are maintained and improved, or where they are removed.

Short-term (0-10 years) adaptation options considered for the southeast beach at Oyster Harbour included:

- Sand nourishment
- Offshore structures - detached breakwaters/headlands
- Nearshore structures - breakwaters/headlands

Based on a detailed assessment of the options, sand nourishment was preferred.

A recommendation of the CHRMAP was to undertake a sand nourishment investigation, as it is well recognised in Western Australia that suitable sand nourishment material is becoming more rare and more expensive. It was noted that the sand nourishment option may be suitable in the short term, but may become ineffective for longer term protection if material cannot be sourced cost effectively.

The option also may impact community values, such as being able to access the calm sandy beach. Additional management options may need to be considered in the longer term.

Alternative options include those previously assessed (offshore and nearshore structures), or retreating all assets from the coastline including recreational infrastructure, parking and property.

Regular monitoring was also recommended, as well as additional monitoring after any significant storm erosion event, to understand potential increases in risk.

An assessment of land for lease was also recommended. For the FMP this applies to the Emu Point Cafe. The FMP provides for some enhancement of this area, but does not propose anything directly related to leasing the site.

The CHRMAP also recommended preparation of an FMP; to which this document responds.

Reflecting the CHRMAP, the FMP generally recommends a low scale of development in the foreshore area, the majority of which has a relatively short term asset life cycle, allowing the City to relocate and remove assets where required and in response to coastal impacts.

Table 1 Oyster Harbour Beach Asset and Vulnerability over Time (CHRMAP 2019)

ASSET	EROSION VULNERABILITY				COMMENT
	2017	2030	2070	2120	
Emu Point Cafe (Zone 1)	-	-	Extreme	Extreme	Training wall, northern groyne and grouted retaining wall - expected to mitigate coastal erosion in the medium term based on current condition. Routine maintenance is required.
Foreshore reserve (south east) (Zone 1 & 2)	-	-	Extreme	Extreme	
Oyster Harbour (Zone 5)	Medium	Medium	High	High	Extreme erosion vulnerability, due to the very low adaptive capacity resulting from the vertical seawall.
Beach (south east) (Zone 1 & 2)	Extreme	Extreme	Extreme	Extreme	
Beach (north west) (Zone 3 & 4)	Medium	Medium	High	High	
Foreshore reserve (north west) (Zone 3 & 4)	-	-	Extreme	Extreme	
Properties on Roe Parade (Zone 3 & 4)	-	-	Extreme	Extreme	
Toilets (near boat pens) (Zone 5)	-	-	Extreme	Extreme	



Figure 15 Emu Point to Middleton Beach Coastal Vulnerability with existing structures retained on the southern side of Emu Point



Figure 16 Emu Point to Middleton Beach Coastal Vulnerability without existing structures retained on the southern side of Emu Point

4. Environmental Context



4.1 Climate

Albany has a temperate climate, characterised by warm summers and cold, wet winters (BoM 2021) . A summary of rainfall and temperature statistics for Albany is shown in Table 2.

Table 2 Summary of Climatic Statistics for Albany (BoM, 2021)

	Mean Rainfall (mm)*	Mean Maximum Temperature (°C)**	Mean Minimum Temperature (°C)**
Annual	925.2 mm	19.5 °C	11.8 °C
Highest	143.1 mm (Jul)	22.9 °C (Feb)	15.8 °C (Jul)
Lowest	22.7 mm (Feb)	15.6 °C (Feb)	8.2 °C (Jul)

* Based on data between 1877-2021

** Based on data between 1880 - 2021

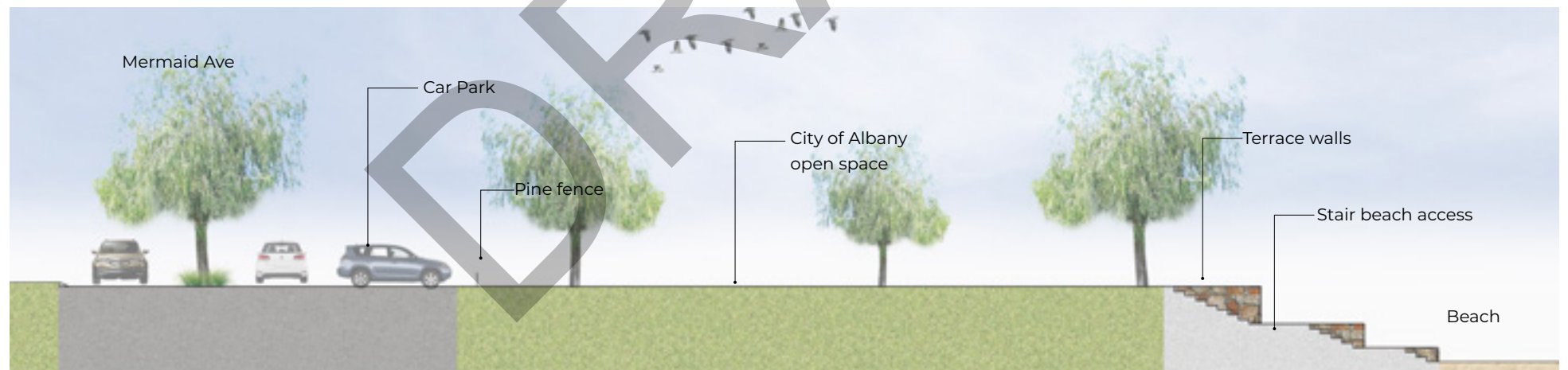
The Oyster Harbour area is known for its summer influx of visitors, with overflow parking along Roe Parade at capacity during the warm holiday months. During the cooler months, Oyster Harbour is part of a much loved walking and cycling along Albany's extensive coastline, despite the relatively high rainfall.

4.2 Topography

The beach area of Oyster Harbour is flat, however the grassed foreshore reserve is steep and has been graded using a grouted rock wall.

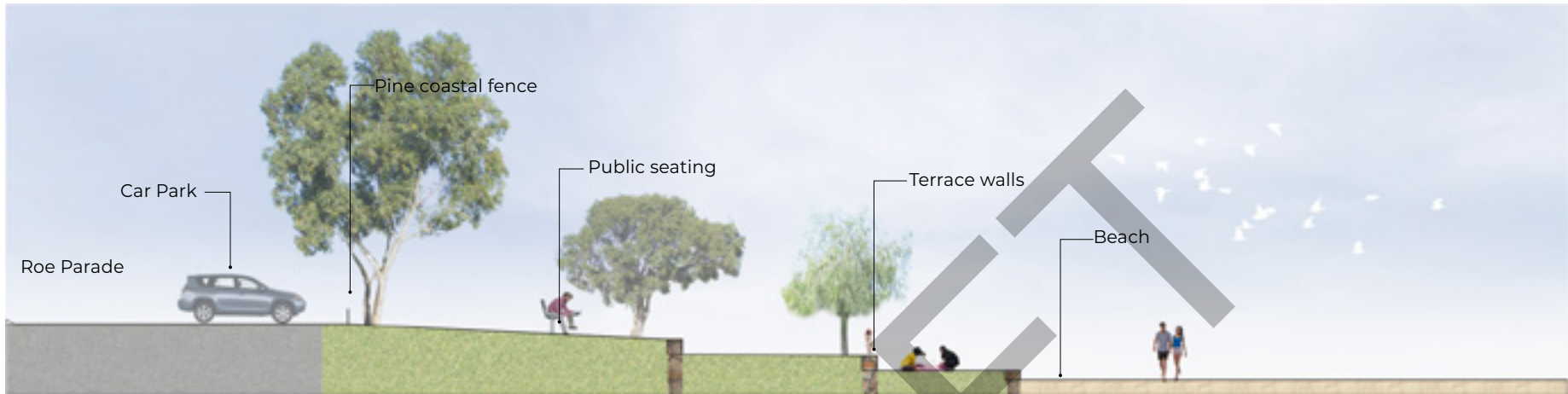
The cross sections shown in Figure 17 to Figure 19 illustrate the profile of the foreshore. The cross sections illustrate a significant level change between the beach (2 metres AHD) and open space and road behind the beach (between 4 and 6 metres AHD) within a space of approximately 30 metres. (National Maps DPIRD -072).

EXISTING TYPICAL SECTIONS



SECTION A

Figure 17 Oyster Harbour Foreshore Profile south east



SECTION B

Figure 18 Oyster Harbour Foreshore Profile central



SECTION C

Figure 19 Oyster Harbour Foreshore Profile north west

4.3 Geology

TERRESTRIAL GEOLOGY

The soils in the FMP area are predominantly sand - white, medium-grained Rounded Quartz And Shell Debris (Figure 20)

A significant portion of the Oyster Harbour FMP area is considered to be at high to moderate risk of acid sulfate soils occurring within three metres of natural soil surface (Figure 21).

The FMP does not propose disturbing any acid sulphate soils through excavation.

4.4 Flora and Fauna

A significant proportion of the Oyster Harbour FMP area contains Threatened Ecological Communities (TECs) as shown in Figure 22.

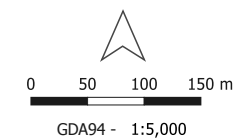
ALBANY REGIONAL VEGETATION SURVEY (E.M. SANDIFORD & S. BARRETT, 2010)

This document provides an overview of the native vegetation in the local and regional area. The survey identified Oyster Harbour as cleared, despite the substantial migratory species identification. Removal of trees may impact on endangered species (Figure 22). Extremely limited removal of vegetation is proposed in this FMP, with a particular focus on protecting those trees identified as nesting or foraging habitat.



Albany Geology 1:50,000

- GN : Gneiss - Fine To Medium, Even-grained, Layered And Porphyritic Gneiss With Imperfect Gneissic Fabric
- LA1 : Laterite - Massive, Friable To Strongly Indurated, Occasionally Vesicular, Iron Rich, Developed On Gr And Gn
- S13 : Sand - White, Medium-grained Rounded Quartz And Shell Debris
- S2 : Sand - White, Medium To Coarse-grained, Moderately Well Sorted, Quartz And Shell Debris
- Sm2 : Silty Sand - Greyish Brown, Medium To Coarse-grained, Quartz, Variable Silt Content



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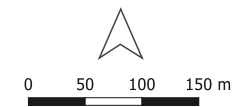
Figure 20 Geology



Acid Sulphate Soil Risk Mapping

Acid Sulphate Soil

High to moderate risk



GDA94 - 1:5000

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Figure 21 Acid Sulfate Soils



Threatened and Priority Fauna and Flora

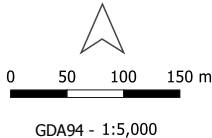
Threatened Ecological Communities

Threatened and Priority Flora

Priority 3

Threatened and Priority Fauna

- Critically endangered species
- Endangered species
- Migratory species
- Vulnerable species
- Priority 4



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Figure 22 Threatened Ecological Communities



5. Social and Cultural Context

5.1 Introduction

Understanding the social and cultural context of an area is fundamental to planning for its future. It allows the City of Albany to acknowledge the historical significance of a space and how it was used and ensure that future planning is respectful.

Further to this, establishing the current day community values enables the City of Albany to plan and design the foreshore to respond to how the community use the area and what is important to them.

5.2 Aboriginal context and heritage

As per section 2.5, Albany forms part of the South West Native Title Settlement and specifically falls within the Wagyl Kaip and Southern Noongar ILUA (Figure 23).

SOUTH WEST NATIVE TITLE SETTLEMENT

On 6 June 2016, the Noongar people of the South West of Western Australia were recognised, through an Act of the WA Parliament, as the Traditional Owners of the south west region of Western Australia.

The Settlement and Indigenous Land Use Agreement (ILUA) was negotiated between the Wagyl Kaip and Southern Noongar people and the WA Government. The Settlement commenced on 25 February 2021, and occurred alongside five other ILUAs for the remaining Noongar groups of the South West.

On 29 March 2021, the initial Noongar Boodja Trust (NBT) was established to manage and hold all assets from the Settlement.

In June 2022 the South West Aboriginal Land and Sea Council (SWALSC) was appointed as the Settlement's Central Services Corporation. Across October and November 2022, six new Noongar Regional Corporations were appointed to represent the ILUA groups, including one for the Menang people.

The Settlement includes the creation of the Noongar Land Estate and the recognition, in statute, of the Noongar peoples as the Traditional Owners of the south west region. Process and procedures for continuous recognition have been prepared and continue to evolve as the settlement is completed.

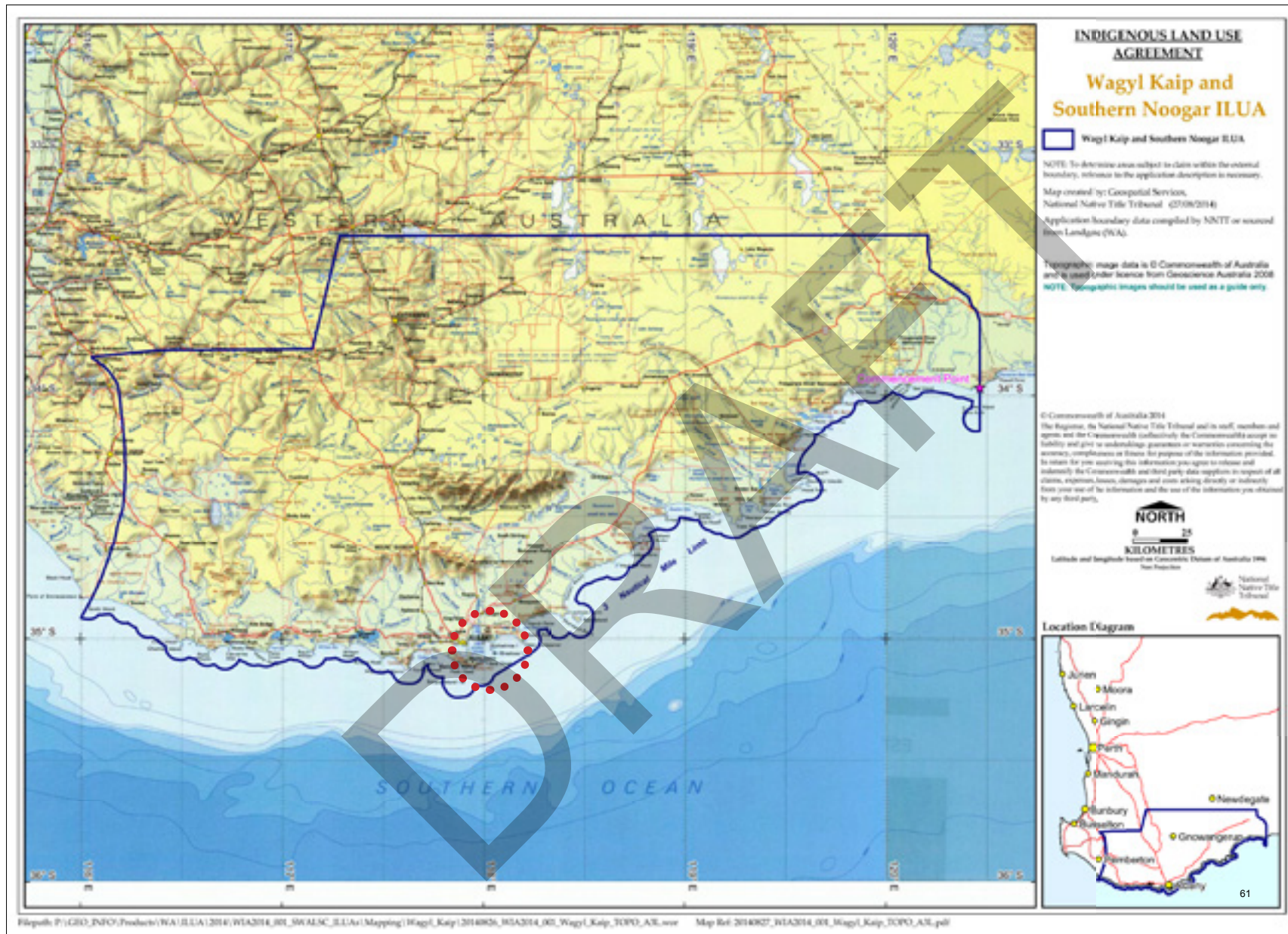


Figure 23 Wagyl Kaip and Southern Noongar ILUA (source: South West Aboriginal Land and Sea Council) (location highlighted)

The FMP does not propose substantial impact to the land, however, ongoing liaison with the Menang people and SWALSC should occur if significant works or changes are proposed.

Whilst minor activity in the area, such as replacing seating and repairing existing walls would be seen as maintenance, any changes to the shoreline or new development should be approached in a precautionary manner.

The FMP does not propose such changes.

Note: If substantive changes are proposed in the future, it is recommended that the City liaise with the South West Aboriginal Land and Sea Council, who is the central representative body of the Native Title claims and Indigenous Land Use Agreements for the Noongar people.

If considered necessary, this liaison may result in sitting with local Elders to discuss the proposed changes.

See the [Noongar Standard Heritage Agreement](#) for descriptions of low ground disturbance activities that would be considered 'minor' activity.

This information is subject to change.

5.3 European Heritage

There are two properties located in close proximity to the Oyster Harbour FMP area (Figure 24).

- 20 Mermaid Avenue, Emu Point (City of Albany Local Heritage List Place No. (P26902))
- 16 Cunningham Street, Emu Point (City of Albany Local Heritage List Place No. (P27058))

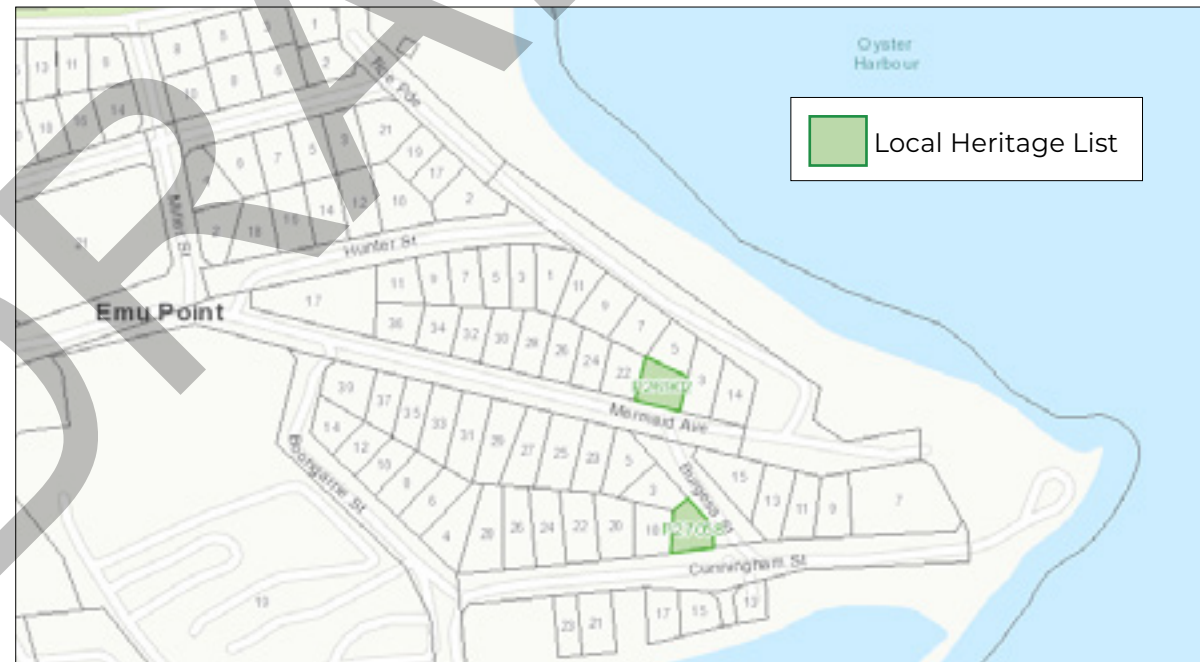


Figure 24 Local Heritage listings (Source: PlanWA, Department of Planning, Lands and Heritage)

5.4 Access Values

The City of Albany Cycle City Albany Strategy 2014-2019 Strategy aims to enable the City of Albany to become one of Australia's primary cycling destinations.

The Cycle City Strategy aims to improve bicycle networks, increase cycling participation, develop safety and respect for all road and path users, and promote cycle tourism.

Since 2014, the City has focused on linking cycle ways including links to Emu Point and Oyster Harbour and the provisions of additional bike racks. A connected cycle way to and through Oyster Harbour is a key link connecting to Middleton Beach and back via Mount Clarence to the Albany central business district. This FMP proposes to provide that key link.

5.5 Community Values

The City of Albany has previously conducted community surveys which include the Emu Beach area as part of the Emu Point to Middleton Beach Coastal Adaptation and Protection Strategy (2013), the Coastal Parks Enhancement Plan (2014)

Several significant values determined throughout the work shops included

"The naturalness of the environment with areas of wilderness, large setback/ foreshore reserves, wide active beaches and shady quiet beaches were seen as in character. The safety, cleanliness, vistas across the ocean and the beach were highly valued."
(Emu Point to Middleton Beach Coastal Adaptation and Protection Strategy (2013)

As part of the Parks Enhancement plan further workshops and consultation was undertaken to determine key values for the various coastal parkland's and to consider how to enhance and meet the community needs.

Six strategic values critical to the enhancement of the Coastal Parks including Oyster Harbour and its surrounds were identified as:

- Coastal identity
- Environmental quality
- Destination development
- Connections
- Facilities and amenities
- A place for everyone

These identified themes and values formed to basis of engagement for the CHRMAP.





5.6 Stakeholder Engagement - CHRMAP

Community consultation was undertaken as part of the preparation of the Emu Point to Middleton Beach CHRMAP (2019).

The first phase of consultation for the CHRMAP was undertaken in the form of a survey to gain an understanding of what assets were valued by the community and to think about long term management of coastal erosion. Some of the key things that came out of the survey were:

- Most users of the area used it for recreation purposes
- The most valued assets were:
 1. Access to the beach for swimming, walking (relevant to Oyster Harbour)
 2. Coastal scenery and vistas (relevant to Oyster Harbour)
 3. Coastal vegetation and habitat (relevant to Oyster Harbour)
 4. Ellen Cove Boardwalk (not within Oyster Harbour)
 5. Cafes (relevant to Oyster Harbour)
- Assets are important for the community for recreation, environment, intrinsic value, sense of place and socialising.

The majority of respondents (80.2%) indicated that loss or modification of their favourite assets would impact their lives.

This was reflected in a willingness (71.2% of respondents) to pay for the protection of valued assets if they were at risk within the next 10-50 years (through mechanisms such as rates).

The second phase of consultation for the CHRMAP sought feedback on the recommended adaptation options proposed for highly valued coastal assets in the short-term (0-10 years). Sand nourishment was recommended for the Oyster Harbour southeast beach. This recommendation was strongly supported by the community.

Notwithstanding, as noted in Section 3, longer term adaptation approaches may need to consider more significant approaches to coastal adaptation, and community values will be an important consideration in that planning.

The FMP proposes to provide the greatest possible enjoyment of the existing foreshore, balanced with a pragmatic approach to foreshore infrastructure that can be relocated over time, in line with ensuring flexibility for future decision making.

5.7 Stakeholder Engagement - Foreshore Management Plan

In 2021 the City of Albany commenced development of the FMP using previous community feedback and the outcomes of the CHRMAP.

Draft FMP concepts aimed to consolidate the adaptation measures recommended by the CHRMAP with improvements to the foreshore over time, to retain strongly valued community assets where possible.

The draft FMP concepts recognised the community values of access to the beach for swimming and walking, appreciation of coastal scenery, vistas vegetation and habitat and waterfront activities, events and venues (e.g. the cafe and surrounding parklands).

The draft FMP concepts also recognised the City's strategic plans for long term cycling and pedestrian connectivity along the coastline and the need to ensure safe pathways separated from vehicles.

Strategic development occurring in the Oyster Harbour area, such as the Harvest Road development, and the current lack of boat trailer parking in the marina was also considered in the draft FMP concepts.

Engagement regarding the draft FMP concepts (See Appendix A) was undertaken in accordance with the International Association for Public Participation (IAP2) spectrum, specifically the 'consult' level of engagement.

Engagement was undertaken through Councillor presentations and two public drop-in sessions, as well as via an online survey.

To ensure the community and relevant stakeholders had an opportunity to contribute to the plan, a number of stakeholders were also directly engaged including:

- State government agencies
- Landowners
- Businesses
- Local community groups/ sporting groups
- Senior citizens groups
- City of Albany Councillors and staff
- The broader community

The key outcomes of the engagement for each zone follows.

ZONE 1

The feedback broadly supported the draft FMP concepts. Suggested improvements focussed on parking for people with disabilities and the quality of the toilets.

Clear provision of short term pick-up and drop-off bays close to the cafe will be required. Additional cycle parking was also recommended in this zone.

ZONE 2

The feedback was generally supportive of proposals in this zone, although comments were varied with both for and against perspectives on the car parking near the playground and the dual use path.

Comments recommended removing parking adjacent to the west side of the playground entirely, removing any reason to enter Mermaid Avenue beyond the intersection with Roe Parade unless doing a pick-up or drop-off. This was countered by comments in Zone 1 regarding the need for ACROD parking bays close to the Cafe.

ZONE 3

Similar feedback was received on Zone 3 as was received on Zone 2.

Three unique issues were raised: consideration of making Roe Parade one way (running north from Mermaid Avenue), consideration of removing car parking to facilitate views, and the inclusion of a disability ramp in the proximity of Hunter Street where a local universal accessibility home is located.

Some benefit would arise in making Roe Parade one way; effectively retreating road pavement further away from the coastal hazard zone could be effected, and also slowing traffic. The FMP does not propose to formalise a one-way loop on Roe Parade, although does not preclude this from being implemented after more detailed studies and engagement with those directly affected properties.

An attempt was made to consider a disability ramp in the proximity of Hunter Street. Unfortunately, the levels changes would result in such a ramp being extensive and impacting a substantial area. The shorter distance gained alternate to the existing disability access is negligible.

It was noted that removal of car bays from Roe Parade was not considered as this is a public road with important beach access that services the whole Albany community.

ZONE 4

The feedback was generally supportive of this zone, with a desire to maintain and better define the dog area and to provide more shelter.

Parking adjacent to the park, and in particular near to the path was supported. Maximising parking in this area is supported.

There was a suggestion to relocate the path behind the toilets to reduce the cycle path impact on the foreshore grassed area. However, investigations revealed that such an option would significantly impact vegetation in this zone, which comprises critically endangered threatened and priority fauna (Figure 22), and is also highly valued.

ZONE 5

The area is constrained and has a recognised shortage of parking associated with the boat launching ramps. Three options were provided for feedback.

The feedback on this Zone was strongly in favour of Option 2, which retains the current arrangement and a small addition to the parkland edge (south).

New parking areas adjacent the boating and fishing club were strongly supported, as was parking along the marina water edge. A turning function required further investigation.

Significant feedback from the community mentioned a lack of safety within the marina linked to speeding cars. A number of suggestions were recommended, including improved signage and the establishment of bollards or barriers.

GENERAL

Some concern was expressed for the speed at which cyclists may use the connected cycle path proposed through this area, which has been expressly included to be part of the City's broader cycle pathway strategy.

Suggestions included routing the cycle path along roads from Emu Beach at Boongarrie Street through to Miller Street to connect back to Swarbrick Street west of the boat harbour. It is recognised that on-road cycle paths may well suit high speed and confident cyclists, however, such options rarely suit novice riders (children, new cyclists) and families, and the need for connectedness remains.

The FMP attempts to provide for a shared environment through the high traffic pedestrian zone of the foreshore by creating curves in the path with long range visibility in most locations, supported by introduction of tree species that can be pruned at lower levels for improved sight lines. The proposed path is some 3 metres wide; providing substantial space for users to co-exist. Importantly, the pathway allows for full connectedness from Middleton Beach to Oyster Harbour for the first time, and can be funded through existing funding mechanisms, making this proposal a potential quick win.





6. Management Actions

6.1 Introduction

The Oyster Harbour FMP preparation has included:

- Engagement of stakeholders and the community through the planning process leading into the decision making documentation
- Identifying assets in the coastal zone
- Acknowledging appropriate flexible coastal adaptation pathways and according realistic management actions
- Consideration of landscape principles that flow from past strategies and plans, tested with the community
- Consideration of the full range of planning and policy instruments to enable planning for the short and medium term management of the coast.

This section provides specific actions for the proper management, orderly development and enhancement of the Oyster Harbour coastal reserves, taking into account the social, cultural, environmental and coastal values, and a flexible adaptation pathway route in accordance with SPP 2.6 and the CHRMAP.

6.2 Landscape Principles

The landscape principles that underpin the foreshore management plan landscape design, reflect engagement with the community and other reference documents for this area. They are:

- Connectivity;
- Amenity;
- Accessibility;
- Enhanced Environment;
- Comfort; and
- Vehicle Management.

The overall FMP landscape plan is shown in Figure 25.

A detailed description of how these principles were determined is included in Appendix B. For a schedule of materials and palette, see Appendix C.

6.3 How to Read this Section

The FMP covers management actions for the overall area and for each of the zones. For each zone there is a description of the proposed approach and coastal issues.

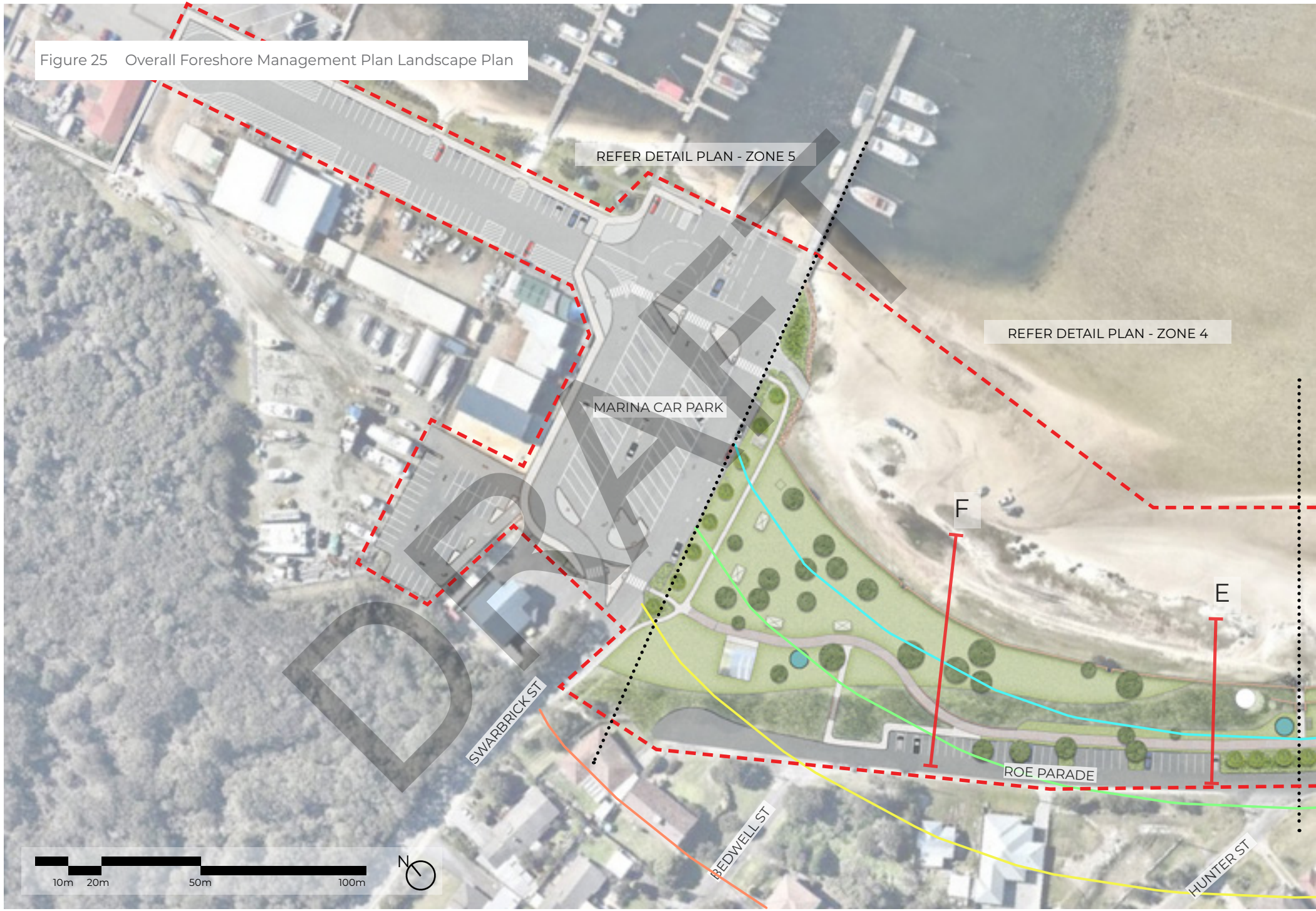
The FMP considers only the land within the foreshore reserves. However, the management options proposed are considered with regard to adjoining land and the impacts of the proposed management options on those landholdings and assets.

This section is summarised with a table detailing recommended management actions and proposed timeframe.

The management actions are centred around;

- Community values for different areas of the coastline
- Education about environmental and social significance across the FMP area
- Managing beach access to stabilise dunal systems and associated vegetation
- Sand nourishment where recommended to support longer term decision making
- Planting / revegetation for dune stabilisation, environmental and aesthetic reasons

Figure 25 Overall Foreshore Management Plan Landscape Plan



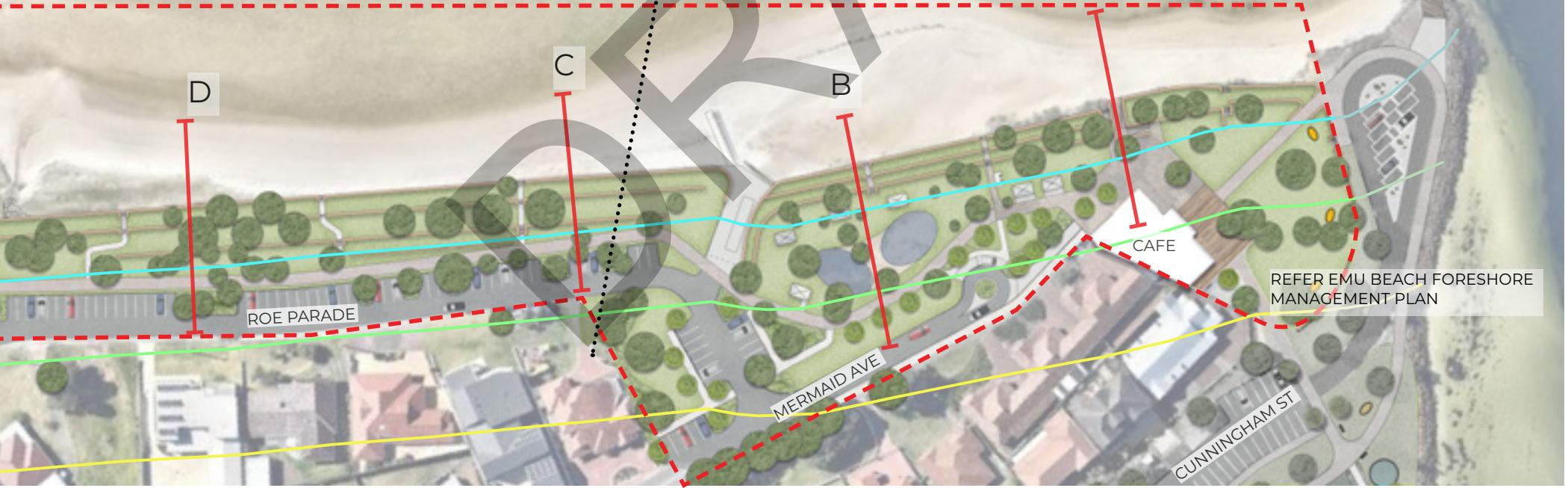
LEGEND

- - - - Overall FMP Area
- Detailed Plan limits
- Sections (refer Zones)
- Coastal Vulnerability 2030
- Coastal Vulnerability 2050
- Coastal Vulnerability 2070
- Coastal Vulnerability 2090

REFER DETAIL PLAN - ZONE 3

REFER DETAIL PLAN - ZONE 1+2

Subject to review - refer to plan on page 59



REFER EMU BEACH FORESHORE MANAGEMENT PLAN

6.4 Overall Management Actions

There are a number of management actions that can be applied across the FMP area.

These comprise of 'hard assets', 'natural management' and 'community strategies'. These are listed in Table 4.

6.4.1 Physical Asset Management

The FMP area comprises a number of hard assets including seating, shelters, lighting, bollards, fencing and other minor features, and additional assets are recommended to ensure continued enjoyment of this much valued foreshore area.

However, it is recognised that over time replacement and removal may be required, subject to reviews of the CHRMAP and ongoing updates to adaptation recommendations.

It is recommended that the City ensure that all future infrastructure assets placed in the vulnerable zone either be sacrificial or have a design life that ensure the asset will be redundant before the risk becomes likely to almost certain.

An asset inventory for the area, linked to the City's current spatial database as recommended in the CHRMAP (Recommendation 3), should categorise assets on a risk basis, where red equals relatively high risk and green equals relatively low risk. At the time of normal asset replacement, 'red' assets should be re-assessed for location suitability, whilst green assets can be replaced in-situ with modern materials.

This will ensure that hard assets such as seating, pathways, toilets, playgrounds etc, as well as soft assets such as landscaping, be developed in such a way as to continue enjoyment of the coastal zone for as long as possible whilst also reducing or removing the risk associated with assets.

Where possible, it is recommended that any linear infrastructure such as power or pipes that are underground be planned to be replaced or retreated in locations where it does not render the entire asset redundant.

This could include servicing to the rear of the lots in the affected hazard zone or provision of services perpendicular to the coastline.

6.4.2 Natural Asset Management

Rehabilitation of natural dunes within the FMP area, with a focus on protection from unintended foot traffic erosion will help in protecting the foreshore from coastal processes.

Reinforcing surrounding natural areas will also improve potential for habitat to support biodiversity, help define pathways and assist in controlling weeds. The FMP recommends that the Shire adopt the planting and vegetation management palette provided in Appendix C.

6.4.3 Dual Naming Signage

Dual place naming and associated story telling signage (where appropriate) is recommended for the FMP area to promote the Shire's Menang (Wagyl-Kaip and Southern Group) Aboriginal identity and allow people to connect to culture, and learn the relationship between Country and language.

The FMP recommends that the Shire work with the Menang people on proposed dual place naming, in line with the State Government's Aboriginal and Dual Place Naming Guidelines.

6.4.4 Resilience Planning and Monitoring

Recommendation 4 of the CHRMAP includes a monitoring program for the coastal zone, to assess whether coastal hazards are progressing faster or slower than expected.

Monitoring the beach at Oyster Harbour will help the City to determine when (and if) to nourish areas of the beach. Sand nourishment is likely to focus on Zones 1, 2 & 3.

The City will also use monitoring to support ongoing grant applications through grant bodies such as Coastwest.

Monitoring is something that the community can also get involved in. Section 6.4.5 indicates an opportunity for Oyster Harbour.

6.4.5 Markers

While the local community may understand the hazards being experienced, the long term and uncertain nature of coastal hazard risk and the fact that the coastline ebbs and flows naturally over many year cycles makes visible risks seem less significant at various times.

The FMP follows the recommendation of the CHRMAP (Asset Based Recommendations) to adopt a citizen science project through installation of temporary markers placed along the coastline at trigger points for action (in line with the CHRMAP).

The City has already progressed a similar action along the Middleton Beach to Emu Beach coastline.

This could be partnered by ongoing delivery of a Community Beach Photo-monitoring program similar to that being run by the Northern Agricultural Catchment Council and the Cockburn Sound Coastal Alliance.

Such a program would have the benefit of providing visible and ongoing evidence of potential change (and risk) and establish an ongoing narrative of how the coast might change. It will also build a better understanding of the decisions that Council will need to make over time and involve the community in these decisions over time.

6.4.6 Educational Signage

Clear educational signage is an important step in providing the community with an understanding of their role in coastal management. It can be provided to educate on the natural environment, on the coastal hazards present, on changes expected in the future and regarding human interaction with all of the above.

Similar to the markers, this FMP recommends that the City introduce educational signage (as part of other signs) to share information about the work being undertaken in order to protect the coast, protect property and reduce costs to the community.

6.4.7 Sand Nourishment Investigation

Recommendation 5 of the CHRMAP included a Sand Nourishment Investigation acknowledging that the availability of sand for nourishment is not well understood.

The Department of Planning Lands and Heritage are currently completing a whole-of-State assessment which should be obtained by the City. This investigation will determine when or for how long it is suitable to adopt a sand nourishment adaptation response.

6.4.8 Lease Land Management

Recommendation 7 of the CHRMAP included a Lease Land Management assessment to provide greater oversight and management of leases along the coastline, so that planning can occur for long term retreat of leasehold activities.

This is relevant to the Emu Point Cafe for this FMP. Notwithstanding, the cafe can continue for many years in its current form and the area adjacent is a much loved parkland environment that complements it. During lease renewal, the City should assess the level of risk to be faced in the ensuing lease period, and apply relevant lease conditions.

Table 4 Summary of Climatic Statistics for Albany (BoM, 2021)

	#	RECOMMENDATION	RESPONSIBILITY	TIME FRAME
Overall Management Actions	1	Physical Asset Management	Infrastructure and Environment	Short
	2	Natural Asset Management	Infrastructure and Environment	
	3	Dual Naming and Signage	Infrastructure and Environment	Immediate
	4	Resilience Planning and monitoring	Infrastructure and Environment	Short
	5	Markers	Major Projects	
	6	Educational Signage	Major Projects	
	7	Sand Nourishment Investigation	Infrastructure and Environment	Immediate
	8	Lease Land Management	Corporate Services	Medium





ZONE 1 & 2

6.5 Detail Plan - Zone 1 + 2

Zone 1 & 2 continue along from the Emu Beach Foreshore Management Plan, integrating seamlessly with both material and palette but also recognising that access and parking north and south of the point is reciprocal.

A key outcome of Zone 1 is to achieve a plaza area surrounding the Cafe. This is envisaged as a mix of composite deck structure surrounding the southern edge of the cafe near the toilets and exposed aggregate to the north where the path links around the point.

Whilst establishing a connection point at the plaza, the change in surface treatments will also help to slow any fast moving cyclists down, at the only point along the path where sight lines are less direct.

The major feature of Zone 2 is a reconfiguration of the street, removing parking bays from the end of Mermaid Drive and essentially creating a pedestrian priority zone serviced via a small cul-de-sac for ACROD parking, pick-up and drop-of, and access to the private dwellings adjacent the cafe.

Additional parking is achieved by formalising a small open space parking area on Roe Parade and providing some bays alongside Roe Parade heading toward the emergency beach access point.

This redefining of the street provides a much improved public recreation area at the end of Mermaid Avenue, and greatly increases safety adjacent to the children's playground in the area, providing approximately 10 metres of additional parkland width.

Dual use paths from Cunningham Street are proposed to link properly through the Emu Point area for the first time, finalising a fully accessible walking and cycling link between Middleton Beach and Oyster Harbour and beyond. Pedestrian footpaths are also added.

A new all-accessible access to the beach is proposed, as well as the retention of the existing all-accessible ramp.

Grass, stairs and walls are all proposed to be retained and improved.

Figure 26 illustrates the Zone 1 & Zone 2 proposals with cross sections shown in Figure 27.

LEGEND

- | | | |
|--|---|---|
| 1. Emu Point plaza and public realm to existing cafe and public toilets including the retention of existing shade trees. | 6. Open turf space including updated amenities. (Shelters, BBQ, Seating and showers) | 12. Restricted vehicle access to beach (maintenance, emergency, and accessibility vehicles) |
| 2. Connection to dual use path and adjacent car parks | 7. Formalised vehicle turnaround, drop off and service access, with ACROD Bays. Flush kerb and paving | 13. All-accessible beach access |
| 3. New all-accessible access to beach | 8. Retention and upgrade of existing terrace walls and grass | 14. Road re-alignment and formalised parking (x 25) including the retention of existing trees |
| 4. New streetscape with on street parking bays (x 15) New trees and grass | 9. Upgrade to existing stairs and new pedestrian access path to turf terraces. | 15. Pedestrian foot path |
| 5. Pedestrian access and connection to dual use path | 10. Retention and upgrade of existing play ground | 16. Retention of trees, new turf and coastal planting |
| | 11. Dual use path (3m) | 17. ACROD parking |

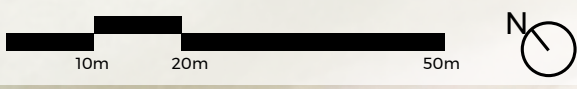


Figure 26 Zone 1 & Zone 2 Landscape Plan

Typical Section

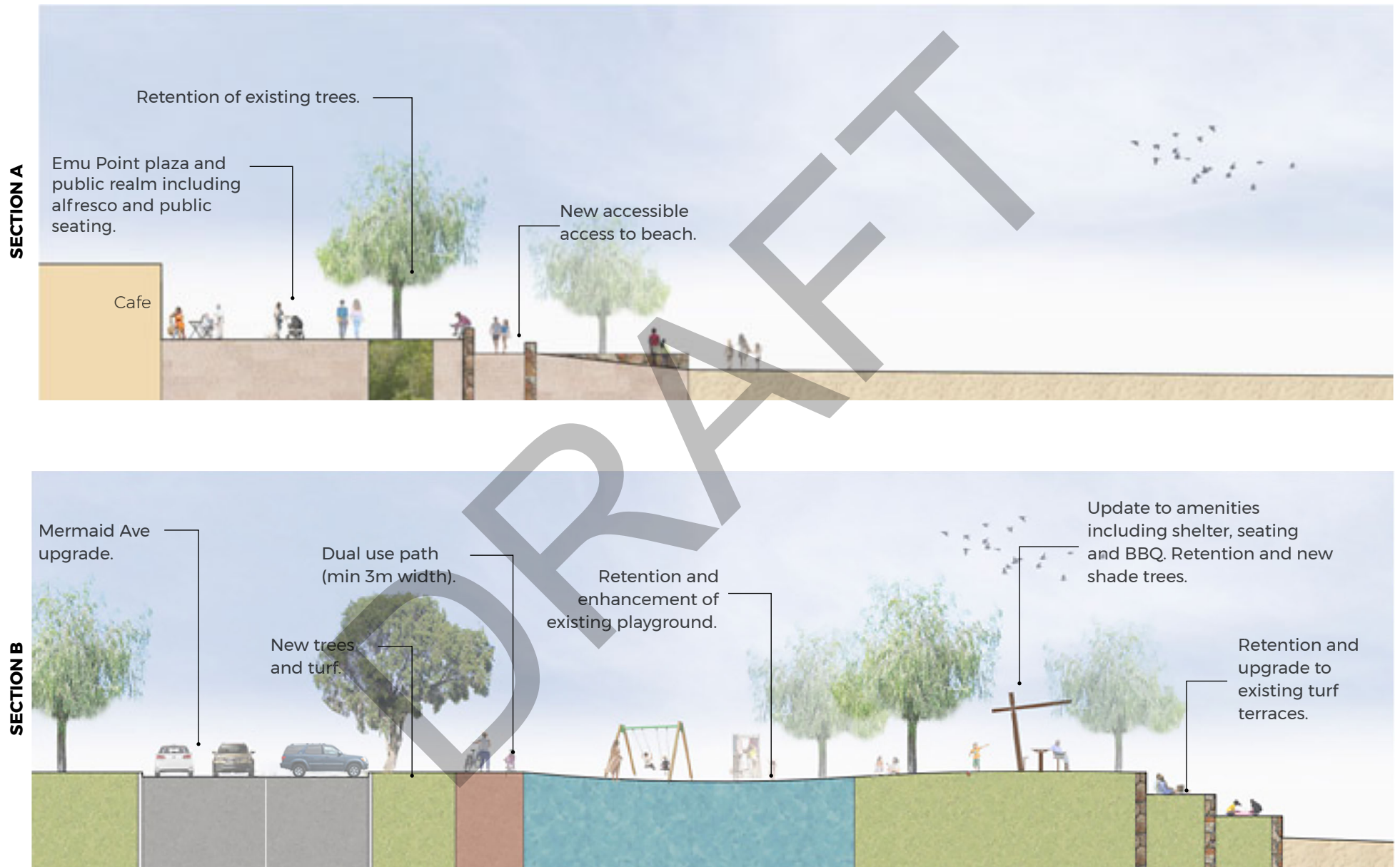


Figure 27 Zone 1 & Zone 2 Cross Sections





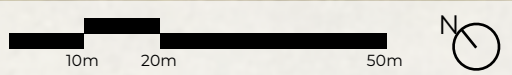
6.6 Detail Plan - Zone 3

Zone 3 comprises an extended dual use path along the Roe Parade alignment at the top of the walls, as well as a significant improvement and formalisation of ad-hoc parking in the area.

New tree planting through this location will add shade and shelter, and the implementation of an exercise and beach node with showers will provide greater interest in the central section of the foreshore.

Grass, stairs and walls are all proposed to be retained and improved. The existing tank and its artwork is retained, whilst protection and repair of the stormwater outlet is recommended.

Figure 28 illustrates the Zone 1 & Zone 2 proposals with cross sections shown in Figure 29.



LEGEND

- | | |
|--|---|
| 1. Exercise and beach node, including exercise equipment and showers | 7. Retention and upgrade of existing terrace walls and grass |
| 2. Road re-alignment and formalised parking (x 17) including the retention of existing trees | 8. Existing tank |
| 3. Retention of trees, new turf and coastal planting | 9. Protection and upgrade of storm water outlet |
| 4. Formalise car bays to Roe Parade | 10. Retain bollards to ensure on-beach vehicle separation |
| 5. Dual use path (3m) | 11. Restricted vehicle access to beach (maintenance, emergency, and accessibility vehicles) |
| 6. Upgrade to existing stairs and pedestrian access path to beach and terrace seating | 12. All-accessible beach access |

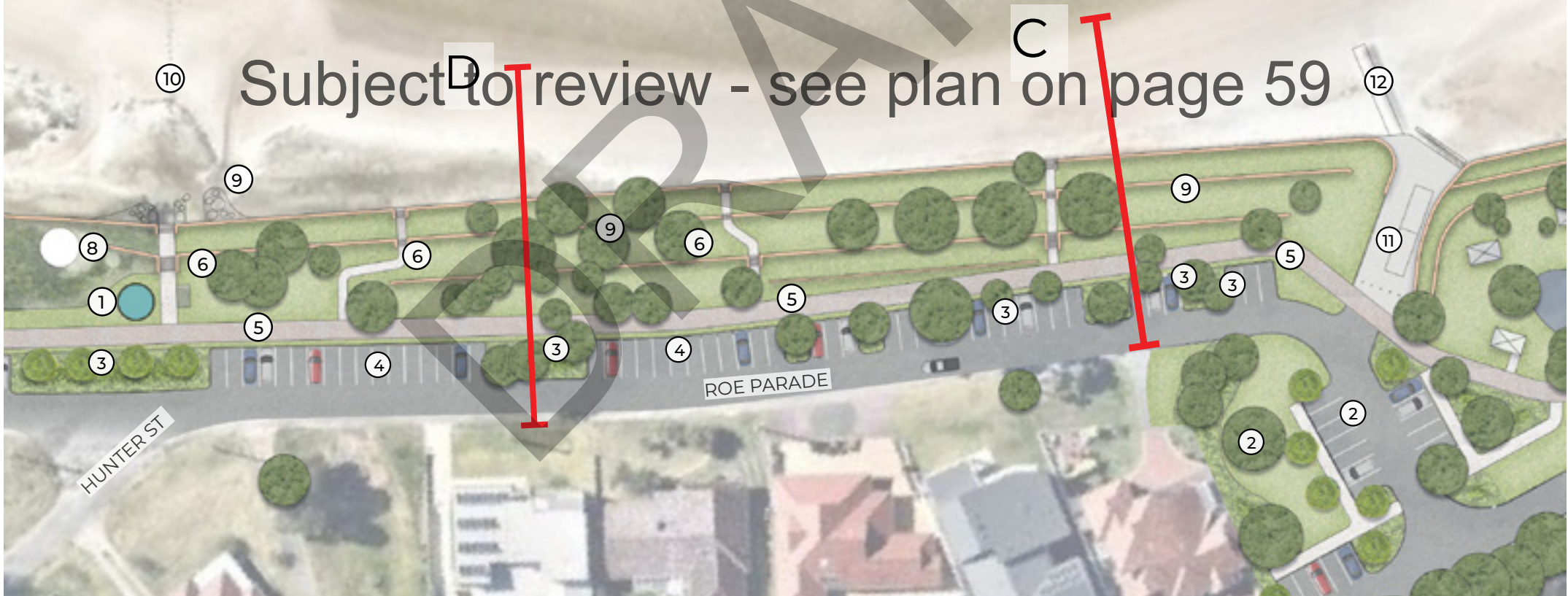
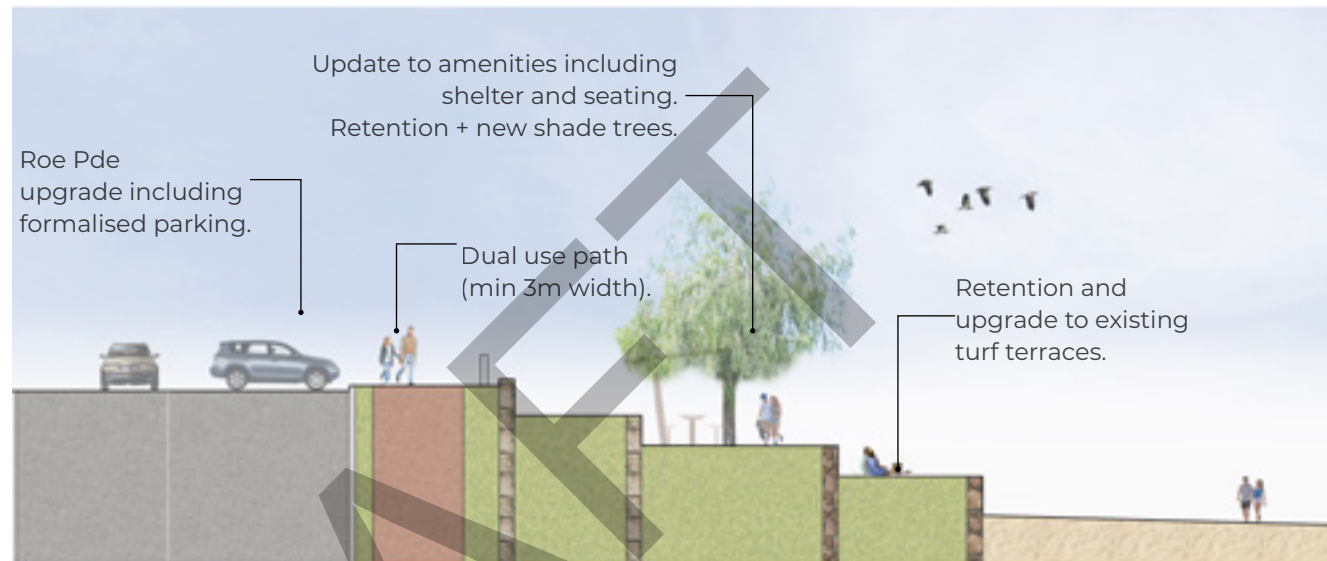
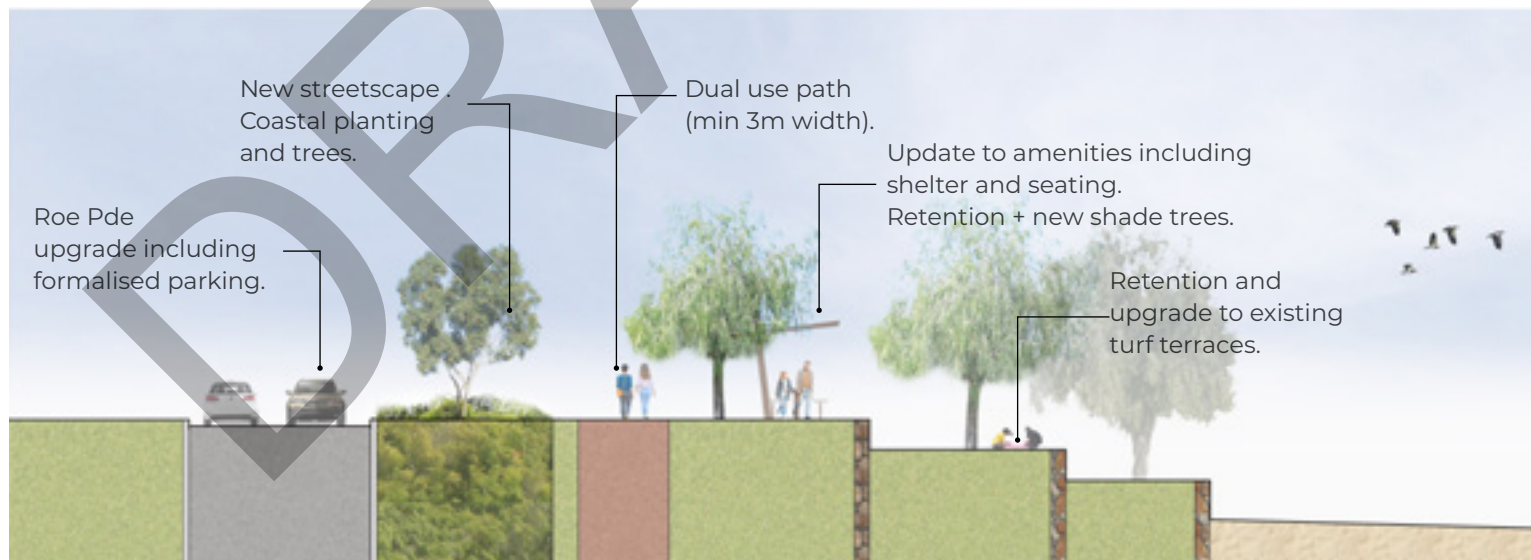


Figure 28 Zone 3 Landscape Plan



SECTION C



SECTION D

Figure 29 Zone 3 Cross Sections





6.7 Detail Plan - Zone 4

A continuation of Zone 3, Zone 4 continues the dual use path along the Roe Parade alignment to a point close to Bedwell Street where the levels allow for a gentle graded path down to the lower grassed area, without impacting trees in the existing vegetated zone.

This existing vegetated area is proposed to be planted more extensively for bank stabilisation and aesthetically.

Zone 4 assumes that the beach parking which currently occurs continues, with bollards maintained close to the boundary of Zone 3 and Zone 4 to stop vehicles going further along the beach and the retention of the low sea wall to manage inundation impacts in the short term.

All amenities are retained and improved over time

Figure 30 illustrates the Zone 4 proposals with cross sections shown in Figure 31.

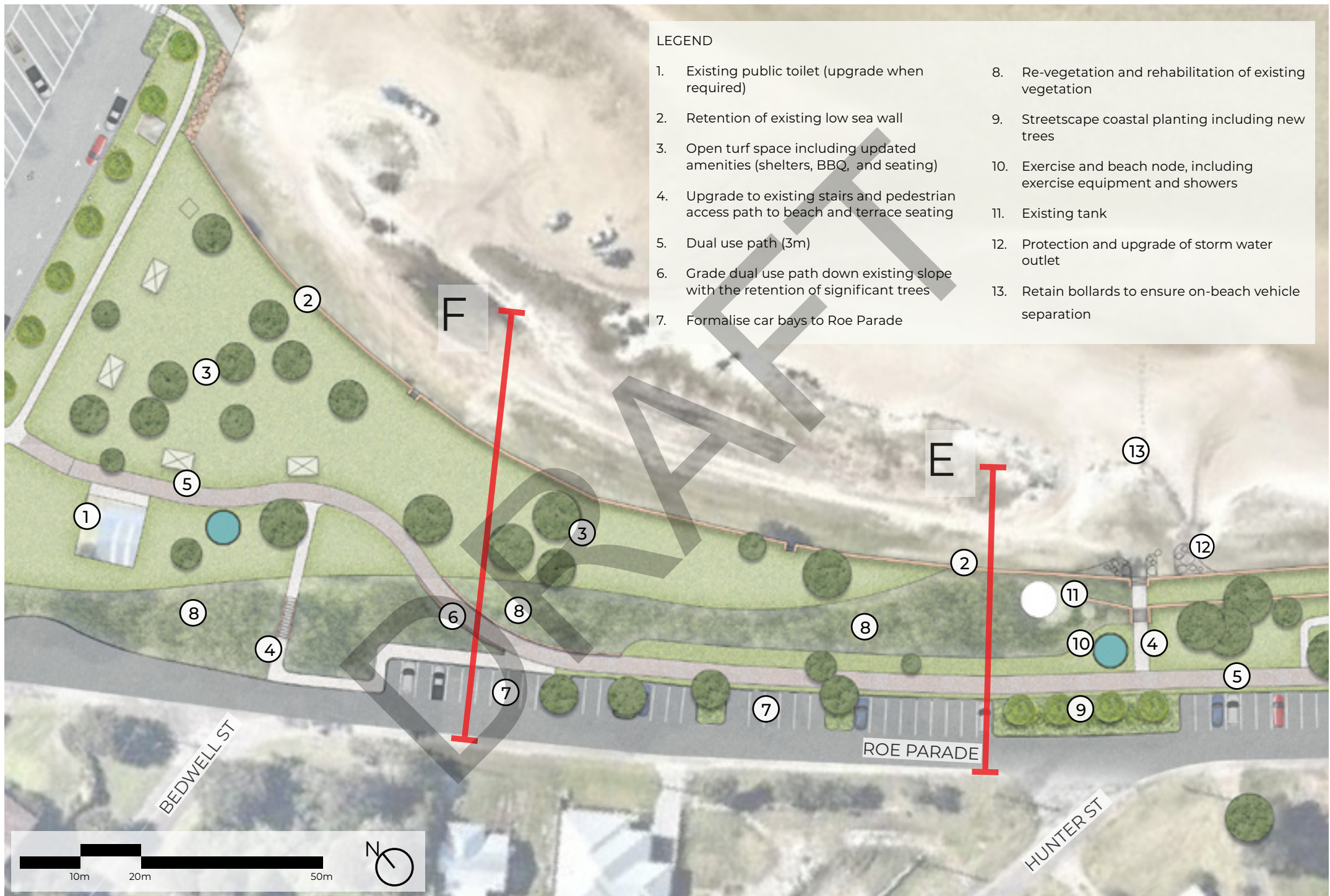


Figure 30 Zone 4 Landscape Plan

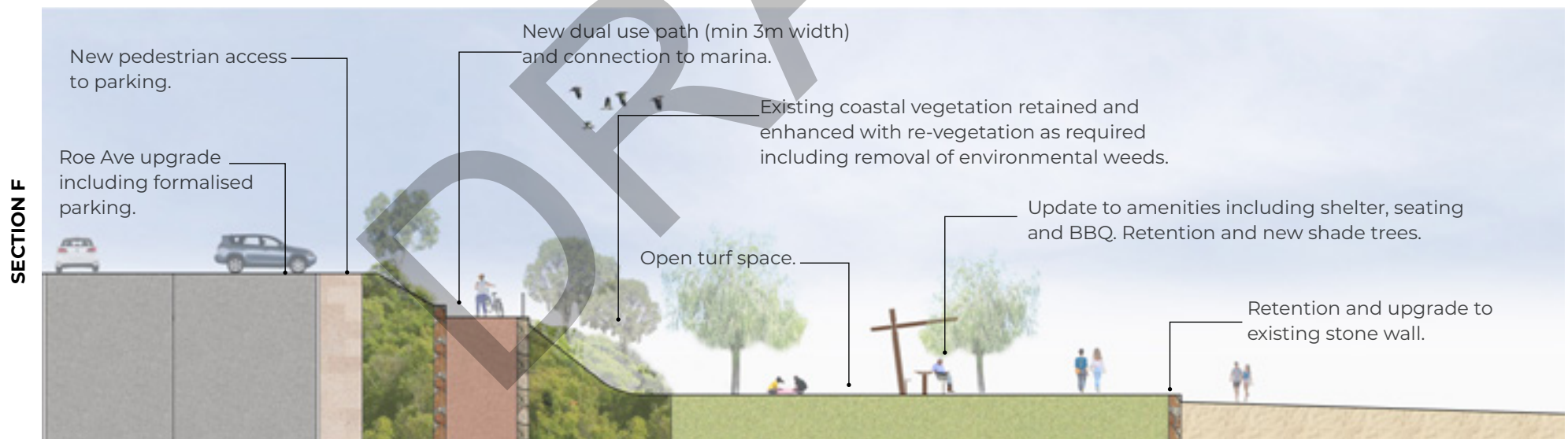
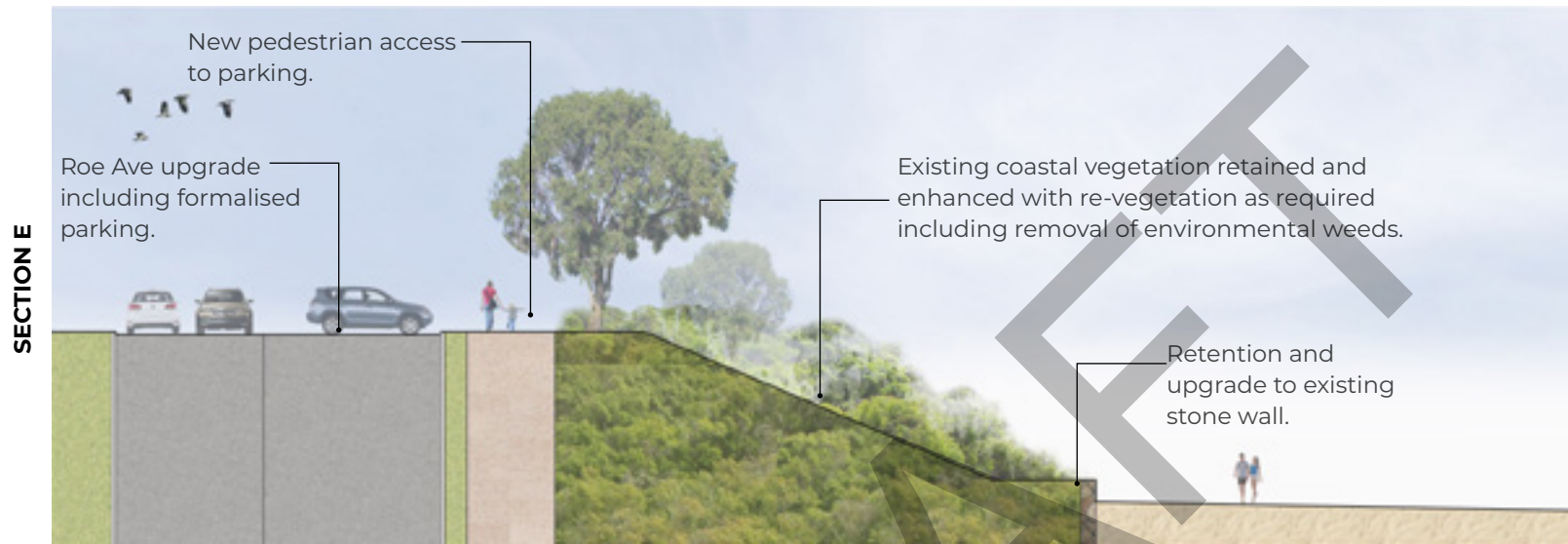


Figure 31 Zone 4 Cross Sections





6.8 Detail Plan - Zone 5

The Zone 5 proposal formalises a number of existing ad-hoc behaviours and attempts to make the vehicle circulation in the boat ramp area and adjacent to commercial premises more coordinated and efficient.

Parking is consolidated with an additional area identified for long term expansion of the harbour parking.

Improved footpaths and single vehicle parking is also provided.

Figure 32 illustrates the Zone 5 proposal



Figure 32 Zone 5 Plan

Table 5 Foreshore Management Plan Actions

	#	RECOMMENDATION	RESPONSIBILITY	TIME FRAME
Overall Management Actions	1	Physical Asset Management	Infrastructure and Environment	Short
	2	Natural Asset Management	Infrastructure and Environment	Short
	3	Dual Naming and Signage	Infrastructure and Environment	Short - Medium
	4	Resilience Planning and monitoring	Infrastructure and Environment	Short - Ongoing
	5	Markers	Major Projects	Short - Medium
	6	Educational Signage	Major Projects	Short - Medium
	7	Sand Nourishment Investigation	Infrastructure and Environment	Immediate
	8	Lease Land Management	Corporate Services	Medium
All Zones	9	Introduce a new material and planting palette in accordance with Appendix C of this FMP	Infrastructure and Environment	Short
	10	Complete detailed design for the new car parking layouts and the adjacent paths	Major Projects	Short
	11	Seek funding from the Department of Transport for the dual use path	Major Projects	Short-Medium

	#	RECOMMENDATION	RESPONSIBILITY	TIME FRAME
Zone 1	11	Complete detailed design for the new plaza area	Major Projects	Medium
Zone 2	12	Complete detailed design for the new playground open space area	Major Projects	Short - Medium
Zone 3	13	Complete detailed design for the exercise and beach node	Infrastructure and Environment	Medium
Zone 4	14	Assess condition of stormwater outflow and repair as required	Infrastructure and Environment	Medium
Zone 5	15	Complete detailed design for the new boat ramp parking area and deliver	Infrastructure and Environment	Medium

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References

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Bureau of Meteorology, 2021, *Climate Statistics for Australian Locations - Albany*, Available from http://www.bom.gov.au/climate/averages/tables/cw_009500.shtml

Landgate, 2021, *Map Viewer Plus - Topography*, Available from <https://map-viewer-plus.app.landgate.wa.gov.au/index.html>

National Map, 2021, *Acid Sulphate Soil Risk Map, Albany - Torbay (DWER-054)- Web Mapping Service (WMS)*, Available from <https://nationalmap.gov.au>

National Map, 2021, *2 metre contours (DPIRD -072) – Web Mapping DService (WMS)*, Available from <https://nationalmap.gov.au>

Appendices

Appendix A: Draft Foreshore Management
Plan Concepts 2021

Appendix B: Landscape Design Principles

Appendix C: Design Palette



APPENDIX A

Appendix A: Draft Foreshore Management Plan Concepts 2021

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APPENDIX B

Appendix B: Landscape Design Principles

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Background

The Oyster Harbour Landscape Master Plan has been initiated by the City of Albany for the implementation of the coastal adaptation responses in Emu Point Beach and Emu Point localities, consistent with State Planning Policy (SPP) 2.6: State Coastal Planning Policy (WAPC 2013a) and the endorsed Emu Point to Middleton Beach Coastal Hazard Risk Management and Adaptation Plan (CHRMAP; Aurora Environmental 2019a).

Purpose

The Landscape Master Plan provides the City of Albany's long term vision and proposed infrastructure for the Oyster Harbour and the larger Emu Point localities, details the foreshore design and has been developed having regard for the foreshore's local and regional context, social and environmental characteristics, and a range of practical management requirements (e.g. access, vegetation retention).

Aims and Objectives

The overall aim of the Landscape Master Plan is to retain and enhance the key recreational and amenity values of Oyster Harbour and surrounding Emu Point foreshore environments, whilst ensuring its ongoing protection from coastal hazards.

The objectives of the Oyster Harbour landscape design are:

- Increase the formal path network (accessible to all).
- Include a new 3m wide dual use path connecting Emu Point to Marina.
- Prioritise pedestrian and cyclists movement.
- Enhance connection between beach and public amenity/cafe facilities.
- Ensure no overall loss in number of car park bays, with additional bays where possible.
- Formalise car park along Roe Parade and Mermaid Avenue.
- Consolidate and formalise beach access.
- Retain and strengthen the Oyster Harbour and Emu Point landscape character.
- Enhance and prioritise existing and endemic vegetation.
- Ensure the creation of a 'robust' landscape.
- Provide increased public amenity for use all year round.

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Landscape Principles

The City of Albany has previously conducted community surveys which include the Emu Beach area as part of the Emu Point to Middleton Beach Coastal Adaptation and Protection Strategy (2013) along with the Coastal Parks Enhancement Plan (2014) to determine key principles and values.

Several significant values determined throughout the work shops included;

“The naturalness of the environment with areas of wilderness, large setback/foreshore reserves, wide active beaches and shady quiet beaches were seen as in character. The safety, cleanliness, vistas across the ocean and the beach were highly valued.”

“The scenic quality, sense of place, and natural ecosystem. The open, wide expanse of the beaches, their natural, pristine state, sense of peace, relaxation and natural vistas are noted as key to the identity.”

As part of the Parks Enhancement plan further workshops and consultation was undertaken to determine key values for the various coastal parkland's and to consider how to enhance and meet the community needs.

Six strategic values critical to the enhancement of the Coastal Parks including Oyster Harbour and its surrounds were determined. These identified themes and values will form the key principles of the landscape design outcome for Oyster Harbour.

Design Outcome

Retain and enhance the key recreational, landscape and amenity values of Oyster Harbour and Emu Point foreshore environments.

Design Principles

- _Coastal Identity
- _Environmental Quality
- _Destination Development
- _Connections
- _Facilities and Amenities
- _A place for Everyone



The following design considerations enhance and align with the key design principles included in previous studies undertaken by the CoA, Coastal Park Enhancement Plan (2014)



ACCESSIBILITY

Ensuring that the landscape is accessible to people of all abilities will result in repeat patronage and ensure an inviting place for all.



LOCAL

Oyster Harbour should look and feel like a place that is itself. By using local materials and leaning on local vernacular to retain the landscape character.



AMENITY

Establish varied and numerous amenities for public use to allow year round activation. Upgrading or extending the play and exercise spaces.



COMFORT

Providing protection from both sun, rain and prevailing winds throughout the precinct with both vegetation and structures ensures people can utilise and activate the space at all times of days in comfort.



DESTINATION

Strengthen and enhance the existing qualities of Oyster Harbour landscape and create a hierarchy various of activities.



CONNECTIVITY

Enhance existing connections to the pedestrian/cycle network with the creation of nodes along the length of the waterfront.



ENHANCED ENVIRONMENT

Through the protection and rehabilitation of remnant vegetation key wildlife corridors can be maintained to support various endemic species.



ROBUST




The use of robust, well engineered materials in the coastal conditions allows the creation of a landscape that remains viable for many years to come.



VEHICLE MANAGEMENT

Priorities pedestrians where possible and formalise parking to increase capacity and improve use of recreational spaces.

Landscape Principles Plan

-  **Connectivity**
Provide a continuous connection along the waterfront including connection to the boat ramp.
-  **Amenity**
Provide additional and upgrades to public amenities.
-  **Accessibility**
Provide universal access along the parkland allowing greater moment for all.
-  **Enhanced Environment**
Increase ecological value and increase native vegetation along the foreshore including increased tree canopy.
-  **Comfort**
Provide protection from coastal elements with landscape features and robust structures
-  **Vehicle Management**
Rationalise parking and road layout enhancing the legibility for both vehicles, pedestrians and cyclists



APPENDIX C

Appendix C: Design Palette

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Coastal Palette

The Oyster Harbour material palette will require selections to offer the following; robustness, long term sustainability and create a sense of place.

Extreme coastal conditions along the south coast including Oyster Harbour will require materials to be resilient and tough. Constant salt winds and moisture along with frequent public use will require materials to be hard wearing whilst reducing overall maintenance requirements for the City.

A palette with a strong sense of place will play an important role in ensuring Oyster Harbour maintains its uniqueness while creating a memorable experience. The material palette reflects the local colours and textures whilst including materials currently used by the City of Albany.

Surface Treatments

Limiting the number of surface treatments along Oyster Harbour assists in enhancing the visual amenity whilst maintaining the site's local character.

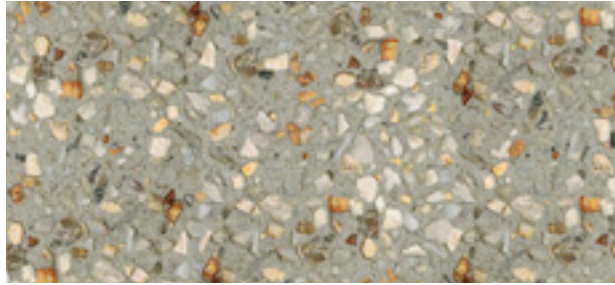
With the use of surface treatments public spaces can be defined and a hierarchy of spaces. Along the Oyster Harbour site key nodes and public spaces are to be defined with the use of 'Higher' specified elements with the cost-effective surfaces nominated to large transitional spaces.

All pavements to meet the required Australian Standards and be readily available.

Vertical Treatments

Oyster Harbour is well known by locals and visitors for its granite terrace walling, these walls are to be enhanced and protected where required with the addition of new walling where deemed appropriate.

The use of readily available and robust materials is recommended in areas where new walling may be required. These materials to be utilised are to ensure the local granite is enhanced within the key public spaces.



1. Exposed aggregate concrete - Sandstone Pebble



2. Asphalt



3. Composite deck



4. Unit Paver



5. Stabilised local granitic/gravel fines



6. Softfall



7. Local stone walling



8. Off-form concrete

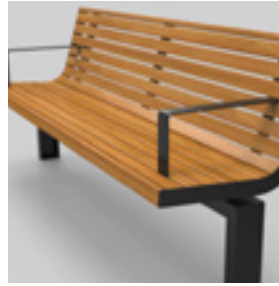


9. Block Work Walling

Furniture and Fixtures

All furniture and fixtures are required to withstand the coastal conditions of Oyster Harbour and assist the city with low maintenance requirements. Consideration is required in relation to the balance of initial capital cost and the longevity of the materials and products to be installed.

Where required all steel elements to be of a marine grade finish. Whilst new elements to align with the City of Albany furniture suite to assist in maintenance (e.g. Bins, drinking fountain, BBQ).



1. Bench seating



2. Picnic Setting



3. CoA approved Shelter



4. Barbecue



5. Bins



6. Shower



7. Bike storage



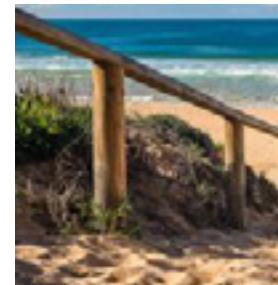
8. Exercise equipment



9. Drinking Fountain



10. Bollards



11. Fencing



12. Way finding + interpretation

Play Space

The existing play space is to be enhanced to offer various play options for all members of the community. A destination play space creates the opportunity to bring together both the local community and visitors to the region.

The play space shall be designed to cater for all ages and disabilities. The play space is to respond to its coastal context in both form, functionally and maintenance requirements.



2. Iconic



3. Pretend play



5. Shade and seating opportunities adjacent play space



6. Accessible play elements



5. Multi use elements



6. Connection to place

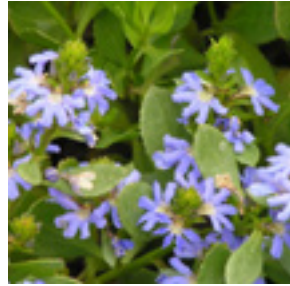
Coastal Plant Palette

Oyster Harbour foreshore, parkland and street scape has the opportunity to utilise both local and West Australian coastal species. Many of the species are available commercially allowing planting to enhance the local material palette whilst ensuring low water use and maintenance.

Low level planting is nominated to maintain site lines in key open public spaces with the inclusion of larger coastal shrubs to offer protection and buffer the strong prevailing coastal winds.

Native trees to be selected to offer shade along the parkland whilst ensuring the species are adaptable in the harsh coastal conditions.

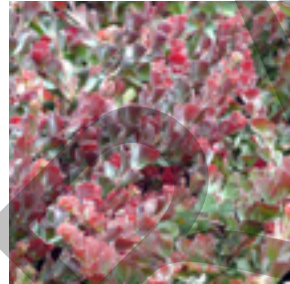
Ground Covers/Low shrubs



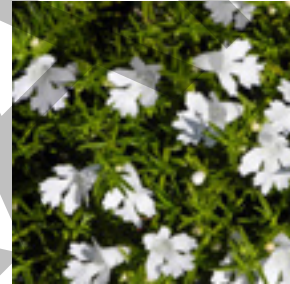
Scaevola nitida



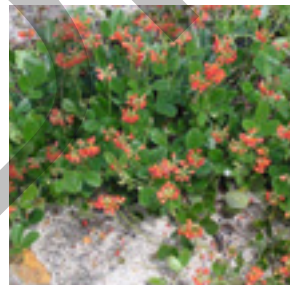
Carpobrotus virescens



Adenanthos cuneatus



Hemiandra pungens



Kennedia coccinea



Banksia repens

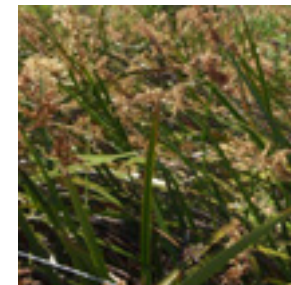
Grasses/strappy



Conostylis candicans



Ficinia nodosa

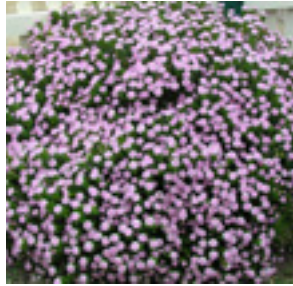


Lepidosperma gladiatum

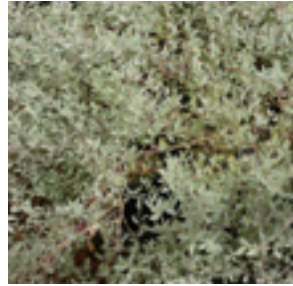


Spinifex hirsutus

Shrubs



Pimelea ferruginea



Atriplex cinerea



Myoporum insulare

Shrubs - Windbreak



Adenanthos sericeus



Melaleuca lanceolata

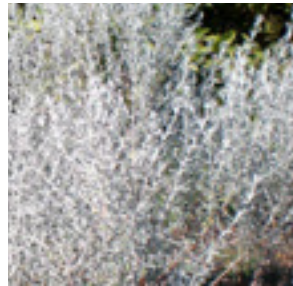
Trees



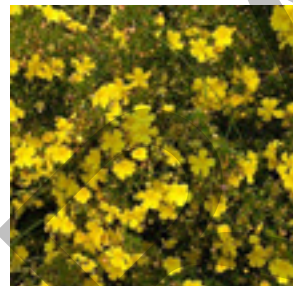
Agonis flexuosa



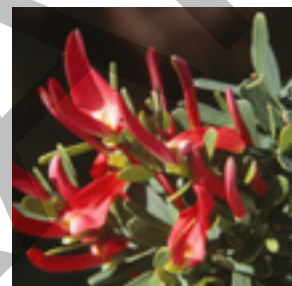
Leucophyta brownii



Olearia axillaris



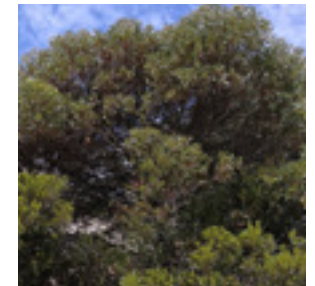
Hibbertia racemosa



Templetonia retusa



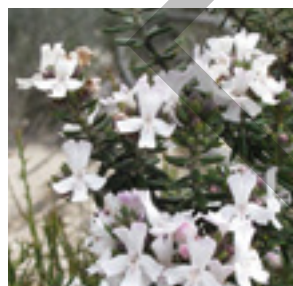
Scaevola crassifolia



Eucalyptus utilis



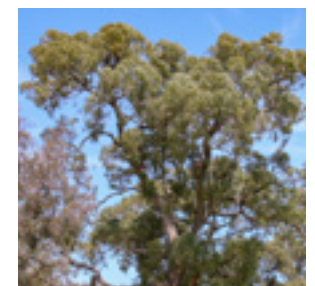
Hardenbergia comptoniana



Westringia dampierii



Acacia cyclops



Eucalyptus gomphocephala

Re-vegetation Plant Palette

Rehabilitation and re-vegetation of the Oyster Harbour foreshore is critical to ensure the future of the key wildlife corridor increasing biodiversity whilst improving user experience. The below palette offers a typical selection for the foreshore rehabilitation and re-vegetation zone through seed collection obtained from site and/or the use of local native planting.

Works to the area shall be required to ensure weed and disease free soil including weed matting or mulch to minimize erosion and weed encroachment. The installation of both temporary and permanent fencing shall be required in some rehabilitation areas to ensure minimal disturbance from the public.



Allocasuarina fraseriana



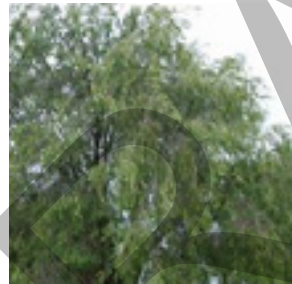
Adenanthos sericeus



Spyridium globulosum



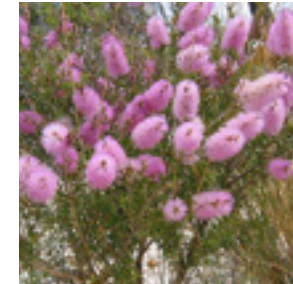
Eutaxia obovata



Agonis flexuosa



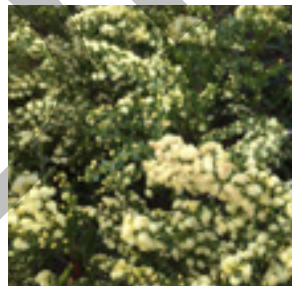
Banksia attenuata



Melaleuca striata



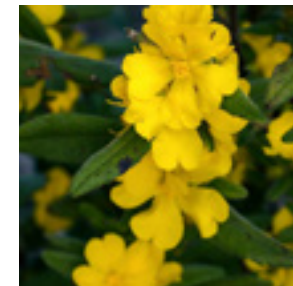
Pimelea ferruginea



Acacia littorea



Pimelea ferruginea



Hibbertia cuneiformis



Lepidosperma costale



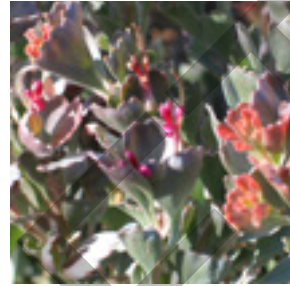
Jacksonia horrida



Leucopogon revolutus



Acacia pulchella



Adenanthos cuneatus



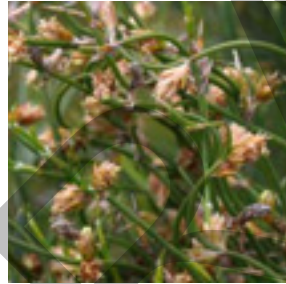
Dasypogon bromeliifolius



Lysinema ciliatum



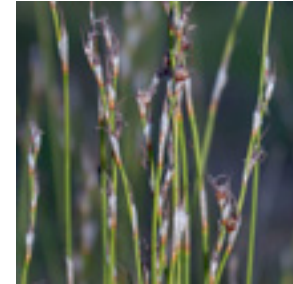
Melaleuca thymoides



Desmocladius flexuosa



Lepidosperma squamate



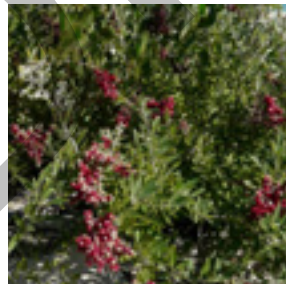
Lyginia barbata



Lepidosperma gladiatum



Phyllanthus calycina



Rhagodia baccata



Spinifex hirsutus



Ammophila arenaria

