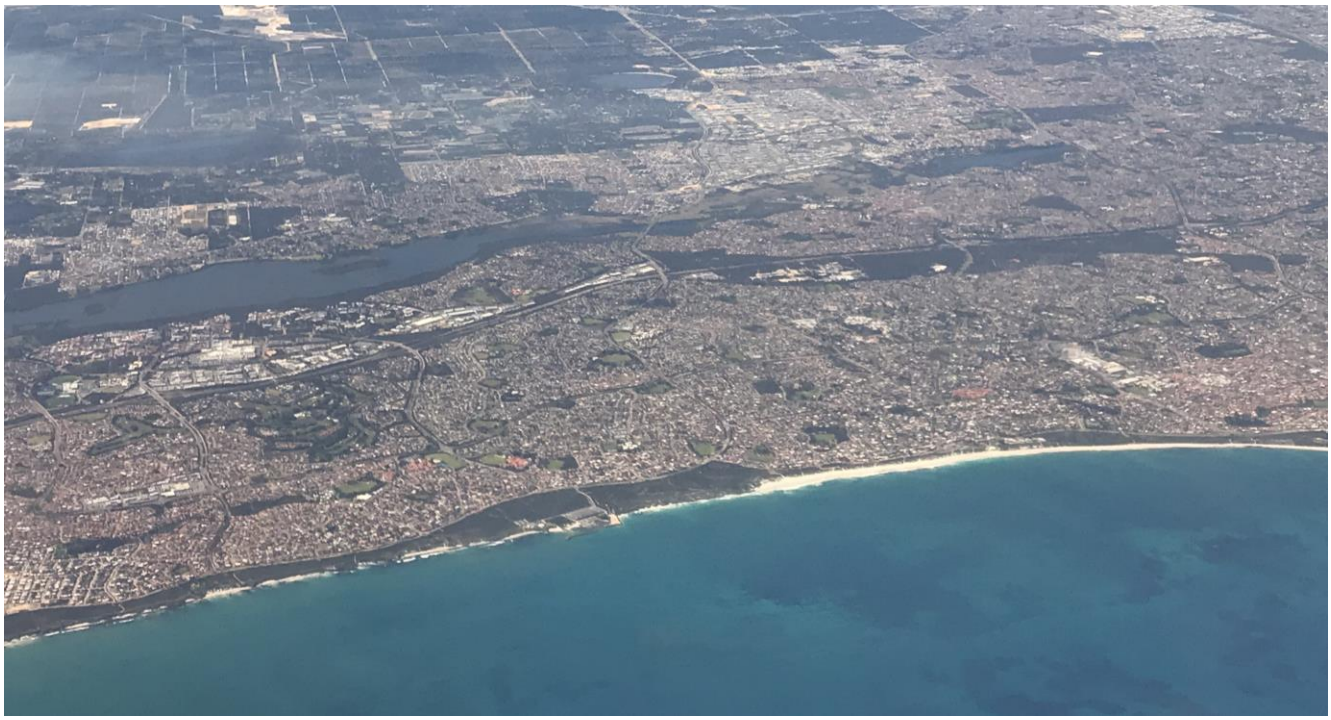
Ocean Reef Marina Marine Enterprise Precinct
Draft Design Guidelines



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DOCUMENT HISTORY AND STATUS

Marine Enterprise Precinct Design Guidelines

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1 INTRODUCTION

1.1 VISION, AIMS AND OBJECTIVES

The overall vision for the Ocean Reef Marina is to be a world class waterfront precinct providing recreational, tourism, residential and boating facilities. The aims for the Ocean Reef Marina are:

- The creation of a vibrant waterfront commercial precinct and public open space that will provide recreational amenity and a tourist destination for local residents and visitors to Perth;
- The creation of sustainable employment opportunities in food and beverage, retail, service commercial, tourism and marine related industries;
- The provision of diverse housing density and choice, within a high-quality residential environment;
- The delivery of an economically sustainable marina development to include boat pens and boat stacking facilities to meet the future demands of a growing Perth metropolitan population;
- Delivery of a marina development and marine related commercial activities providing upgraded facilities for existing recreational marine-based clubs and users, while providing adequate separation between these activities and other land uses; and
- The appropriate management of environmental values.

The plan for the marina as a world class and innovative development includes:

- Two new outer breakwaters;
- Around 550 wet boat pens;
- At least 200 boat stacker spaces;
- More than 1,000 houses and apartments;
- Approximately 12,000m² of retail, food and beverage and commercial space;
- Marine services inclusive of eight boat ramps and facilities associated with the marina, boating and recreation;
- A protected swimming area, beach, parks and open spaces for the local community and visitors; and
- Boat trailer and car parking to service the development and its visitor attractions.

Development within the Marine Enterprise Precinct (the precinct) should be consistent with the overall vision for the Ocean Reef Marina and the intent and objectives for the precinct as set out in the Improvement Scheme.

The precinct is intended to deliver a world class, high-quality marine services hub to accommodate industries relevant to the marina and facilities including boating services, boat lifting, boat stacking, administrative offices, club houses and associated parking.

The objectives of the Marine Enterprise Precinct are to:

- Provide safe access to public boat ramps, trailer parking and related facilities as directly as possible from Ocean Reef Road;
- Provide for protection of the Water Corporation's ocean outfall pipe and to ensure land uses and activities in this location are mutually compatible;
- Facilitate safe and legible movement and circulation within the precinct for all users including motorised machinery, vehicles, trailered vessels, pedestrians, cyclists and emergency transport;
- Provide for the appropriate standards and clearly identified locations for vehicle parking, boat and equipment storage for all users of the precinct and to ensure that height, mass and materiality of parking and storage facilities are aesthetically suitable for a world class marina;
- Plan for the development of facilities for a Boat Club, Volunteer Sea Rescue and Returned and Services League of Australia (RSL);
- Provide for a limited range of commercial and light industrial operations related to the provision of marine services;
- Ensure there is a fitting interface between this precinct and the adjacent Mixed Use/Waterfront/Recreation Precinct to provide an appropriate level of visual appearance, landscape amenity and pedestrian connectivity;
- Ensure appropriate management of land uses and activities to avoid noise, odour, or other emissions or lighting impacts to the adjacent Mixed Use/Waterfront/Recreation, Residential and Waterways Precincts; and
- Facilitate innovation and high standards of sustainability in all land uses and public areas.

1.2 SITE CONTEXT AND DESCRIPTION

The Ocean Reef Marina (the site) is in a coastal location within the City of Joondalup's northern growth corridor and is approximately 25 kilometres north from the Perth CBD, 12 kilometres south of the Mindarie Keys Marina, six kilometres west of the Joondalup strategic metropolitan centre, and nine kilometres north of the Hillarys Boat Harbour.

The Joondalup City Centre is the CBD of the north west corridor with over 500,000m² net lettable area of retail and commercial floor space and home to the Joondalup Health Campus, Edith Cowan University Joondalup Campus and the Western Australia Police Academy.

This coastal area is adjacent to developed residential areas and approximately 2.5 kilometres south of Iluka and four kilometres south of Burns Beach. The site is home to the existing Ocean Reef Boat Harbour, Whitfords Volunteer Sea Rescue Group, the Ocean Reef Sea Sports Club and Joondalup City RSL Sub-branch including the ANZAC Memorial and these facilities will all be incorporated into the new marina development.

The location and the concept for the development integrates built form into the topography of the site and aims to:

- Maximise views for new development;
- Minimise potential impacts on the ocean outlook of the existing residents in the Ocean Reef suburb; and
- Settle the development into the landscape.

The precinct has been designed having regard to the Bush Forever backdrop with a sensitive development interface proposed along the southern, eastern and northern boundary.

The location also provides potential for deep water moorings. Likewise, the rocky shoreline and nearshore reef provides an area in which the development can be sited with minimal impact upon the sandy beaches at Mullaloo (south) and Burns Beach (north), and the surrounding residential development of the Ocean Reef suburb.

Primary access to the marina will be via three points from Ocean Reef Road including:

- A southern gateway at Boat Harbour Quays to provide the main access to the Marine Services Precinct;
- A central gateway via an extension of Hodges Drive, providing a direct link to the Mitchell Freeway, Joondalup City Centre and Joondalup Train Station; and
- A northern gateway providing the main access to the Residential Precinct.

In addition, active transport access includes a continuation of the north-south coastal Principal Shared Path for cyclist and pedestrians, connecting links to the local network of footpaths and cycleways and design considerations for legible circulation and safe movement within the marina and the key visitor destinations.

1.3 LOCAL CLIMATE AND CONDITIONS

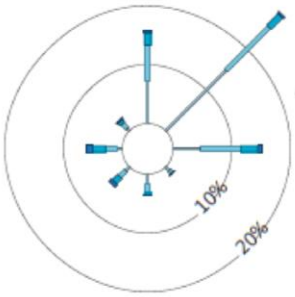
The site has a typically Mediterranean climate with hot, dry summers through December to February with average air temperatures range from 17.5 - 30°C (63.5 - 86°F) and mild wet winters through June to August with average air temperatures ranging from 8 - 19°C (46.4 - 66.2°F).

In summer the average sea temperature ranges from 20.9 - 22.8°C (70 - 73°F). Temperatures reach their peak in March with an average of 23.4°C (74°F), and dip in winter to 19.4 – 21.3°C (67 - 70°F).

December experiences the most hours of daylight with sunrise at approximately 5am and sunset at 7:30pm. June has the least hours of daylight with sunrise at approximately 7:15am and sunset at 5:20pm.

The wind regime is dominated by the effects of the land-sea interface where offshore land breezes (easterly) are common in the morning and afternoon sea breezes (south-southwest) are common in the warmer months.

9AM
Winter



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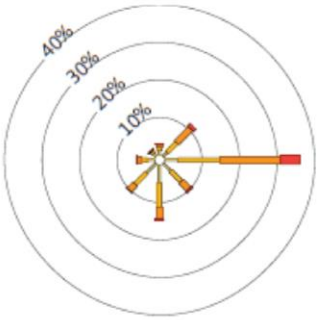
Summer



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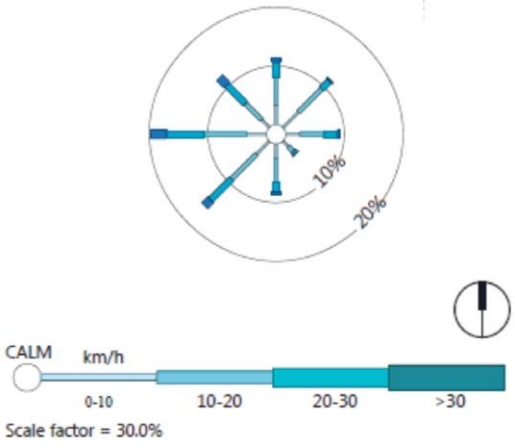
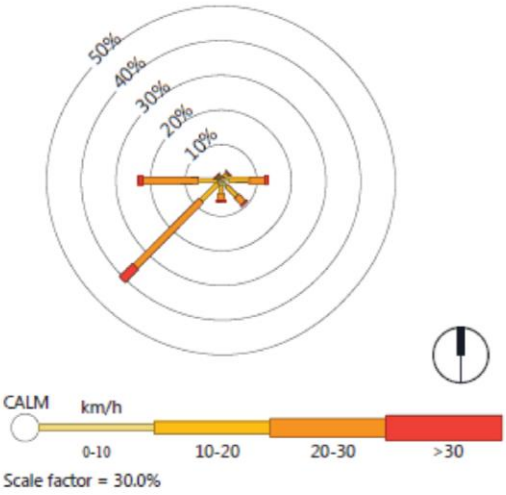
Winter



3PM
Summer



Wind Rose

1.4 SITE FEATURES AND NATURAL ENVIRONMENT

The site is located on a rocky shoreline that runs from Mullaloo Beach (to the south) through to Burns Beach (to the north). There is a mixture of shallow rock platforms, nearshore reefs and rocks. The geological setting and subsurface units within the development envelope comprises of calcareous sands that form sandy beaches and Tamala Limestone outcrops that form the cliffs along the coast.

The majority of the subject land contains undulating dunal topography which varies in height up to approximately 12 metres. Modifications to the natural topography have occurred on-site as a result of construction of the existing groyne, car park, boat ramps and club buildings.

The marina is bounded to the west by the Indian Ocean including the Marmion Marine Park 'A' Class reservation. The Marine Park has a high habitat diversity and conservation amenity. This Ocean Reef location within the Marine Park has been chosen as the site for an offshore artificial reef to benefit fishing, diving and boating community.

The natural beach to the north of the development will be transient and subject to seasonal wave action. A new and protected man-made beach with safe swimming areas is incorporated into the central location of the development.

The Ocean Reef Marina Site will be bounded on the landward side by the Bush Forever site 325 (BF 325) which spans between Burns Beach and Hillarys. Vegetation on site is largely considered to be in good to very good condition. The Bushfire Management Plan confirms that the site is capable of development. Impacts to BF 325 will be minimised through management techniques including but not limited to:

- Retention of a north-south linkage of remnant vegetation between Ocean Reef Road and the marina area (with the exception of entry roads);
- A Construction Environmental Management Plan will be prepared to address the management of terrestrial construction activities on the site, including clearing and earthworks;
- Rehabilitation of identified areas of remnant vegetation within the project area;
- Fencing and formalised access tracks through BF 325 (using existing cleared areas) to prevent unauthorised access to retained vegetation; and
- Interpretive signage to inform the community of the environmental and heritage values of the area.

The groundwater within the Improvement Scheme area flows in a westerly direction towards the coastline. There are no naturally occurring permanent surface water bodies, wetlands, or ephemeral streams within the Improvement Scheme area.

Water run-off will be captured on site and treated, ensuring pollutants and nutrients in the water are stripped prior to returning to groundwater utilising Water Sensitive Urban Design. This will be done with basins that are vegetated with nutrient stripping plants and designed to avoid mosquito breeding or stagnation of water, whilst maintaining a high aesthetic outcome. The inclusion of rocks, trees, crossing points, information signage and art will provide an opportunity to tell the 'story' of and celebrate water movement across site. Drainage and swale basins will be designed in a way that improves the community's experience of the public realm. Further information is contained in the Local Water Management Strategy for the Ocean Reef Marina.

There is a grade change across the marina site. Whilst some sites and areas of public realm may require retaining structures the aim of the Design Guidelines is to ensure that level changes are integrated into the built form wherever possible and that wall heights in the new works are minimal and that all edges are activated with building or vegetation as opposed to having blank walls.

Site levels

1.5 TOPOGRAPHY AND SOIL CONDITION

Ground elevations in the subject site vary from 25 metres AHD in the eastern portion adjacent to Ocean Reef Road, to sea level along the coast to the west. Existing views from ridgelines and focal points into good quality vegetation, both within and external to the site can be retained and utilised to provide a backdrop (a strong and attractive visual edge to the site) to the proposed new development.

The Department of Mines and Petroleum geological mapping indicates that Safety Bay Sand and Tamala Limestone are expected on-site. Based on the results of the Preliminary Geotechnical Investigation for the site, the land is generally sand and limestone and is likely to be underlain by these materials to depths greater than 70 metres. No surface expressions of karst or cavernous features were identified on-site during investigations. The assessed likelihood of the occurrence of caves within the terrestrial component is considered to be "low". The site classification is likely to be "Class A", appropriate for most Perth sand sites, and shallow pad and strip foots are likely to be suitable.

The soil types present do not represent a risk of acid sulphate soils within the terrestrial or marine components of the location.

Development is anticipated to include cut to fill, to obtain desired development levels. The site can be developed in such a way that the cut to fill balance is approximately equal.

1.6 DESIRED URBAN CHARACTER

For any development within the Marine Enterprise Precinct, the priority shall be given to achieving quality built form, public access and landscape outcomes. The desired urban character of the Marine Enterprise Precinct will:

- Announce the southern gateway to the Ocean Reef Marina with quality built form and landscaping befitting of a world class marina and public waterfront;
- Create key view lines from precinct entrance points on land and water which terminate at the marine services site, with good quality buildings framing the southern side of Boat Harbour Quays and at the interface with the waterside park;
- Enhance the marine experience of various user groups through a strong sense of orientation, legibility and safety in the designation of areas for particular purposes and by minimising conflict for user groups;
- Achieve a distinctive architectural character that celebrates the unique physical and environmental qualities of the place, the context and the services functions of the precinct. Reflect the realities of the harsh coastal conditions and public marine operations through high quality, attractive, innovative and sustainable materials and construction techniques which harmonise with the adjacent marina precincts and surrounding setting; and
- Represent innovation in built form typology, land use functionality, landscape and public domain design.

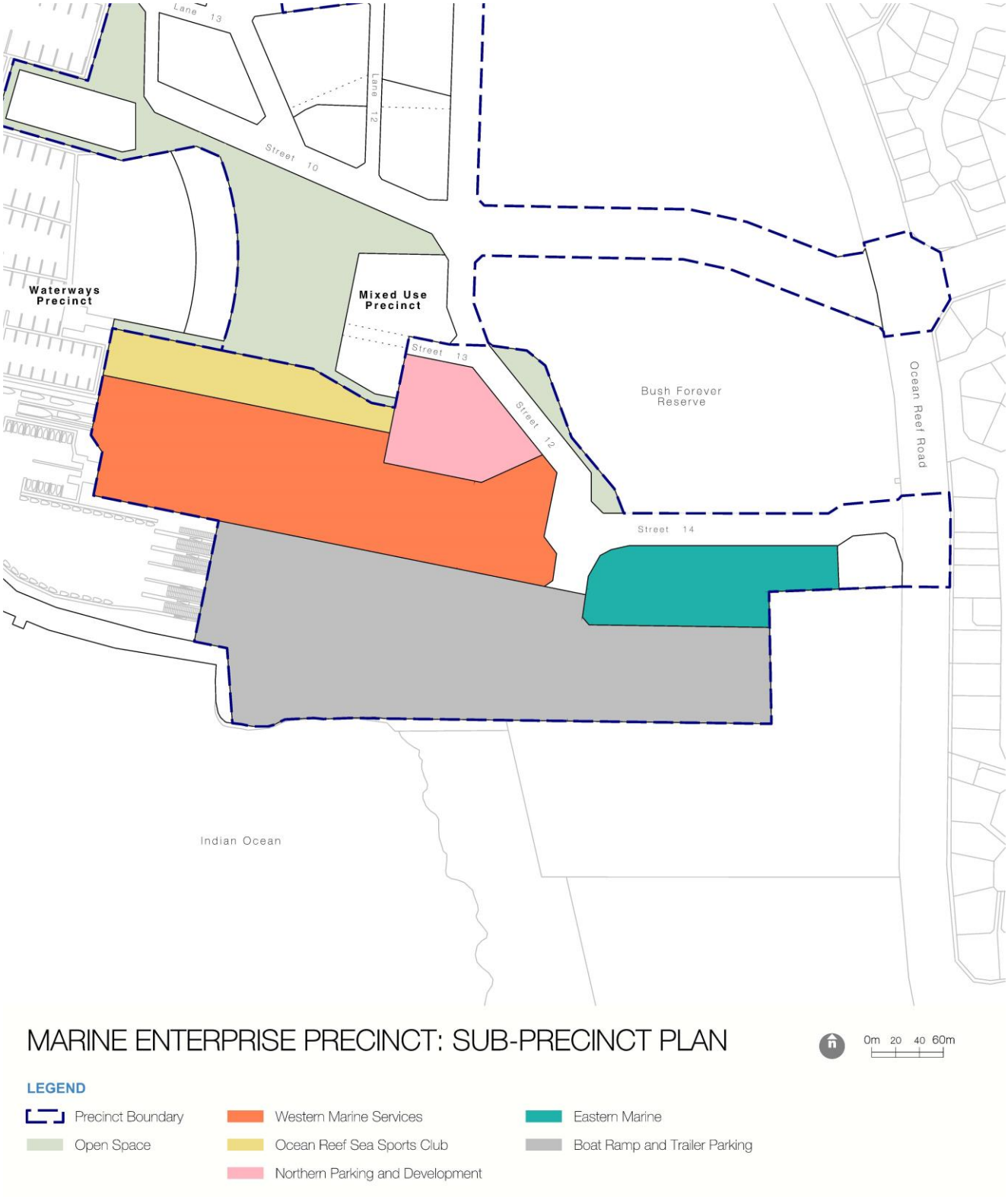


Figure 1: Sub-Precinct Plan

1.7 SUB-PRECINCTS

The Marine Enterprise Precinct is further defined as sub-precincts. The specific sub-precinct objectives are as follows:

OCEAN REEF SEA SPORTS CLUB

Key Attributes:

- To provide an appropriate level of facilities and amenity for the club members, guests and visitors in the context of the overall marina development profile;
- To ensure safe and convenient access between the club site and associated boat pens, car and trailer parking;
- To facilitate opportunities for visual and physical integration of the club building and grounds to provide active edges and passive surveillance of the adjoining jetties, public realm, public beach and mixed-use precinct; and
- To provide appropriate built form, height, mass and a high standard of materiality to enhance views of the landmark site from the adjacent public realm and waterways.

WESTERN MARINE SERVICES

Key Attributes:

- To provide a range of land uses and functions including sea rescue, boat stackers, research and marine related equipment storage to serve the marina function and marina user groups;
- To provide safe and secure access to associated boat pens, car and trailer parking;
- To ensure appropriate siting, screening and moderation of bulky structures, high bay storage facilities and multi-level boat stackers and to minimise the incidence of large areas of blank facades;
- To ensure the design of land uses and functions give adequate consideration to amenity for the adjacent public realm and land uses; and
- To encourage climate responsive and energy efficient, quality materiality and aesthetic integration with the overall marina.

NORTHERN PARKING AND DEVELOPMENT

Key Attributes:

- To provide an accessible and prominent location for public parking in close proximity to public parks, the beach and visitor attractions in the Marine Enterprise Precinct and adjacent Mixed Use Precinct;
- To ensure appropriate physical, visual and aesthetic integration within the precinct and the southern marina gateway; and
- To provide sufficient flexibility for future adaptation of this site in the event that there may be alternate land uses and functions in the future.

EASTERN MARINE

Key Attributes:

- To provide high standard of design quality;
- To provide appropriate locations, access and car parking arrangements for small scale marine services related commercial and retail outlets and additional storage areas;
- To provide sufficient flexibility for future adaptation of this sub-precinct in the event that there may be alternate land uses and functions in the future; and
- To provide appropriate built form, height, mass and a high standard of materiality to enhance views of the southern gateway site from the adjacent public realm.

BOAT RAMP AND TRAILER PARKING

Key Attributes:

- To ensure legible, safe and convenient access between the car and trailer parking and boat pens and boat ramps; and
- To ensure safe and convenient access across the parking area to enable the continuation of the principal shared coastal path for cyclists and pedestrians.

1.8 DESIGN PRINCIPLES

The guiding principles of State Planning Policy 7 *Design and the Built Environment* (SPP 7) and the 10 principles of good design provide for the minimum design requirements for development within the Marine Enterprise Precinct. To achieve design excellence, development applications must demonstrate a higher standard across all principles. Any landmark sites or buildings required to meet design excellence are identified on the sub-precinct plan.

SPP7 principle	Evaluation	Applicability to Marine Enterprise Precinct
Context and character	Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.	A design rationale which reflects and strengthens the special and unique qualities of the precinct, responds to the context of surrounding land uses and the natural environment and which supports the objectives for a world class marina and exemplar marine services precinct.
Landscape quality	Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	Landscape which provides a high level of amenity for user groups, an appropriate built form setting and which is sustainable in terms of site conditions and development function.
Built form and scale	Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.	Design which balances function with appropriate responses to topography, view corridors, gateway location, interface with public realm and adjacent land uses and which does not impact future adjacent development opportunities.
Functionality and build quality	Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.	Development which demonstrates quality built form outcomes and innovations and exemplary functionality to reinforce the objective for a world class marina.
Sustainability	Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.	Built form, hard and soft landscape, supporting infrastructure and construction techniques to demonstrate measurable sustainability outcomes.
Amenity	Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.	Land uses and development to enhance the overall experience of the marina for all user groups and the surrounding community through optimising community benefits and minimising amenity impacts.
Legibility	Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.	Development provides legible and convenient access, movement and circulation within the site and facilitates connections where applicable to boat ramps, car and trailer parking, jetties and marine services.
Safety	Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	Design to minimise opportunities for crime, anti-social behaviour and conflict between user groups.
Community	Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.	Development and precinct services optimise and enhance wherever possible access to sea sports, marine services and facilities for all user groups, clubs and the wider community.
Aesthetics	Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.	Material selection and built form creates a harmonious and inviting interface at the marina southern gateway location, precinct entrances and public realm interface on land and water.

1.9 RELATIONSHIP TO OTHER PLANNING DOCUMENTS

These Design Guidelines have been prepared under Clause 16 of the Ocean Reef Marina Improvement Scheme.

Due regard shall be given to the Design Guidelines in the determination of any subdivision and development applications.

If the provisions of these Design Guidelines are at variance with a requirement of an Improvement Scheme Policy, the Design Guideline provisions shall prevail.

If the provisions of these Design Guidelines are at variance with a requirement of a local development plan (LDP), the LDP provisions shall prevail.

If the provisions of these Design Guidelines are at variance with a requirement of the Improvement Scheme, the Improvement Scheme provisions shall prevail.

1.10 DESIGN REVIEW AND APPROVAL PROCESS

The design review and development application assessment will be carried out by a Design Review Committee as directed by the Western Australian Planning Commission (WAPC).

The number of reviews will vary depending upon the complexity of a proposal, however it anticipated that three reviews will typically be required for the process to be effective.

1. Concept design stage

At this stage, the design review will focus on the architectural form and fundamental relationships between the building and the surrounding environment of neighbouring developments, landscaping and common property. The design review does not focus on detail at this point but will evaluate concepts/schematic designs which complement the spirit of the Ocean Reef Marina vision and objectives and the Marine Enterprise Precinct Design Guidelines.

2. Design development/pre-DA lodgement

At this stage the Design Review Committee will provide an assessment of the design against the principles of Design WA and the criteria specified in the Design Guidelines.

3. Building permit stage

At this stage construction documents of the proposed design must be submitted. All construction plans will be required to be certified by a building surveyor as being in accordance with the Building Code of Australia.

Submissions for design reviews and development application assessments should be made in accordance with the Design Guideline compliance templates.

1.11 DOCUMENT STRUCTURE AND USE

These Design Guidelines apply to all development within the Ocean Reef Marina Marine Enterprise Precinct, and have been presented as a series of design elements, each dealing with a different aspect of building siting and design. Each design element includes the following sections to assist proponents in preparing their designs and applications:

A statement of **intent** explains the intended outcome and its importance.

The **element objectives** define the intended outcome underpinning the mandatory acceptable outcomes.

The **acceptable outcomes** must be met for all development proposals. They will collectively ensure that the intent and element objectives are met.

The **design guidance** section recommends some additional measures by which a development can achieve the element objectives, as well as guidance on application requirements.

2 PRIMARY CONTROLS

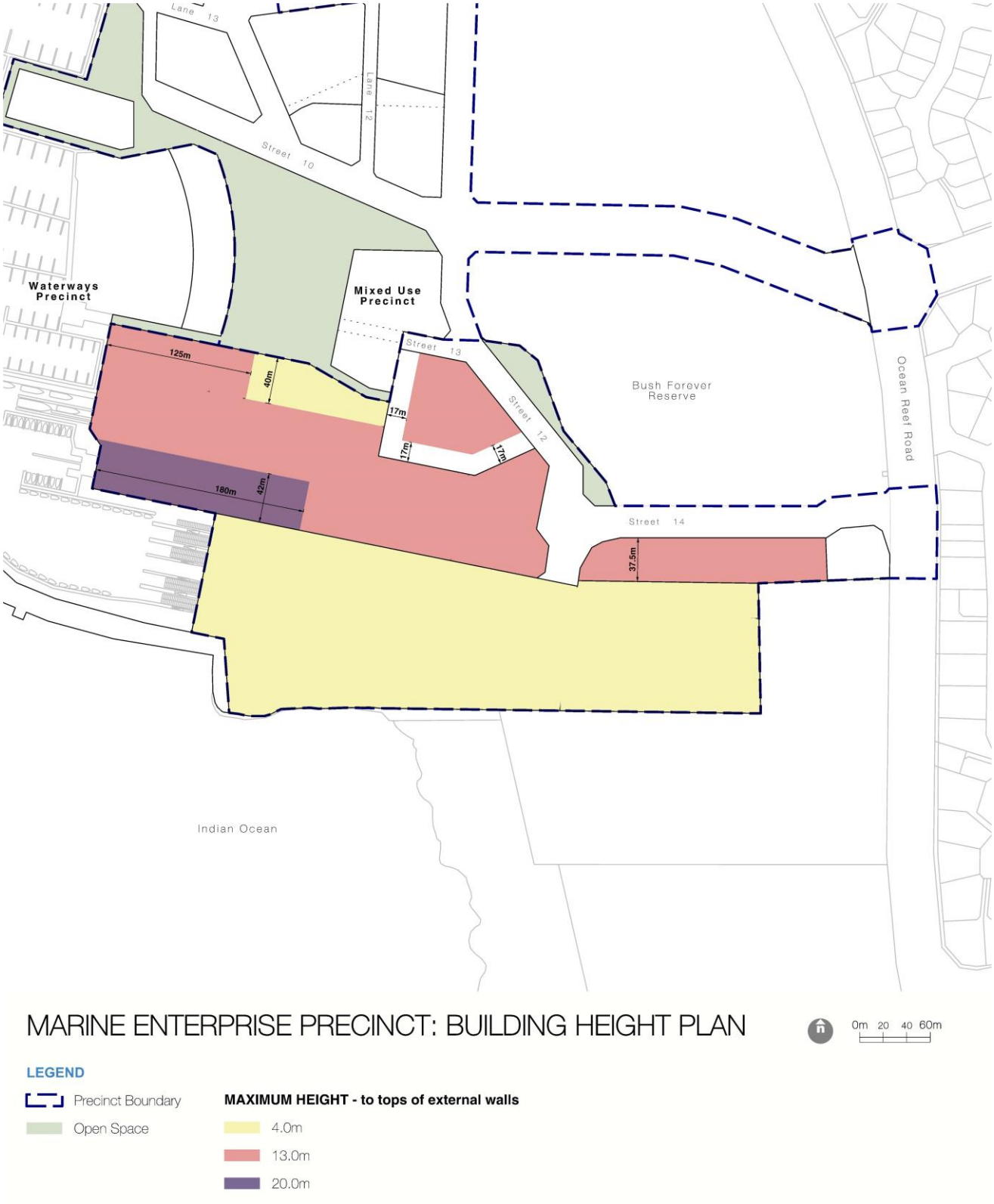


Figure 2: Building Height Plan

2.1 BUILDING HEIGHT

INTENT

The precinct will accommodate buildings for a variety of uses. Flexibility and capacity for building height needs to be provided to optimise the functional operation of marine-enterprise and public-oriented uses. The control of building height also needs to have regard for the viewscape from the buildings and public realm of the Mixed Use Precinct, and from residences east of Ocean Reef Road.

ELEMENT OBJECTIVES

1. Control the appropriate height and scale of development adjacent to publicly-accessible interfaces.
2. Enable the possible longer-term above-ground development of the Northern Parking and Development sub-precinct.
3. Provide suitable height and scale separation from adjacent buildings in the Mixed Use Precinct.
4. Facilitate building scale adjacent to key streets and public spaces that contributes to the visual appeal of those environments.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Building orientation;

3.5 Public domain interface; and

4 Designing the building.

ACCEPTABLE OUTCOMES

1. Development complies with the building height limit (metres) set out in the Building Height Plan (**Figure 2**).
2. Buildings proposed to be higher than what is specified on the Building Height Plan can only be varied by approval of the WAPC.

DESIGN GUIDANCE

1. The measurement of building height is taken to be parallel to the finished ground level at the time when the Certificate of Title for the relevant site is created and recorded by site survey.
2. Roofs, roof-projections and roof-top services are not to exceed 3 metres above the maximum height identified on the Building Height Plan.

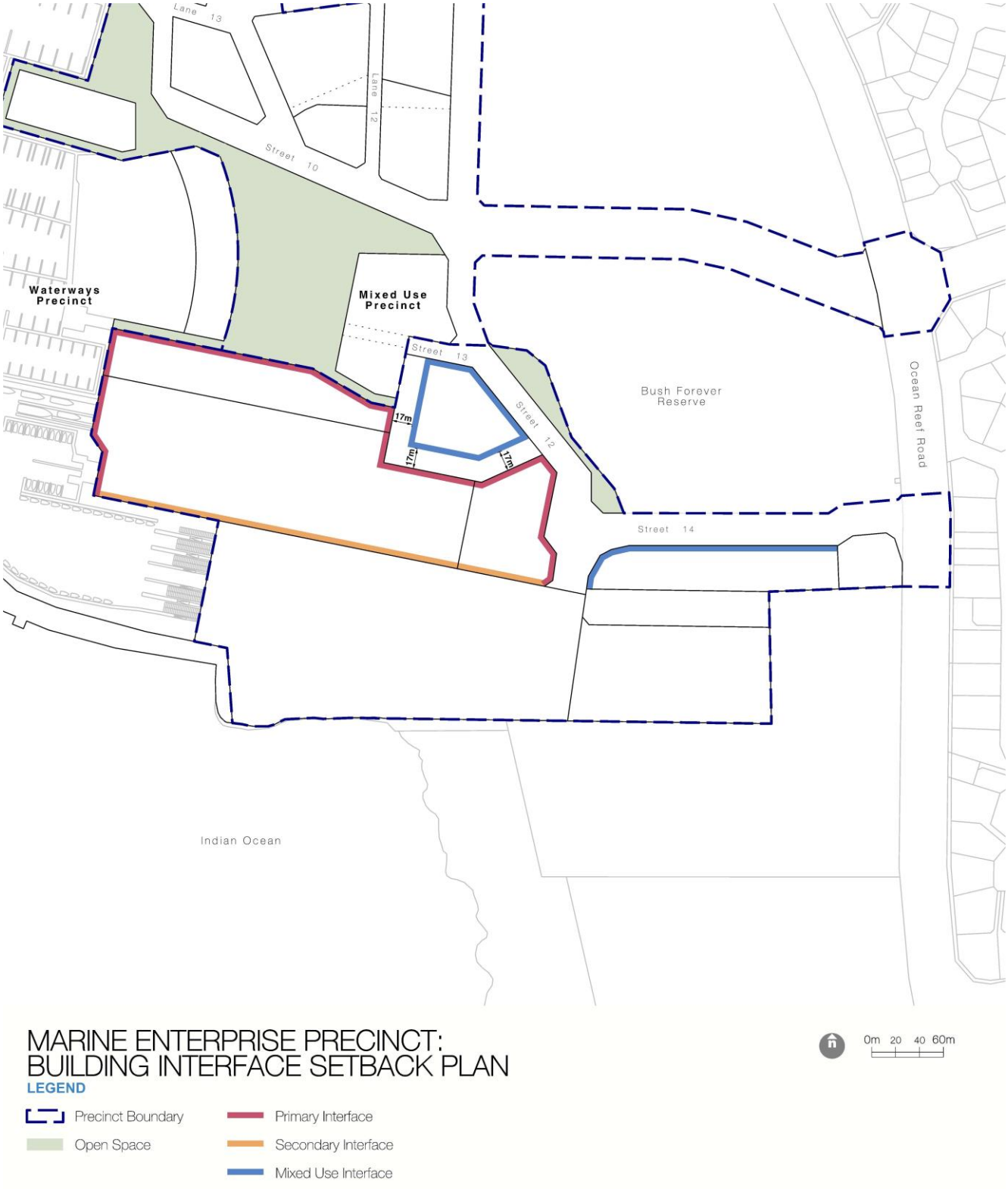


Figure 3: Building Interface Setback Plan

2.2 SETBACKS

INTENT

Building setbacks in the precinct are intended to enable efficient use of development land, and to present buildings and landscaping close to key public realm edges as part of creating an appealing precinct.

ELEMENT OBJECTIVES

1. The setback enables active uses to have a close address-relationship with the public realm where pedestrians and/or passing traffic pass by.
2. The setback enables passive surveillance from active-use buildings across the adjacent public realm.
3. The setback enables buildings to provide a vertical framing and emphasis in the streetscape environment.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Building orientation;

3.5 Public domain interface; and

4 Designing the building.

ACCEPTABLE OUTCOMES

1. Development complies with the building setbacks (metres) corresponding with the classifications identified on the Building Interface Setback Plan.
   - Primary Interface building setback requirement: 3m minimum; no average setback distance.
   - Mixed Use Interface building setback requirement: nil minimum permitted; no average setback distance.
   - Secondary Interface building setback requirement: 2m minimum; no average setback distance.
2. Building setbacks proposed to be less than what is specified on the Building Interface Setback Plan can only be varied by approval of the WAPC.

DESIGN GUIDANCE

1. All building setbacks are subject to compliance with an approved Bushfire Management Plan for the precinct.
2. Where a site has a boundary not classified on the Building Interface Setback Plan, the building setback shall be subject to the approval of the WAPC.

3 SITING THE DEVELOPMENT

3.1 SITE ANALYSIS AND DESIGN RESPONSE

INTENT

The character sought by these design criteria derives from a maritime theme, which is consistent with the ocean front location and marina focus of the development. This design approach will be developed through a particular palette of materials and colours and architectural features which are of particular importance at the interface with the public realm, streets and public open space.

ELEMENT OBJECTIVES

1. To ensure development provides an appropriate visual, aesthetic and experience when viewed from land and water.
2. To ensure that buildings and public spaces are designed consistent with the maritime theme.
3. To ensure building and public spaces are designed to ensure they remain structurally sound for their expected lives.
4. To ensure appropriate built form at key locations to frame and enhance the public realm experience.

RELATED ELEMENTS

To be considered in conjunction with:

3.2 Orientation;

3.5 Public domain interface;

4.7 Façade design; and

4.8 Roof design.

ACCEPTABLE OUTCOMES

1. A written and/or illustrated site analysis to be provided which demonstrates how the design response is informed by the site analysis and context including:
   - Location;
   - Local context;
   - Site survey;
   - Streetscape context;
   - Landscape context; and
   - Other relevant site factors.
2. Buildings that terminate vistas from land and sea are required to address that vista. Special treatment is encouraged to distinguish that site as a point of visual focus.
3. Lots identified in the Precinct Requirements as urban markers/landmarks are to have a distinctive presence that reflects their position as a link between streets, a vista termination, or entry statement.
4. Buildings situated at the intersection of roads/lanes/pedestrian accessways provide landmarks which assist people's understanding of the local environment.
5. Corner buildings are to address both frontages, and a special architectural composition/treatment is encouraged to mark corners and link streets.
6. Buildings will require adequate corrosion protection measures.
7. Consideration should be given to the use of roof sarking, adequate flashings, sloping sills, stainless steel or plastic wall ties, and adequate glazing units.

Boats in marina

3.2 ORIENTATION

INTENT

The precinct is part of a connected marina environment that includes recreation, hospitality, services and commercial uses, and building orientation balances and optimises character, climatic conditions and landscape opportunities.

ELEMENT OBJECTIVES

1. Built form to respond to proximity to the public realm, open space, views, prevailing climate conditions (sun, wind, rain) and adjacent land uses.
2. Views and vistas from surrounding land uses are maintained and enhanced with orientation of open space and buildings.
3. The proximity to the beach is emphasised through appropriate orientation and layout of public indoor and outdoor spaces and entries.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.5 Public domain interface; and

4 Designing the building.

ACCEPTABLE OUTCOMES

1. Buildings on street and public realm frontages are orientated to face the public realm and incorporate direct access from the street.
2. Buildings that do not have frontages to streets or the public domain are orientated to optimise northern light to public areas.
3. Building orientation and design supports a comfortable, inviting and safe private and public realm and pedestrian environment.
4. Buildings and outdoor areas are designed to provide shade, shelter and protection against the elements whilst maintaining strong visual and physical connections with the adjoining public realm and development.
5. Exposure to harsh environments is minimised through careful siting, orientation and layout of buildings whilst maintaining an open aspect and relationship to the surrounding areas.
6. Outdoor eating areas are encouraged to water frontages, without limiting public access.
7. Club and public facilities such as restaurants and cafés should relate to public pedestrian areas and surrounding public open space.

DESIGN GUIDANCE

1. Consider orientation and apply solar passive design principles.
2. Development to provide passive surveillance to the street.
3. Explore design solutions to optimise solar access.

Marina Point Yacht Club

Built form orientated to provide passive surveillance of park

3.3 TREE CANOPY

INTENT

Trees make a significant contribution to the ecology, character and amenity of a place, and provide habitat for fauna, shade, stormwater management and micro climate benefits within the precinct.

ELEMENT OBJECTIVES

1. To support tree planting within the precinct.
2. To provide sufficient areas and protection to sustain tree growth and health.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface;

4.9 Landscape design; and

4.11 Water management and conservation.

ACCEPTABLE OUTCOMES

1. Deep soil areas (10% of lot area) are to be provided in a location conducive to tree growth.
2. Paving, decking and hard stand areas are not to inhibit the planting and growth of trees.
3. Where the deep soil areas cannot be provided due to site restrictions, an area equivalent to two times the shortfall is provided on the building structure.
4. Minimum tree planting requirements are:
    - One tree every 3 parking bays.
    - One tree every 6m² in garden beds (or linear metre if long garden bed).

DESIGN GUIDANCE

1. Whole of lot design solutions are required, inclusive of the landscape areas.
2. Deep soil areas and landscape plans to be provided with development applications.
3. Tree and other landscape elements to be consistent with the Landscape Masterplan for the Ocean Reef Marina.
4. If extensive planting on the building structure is proposed, consider the use of alternative irrigation systems and water sources such as rainwater or recycled greywater.

Tree Lined Car Parks

Tree Lined Paths and Parking

3.4 VISUAL PRIVACY

INTENT

Whilst visual privacy may not be an issue or element to be regulated for the majority of the precinct, the proximity of the northern parking and development site to the Mixed Use Precinct and the potential for adjacent residential and tourist based development sites requires consideration to ensure compatibility in terms of amenity and visual privacy.

ELEMENT OBJECTIVES

The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas of neighbouring properties, while maintaining daylight and solar access and ventilation.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Orientation;

4.1 Solar and daylight access; and

4.2 Natural ventilation.

ACCEPTABLE OUTCOMES

1. Windows and balconies are sited, oriented, offset or articulated to restrict direct overlooking, without excessive reliance on high sill levels or permanent screening.

DESIGN GUIDANCE

1. Communal space, common and public areas should be separated from private open space and residential windows, particularly to habitable rooms.
2. Design solutions may include:
    - Increased setbacks;
    - Fencing, trees, vegetation to separate spaces;
    - Screening devices; and
    - Changes of level.

3.5 PUBLIC DOMAIN INTERFACE

INTENT

The interface between buildings and the public domain is important to ensure the quality and character of the street. The design of attractive and pedestrian friendly frontages requires well considered arrangements of planting, fencing and site entries.

Compatibility and connection between private and public infrastructure are vitally important and contributes to amenity and creates robust and long-lasting spaces and linkages that are well used. These connections and relationships will support the celebration of the waterfront as an area of leisure, recreation and water-based activities.

ELEMENT OBJECTIVES

1. To reinforce the precinct as a tourist destination.
2. To support an active, connected and well used public domain that has regard to the relationship with the marina and land uses within the precinct.
3. To provide high levels of amenity, connectivity, legibility and orientation for users of the precinct.
4. To provide visual interest in the building façade.
5. Street facing development and landscape design retains and enhances amenity and safety of the adjoining public domain.

RELATED ELEMENTS

To be considered in conjunction with:

3.3 Tree canopy;

3.6 Pedestrian and cycle access and entry;

3.7 Vehicle access;

4.7 Façade;

4.9 Landscape design; and

4.11 Water management and conservation.

ACCEPTABLE OUTCOMES

1. Buildings should, where possible, address the street and locate their main entries so as to face the street.
2. Ground level frontages for commercial uses should, where possible, have large windows to enable a connection between the interior and the street or public spaces.
3. Where buildings provide a zero front setback, the provision of weather protection to the public footpath in the form of a canopy or awning is required.
4. Awnings should be detailed to appear as thin, lightweight elements.
5. The minimum height from ground level for a canopy or awning overhanging a footpath is 2.75 metres.
6. Large expanses of solid wall in the built forms fronting onto public spaces is not acceptable and shall be avoided.
7. Where paving within lot boundaries of private land abuts or is visible from the street or public spaces, effort should be made to coordinate the paving with that in the public areas, in terms of colour, scale and texture.
8. Bins and service areas are not located within the primary street setback and are integrated into the development.
9. Where development adjoins public parks, open space or bushland, the design positively addresses this interface.

DESIGN GUIDANCE

1. A full set of site and floor plans detailing how the design of the building creates an active street frontage to be provided with development applications.
2. Generally, alterations to the existing paving, on street parking, lighting, tree planting, street furniture and other elements will not be permitted. However, if it can be demonstrated that a superior design solution can only be achieved through the relocation of one of these elements, consideration will be given to such a proposition provided that the relocation is carried out to the responsible authority's specification at the owner's expense.
3. Damage caused to the public domain during construction processes must be made good.

3.6 PEDESTRIAN AND CYCLE ACCESS AND ENTRIES

INTENT

The design supports clear movement of pedestrians and cyclists. This arrangement provides a safe and integrated precinct that meets broad planning and urban design principles for healthy and liveable communities.

ELEMENT OBJECTIVES

1. Priority is to be given to maximising pedestrian access and circulation throughout the area and pathways link open spaces to create an integrated foreshore precinct.
2. Pedestrian and cycling pathways are clearly delineated.
3. Priority is to be given to maximising pedestrian and cyclist safety through the working marina.

RELATED ELEMENTS

To be considered in conjunction with:

3.7 Vehicle access;

3.8 Car and cycle parking; and

4.1 Universal design.

ACCEPTABLE OUTCOMES

1. Continuous public access to all water frontages to be maintained.
2. Building entries and carparks are clearly delineated and are level with the adjacent external pavement level.
3. Weather protection is to be provided to entrances of buildings.
4. Consideration should be given to designing access suitable for all user groups including people with impaired mobility wherever possible.
5. Large expanses of solid wall along key pedestrian and cycle routes shall be avoided.
6. Low walls (up to 1.2 metres) are acceptable along the front boundary of developments.
7. Walls of up to 1.8 metres high are permissible if a minimum of 60% of the wall area is permeable and allows passive surveillance of the public domain.

DESIGN GUIDANCE

1. Consider clear sightlines to secondary building entries.
2. Where there are multiple entries, consider design treatments that provide a clear visual hierarchy to distinguish communal/public and private entries.
3. Design of access and entries should incorporate CPTED (Crime Prevention through Environmental Design) principles and universal design principles.
4. On large sites, consider provision of pedestrian and cycle links through the site to connect with open space, main streets and public transport.

Tasmania University

Brunel Trail, Pembroke

3.7 VEHICLE ACCESS

INTENT

Vehicle movement and access are considered as an integral component of the overall site design. Well designed access and circulation areas improve safety and functionality for all users.

ELEMENT OBJECTIVES

1. To locate vehicle movement and access locations to optimise amenity along the waterfront.
2. To balance the needs of boat ramp users, private vehicles, marine services, operational vehicles and emergency vehicles.
3. To accommodate large marine vessel movement and parking/boat stacking.
4. Colours and materials for access ways to reinforce the coastal character.
5. To provide legible and safe access to tenancies within the precinct.
6. To balance the needs of cyclists and pedestrians with vehicles.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface;

3.6 Pedestrian and cycle access and entries; and

3.8 Car and cycle parking.

ACCEPTABLE OUTCOMES

1. Designs minimise signage, bollards and other infrastructure at lot frontages and provide a safer and more attractive public realm.
2. The width of vehicle entry points kept to a minimum and avoid vehicle standing areas in the street setback.
3. Maximum of one vehicle access point per allotment.
4. Design demonstrates that access points are visible from the street.
5. Entries designed for two-way access and allow for vehicles to enter the street in forward gear.

DESIGN GUIDANCE

1. Where permitted, crossovers are to be constructed to the specifications of the City of Joondalup, at the owner's expense and will require approval by the responsible authority.
2. Select colours and materials that identify with the built form and streetscape.
3. Ensure a well planned path of travel with sufficient clearance distances and sightlines for large vehicles during preliminary design.

AAES-COM Distribution and Logistics

Elizabeth Bay

3.8 CAR AND BICYCLE PARKING

INTENT

Car parking can have a significant impact on site planning, landscape and building design. There can also be negative impacts if not well planned including heat gain and stormwater contamination. Poorly planned and designed bicycle parking can lead to conflict between user groups and safety impacts. The design process must balance these requirements to provide sufficient parking to ensure that vehicle and bicycle parking is considered as an integral component of the overall site design.

ELEMENT OBJECTIVES

1. Parking areas should be well designed and unobtrusive from the street.
2. Generally, all carparking should be located behind or within buildings away from street view.
3. Generally, all bicycle parking should be at the ground level and not in basement or upper floors

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.5 Public domain interface;

3.6 Pedestrian and cycle access and entries; and

3.7 Vehicle access.

ACCEPTABLE OUTCOMES

1. Car parking is located away from open spaces and pedestrian and cycling movement corridors.
2. Public car parks are clearly delineated and signed.
3. Car parking to lots within the Eastern Marine and Western Marine Services sub-precincts to be at the rear of development
4. Change facilities/end of trip facilities and bicycle storage racks should be provided in appropriate locations at ground floor level/at grade.

DESIGN GUIDANCE

1. A parking layout and parking management plan to be submitted with all development applications.
2. The parking plan to demonstrate the number of bays, area for reversing and turning, site gradients and floor to ceiling heights (where applicable) in accordance with the specifications of the responsible authority and the relevant Australian Standards.
3. The parking plan to demonstrate the location and access arrangements for bicycle parking and end of trip facilities in accordance with the specifications of the responsible authority and the relevant Australian Standards.

Car Parking

Bicycle Parking

4 DESIGNING THE BUILDING

4.1 SOLAR AND DAYLIGHT ACCESS

INTENT

Climate sensitive design can contribute to significant energy consumption reductions and daylight exposure improves people's wellbeing.

ELEMENT OBJECTIVES

1. Optimise solar and daylight access for public and commercial buildings and open space, considering climate conditions.
2. Incorporate shading and glare control to minimise heat gain and glare.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Orientation;

3.3 Tree canopy;

4.7 Façade design; and

4.8 Roof design.

ACCEPTABLE OUTCOMES

1. Awnings with large overhangs should be provided over significant openings on the north, east and west and to shade public outdoor areas, with:
   - Minimum width of 2 metres; and
   - Minimum height clearance of 2.75 metres above the footpath.
2. Solar panels and solar hot water systems may be visible only where they are located in the same plane as the roof and there is no alternative location that can offer a similar level of solar efficiency.

DESIGN GUIDANCE

1. Consider strategies to minimise solar access to ground floor offices and public meeting rooms.
2. Consider pairing shading treatments with performance glazing in public meeting rooms to reduce heat transfer.

Aberdeen Yacht Club Hong Kong Communal; Alfresco

Sustainable Development Building, Bond University

4.2 NATURAL VENTILATION

INTENT

Good indoor air quality is essential for healthy and comfortable work and public meeting environments. In most buildings this condition can be achieved through natural ventilation. Ventilation in wet areas can reduce the incidence of mould growth. Facilitating natural ventilation may also reduce the need for mechanical ventilation and air cooling.

ELEMENT OBJECTIVES

1. Optimise natural ventilation in office and public buildings.
2. Aim to reduce the need for mechanical ventilation and cooling where possible.

RELATED ELEMENTS

To be considered in conjunction with:

3.2 Orientation; and

4.10 Energy efficiency.

ACCEPTABLE OUTCOMES

1. Buildings sited to facilitate natural ventilation.
2. Buildings sited and designed to avoid wind acceleration and minimise turbulence.
3. Cross ventilation techniques to capture prevailing breezes through doorways, windows and vents to office and work spaces and public/communal meeting rooms.

DESIGN GUIDANCE

1. Where sufficient natural and cross ventilation cannot be achieved due to constraints such as external noise or poor outdoor air quality, consider ceiling fans and/or energy efficient mechanical air exchange systems.
2. External openable windows should be provided to bathrooms and laundries wherever possible.

Barrel Vault Roof Lights

The Cairns Institute, Louvred windows

Natural Light for Basement

4.3 CIRCULATION AND COMMON SPACES

INTENT

Good design of entries, lifts, stairs, corridors and walkways and the interface with the public realm is essential to facilitate orientation, safety, amenity and a sense of community/social wellbeing.

Circulation and common spaces should meet universal access requirements and be designed with consideration of function.

ELEMENT OBJECTIVES

1. Circulation places have adequate size and capacity for all occupants and visitors.
2. Circulation spaces have clear legibility, line of sight and good amenity.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface;

3.6 Pedestrian and cycle access and entries; and

4.6 Universal design.

ACCEPTABLE OUTCOMES

1. Circulation corridors are a minimum 1.5 metres in width.
2. Common spaces and corridors have passive surveillance.
3. Common spaces and corridors can be well ventilated and well lit during day and night hours of operation.
4. Common spaces to be multifunctional.
5. Entry common spaces and corridors to create a sense of spaciousness.

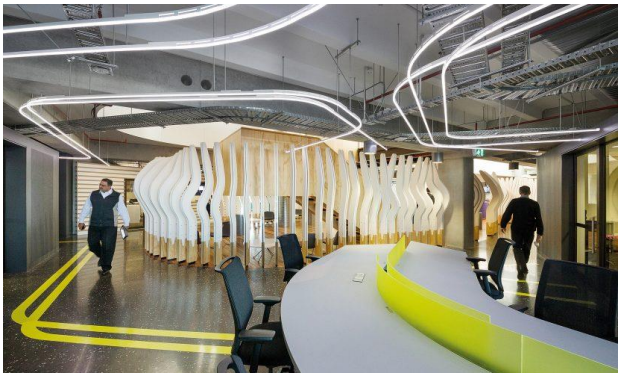
DESIGN GUIDANCE

1. Design should ensure secure access where required.
2. Safe and convenient access to common space should be provided.
3. Techniques to 'break up' long corridors (more than 20 metres) and avoid tight corners.
4. Design fire and emergency exits and stairs as an attractive alternative to lifts.
5. Provide motion sensor lighting with low level lighting for after hours security.

Marina Office, Edinburgh

Adriatic Croatia International Club

Whyalla Foreshore



ASB North Wharf

4.4 STORAGE

INTENT

Providing dedicated and accessible storage for all user groups can assist in the functionality and efficiency of the overall precinct and reduce the impact of hazards and visual clutter in the public realm and communal areas.

ELEMENT OBJECTIVES

1. Storage should be secure, fit for purpose, tolerant of prevailing climate conditions and safely and easily accessible.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Orientation;

3.5 Public domain interface;

4.3 Circulation and common spaces; and

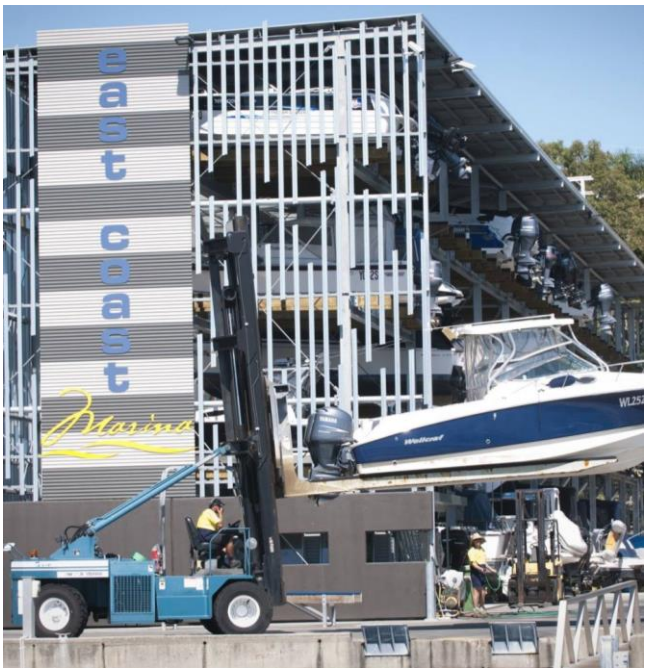
4.15 Security.

ACCEPTABLE OUTCOMES

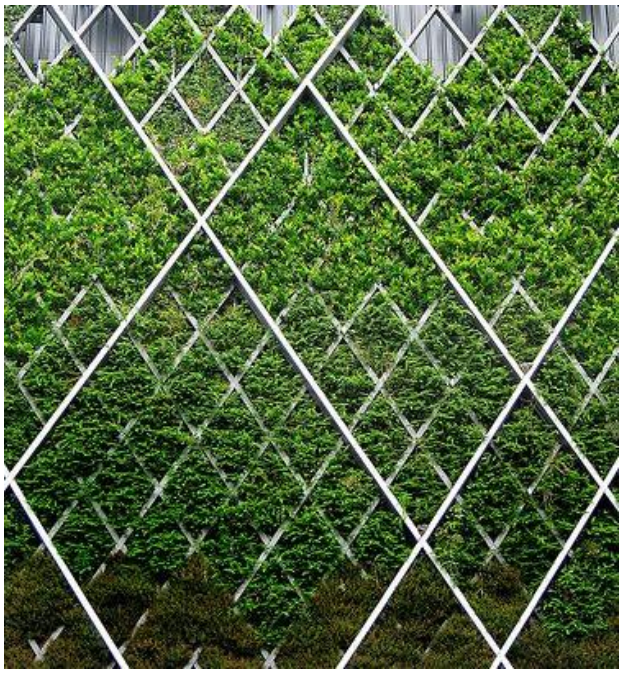
1. Storage solutions are an integral element of the overall development and built form design.
2. Storage is located away from open spaces and vehicle, pedestrian and cycling movement.
3. All service areas must be screened from public view.

DESIGN GUIDANCE

1. Storage should allow for the largest item to be stored.
2. Store rooms not attached to the primary development or building should not exceed 5% of the site area and comply with overall height controls.



East Coast Boat Storage



Green Vertical Wall Screening Storage Structures

4.5 MANAGING THE IMPACT OF NOISE

INTENT

A high standard of acoustic privacy is required for the amenity of residential and sensitive land uses.

ELEMENT OBJECTIVES

1. The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic management.
2. The internal layout and finish of buildings minimises the impact of internal noise sources and provides appropriate acoustic management.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Orientation;

3.5 Public domain interface; and

3.7 Vehicle access.

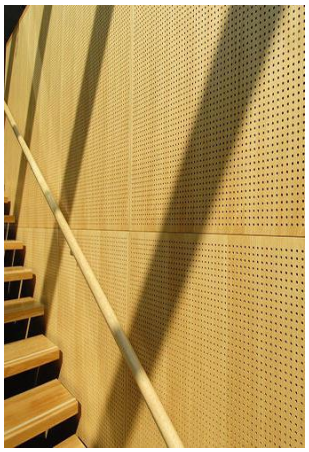
ACCEPTABLE OUTCOMES

1. Particular attention should be given to construction materials and techniques that reduce noise transmission between buildings.
2. Sound insulation may be required in buildings to mitigate the conditions experienced within a working marina environment.
3. During site and building planning phases, separation of activity areas that may involve potential conflict should be considered.
4. Acoustic treatment of machinery such as air conditioning, lifts and mechanical services to commercial uses is required.
5. Equipment should be located, enclosed and acoustically treated to ensure acceptable noise levels are achieved.
6. Entertainment and hospitality venues to be operated and managed appropriately.

DESIGN GUIDANCE

1. An acoustic assessment undertaken by a suitably qualified acoustic consultant identifying all noise sources and proposed methods to be undertaken to control and mitigate noise emissions to achieve compliance with the *Environmental Protection (Noise) Regulations 1997* for all forms of land use development.
2. Development approvals may be subject to conditions relating to operating hours, security and noise management.

Insulated Wall Cladding



Perforated Interior Acoustic Panel

4.6 UNIVERSAL DESIGN

INTENT

Consideration should be given to designing access suitable for people with impaired mobility wherever possible.

ELEMENT OBJECTIVES

To facilitate the optimal access for all user groups and people from all demographic groups and ability levels.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface; and

4.3 Circulation and common spaces .

ACCEPTABLE OUTCOMES

1. All club, tourist, commercial and service development uses accessible to the public must take account of disabled access as required by the relevant Australian Standards.
2. Design of buildings and public access areas to provide for the accessibility needs of children, families, seniors and individuals.

DESIGN GUIDANCE

1. Development and design should consider the use of technology and support systems to assist in the function and accessibility to public areas.

Interior Universal Design

Accessible Change Facilities

Hillarys Boat Harbour

Universal Design Mandurah Marina

4.7 FAÇADE DESIGN

INTENT

The architectural design and character of building façades are distinctive and contemporary and reflective of the immediate site context.

The form and style of buildings should be in keeping with the maritime theme and conditions and respond and reflect the working marina environment.

ELEMENT OBJECTIVES

1. To ensure the architectural character incorporates environmentally sustainable design techniques.
2. To ensure the detailing and material selection is carefully considered, with an emphasis on respecting the marina environment and use of sustainable materials.
3. To enable a connection between the interior and the street space at ground level frontages where possible.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Orientation; and

3.5 Public domain interface.

ACCEPTABLE OUTCOMES

1. The architecture acknowledges, responds to and celebrates the immediate site context.
2. Passive climate design strategies are integrated.
3. Material innovation is encouraged and explored.
4. Façade materials and form are varied and visually appealing.
5. Unfavourable impacts such as overshadowing, wind acceleration and turbulence are minimised.
6. Large areas of blank wall will not be accepted on the front and/or street façade or where visible from the street or other public spaces.
7. Where walls without glazed penetrations are unavoidable, other design features must be incorporated, such as colour and texture variation.
8. Modulation will be sought through placement of windows and openings, balconies and material changes.
9. Colour, texture, material and detail are important, to provide scale and visual interest and to 'break up' large building façades.

DESIGN GUIDANCE

1. Development applications should be accompanied by elevation illustrations and streetscape information to demonstrate the development in context and at the interface with the public realm.

Wollongong University, Sustainable Building Research Centre

Elizabeth Bay Marina

Anodised Metal Façade

Glass Box Illuminated Façade

Studio Business Suite

Vic Innovation Hub

Deep Bay Field Station Building

Glass Box, elevated and illuminated façade

4.8 ROOF DESIGN

INTENT

The design of the roof and 'top' of the building is an important element of the overall design and can contribute to place identity and orientation.

ELEMENT OBJECTIVES

1. Roofs should be detailed to create the effect of visual lightness.
2. Roof form variety is encouraged.

RELATED ELEMENTS

To be considered in conjunction with:

3.2 Orientation;

4.1 Solar and daylight access;

4.2 Natural ventilation; and

4.7 Façade design.

ACCEPTABLE OUTCOMES

1. Design solutions are to compliment the façade and structure.
2. Awnings with large overhangs should be provided over significant openings on the north, east and west and to shade outdoor areas.

Brighton, UK

Royal Danish Yacht Club

3. Building services located on the roof are not viewed from street level.
4. Solar photo voltaic panels are encouraged on roof tops including boat stackers.
5. Solar panels to be at the same pitch as roofs.

DESIGN GUIDANCE

1. Consider opportunities for useable and green roof spaces for communal use.

Roof Top Solar

Vancouver Convention Centre

Yacht Club Design

4.9 LANDSCAPE DESIGN

INTENT

Good landscape design integrates built form development with existing ecology, climate, natural systems and development function to enhance the amenity of occupants and visitors.

ELEMENT OBJECTIVES

1. Landscape design enhances streetscape.
2. Landscape design is integrated with the building architecture.
3. Plant and material selection is appropriate to site conditions.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Orientation;

3.3 Tree canopy;

3.5 Public domain interface; and

4.3 Circulation and common spaces.

ACCEPTABLE OUTCOMES

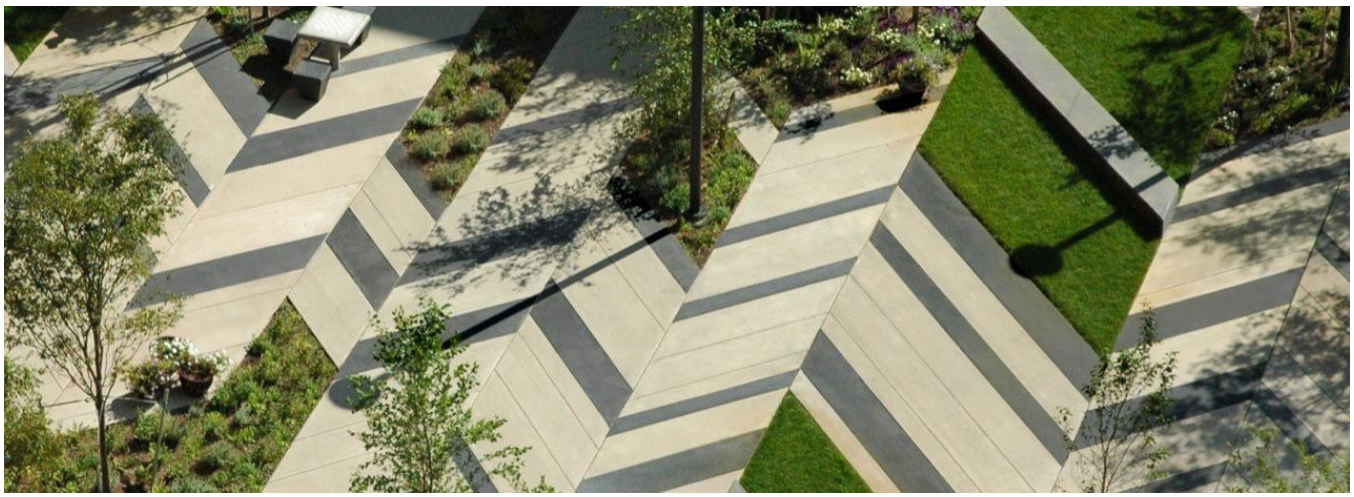
1. In order to increase on site water absorption and reduce run-off, paving which facilitates or promotes these qualities should be used for all hard surfaces.

DESIGN GUIDANCE

1. Select suitable trees such that the mature tree size, form and scale is appropriate to the street space and the building mass.
2. A detailed landscape plan identifying all on site hard and soft landscape (where applicable) and demonstrating compatibility with the public realm is to be submitted with all development applications.
3. The landscape plan should include the identification of deep soil zones, tree species and materiality of hard elements.





4.10 ENERGY EFFICIENCY

INTENT

The precinct is intended to demonstrate innovation and sustainable design principles.

ELEMENT OBJECTIVES

1. Buildings and public spaces should be designed to be energy efficient.
2. Particular attention should be given to the principles of passive solar design in building orientation, construction and material selection.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

3.2 Orientation;

3.3 Tree canopy;

4.1 Solar and daylight access; and

4.2 Natural ventilation.

ACCEPTABLE OUTCOMES

1. Energy efficient services and appliances should be chosen.
2. Construction materials may be chosen from renewable sources and with regard to their embodied energy levels.
3. Lightweight framed and insulated construction (i.e. low thermal mass) should be used externally, especially on exposed east and west façades.
4. Where masonry construction is used externally on east and west facing façades, these should be appropriately insulated to minimise heat transfer between outside and inside.
5. Masonry (high thermal mass) materials should be used internally to retain internal ambient temperature where a building is likely to perform a public purpose.
6. All windows in excess of 0.6m² on the east and west facades should be protected from the summer sun.
7. Verandahs and pergolas should be used to provide shade to large openings in east and west façades.
8. Metal deck roofing, shingles or slate style is required, and is to be in keeping with the maritime theme.
9. All doors and windows should have good draft seals.
10. All street front façades should have a canopy to at least 50% of its length.
11. Outdoor living areas should be designed and located to maximise protection from strong winds.
12. Ceiling spaces should be ventilated to assist passive cooling.
13. Double glazing should be considered for large areas of glass to limit heat transmission.
14. 4 Star Green Star or equivalent is demonstrated to be achievable.

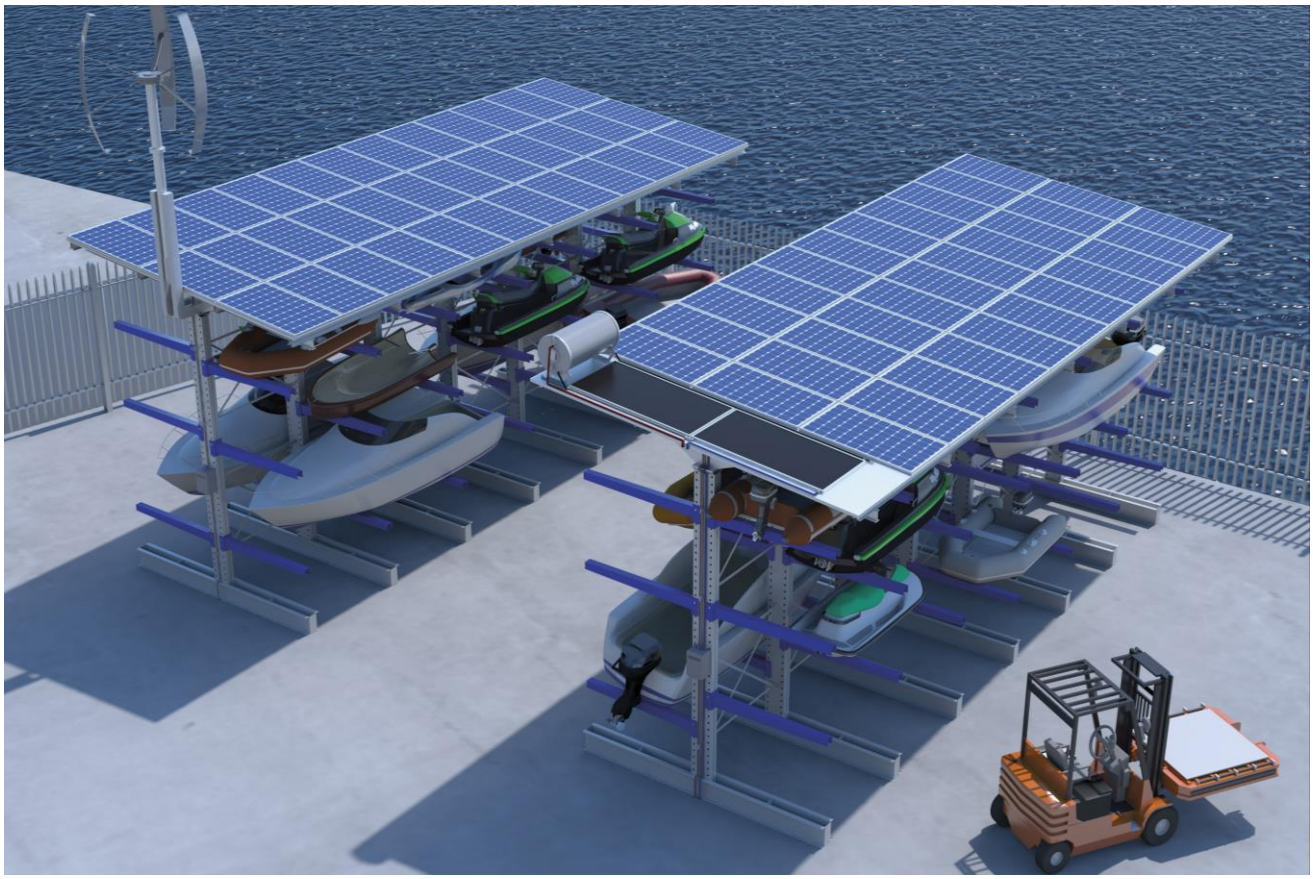
DESIGN GUIDANCE

1. Insulation to roofs is encouraged and details should be provided with applications for building permit.

Solar Panels Integrated into Awnings

Wind Turbines

Six Star V&A Waterfront, SA



Solar and Wind Clean Energy Solutions

4.11 WATER MANAGEMENT AND CONSERVATION

INTENT

Effective water management techniques and consideration of the whole of water cycle can support sustainable landscape and open space and reduce water consumption in accordance with the Ocean Reef Marina Local Water Management Strategy.

ELEMENT OBJECTIVES

1. Minimise potable water consumption.
2. Manage stormwater runoff on site.
3. Reduce and manage the risk of flooding.
4. Development to minimise potential for nutrient runoff.

RELATED ELEMENTS

To be considered in conjunction with:

3.1 Site analysis and design response;

4.3 Circulation and common spaces;

4.8 Roof design; and

4.9 Landscape design.

ACCEPTABLE OUTCOMES

1. Development design to respond to Water Sensitive Urban Design principles.
2. Development to include technologies to harvest rainwater and stormwater.
3. Development to include resource efficient appliances and machinery.
4. Use of permeable paving to minimise run-off and biofiltration swales in parking areas.
5. 1:1 year ARI event rainwater to be treated on site. All lot connections to include sediment traps prior to infiltration.

WATER EFFICIENCY ACCEPTABLE OUTCOMES

1. Where fitted, all showers to be minimum 3-star WELS rated with maximum 7.5L/min consumption.
2. All basin taps to be 6-star WELS rated.
3. All other taps excluding outdoor and bath taps to be 4-star WELS rated.

ALTERNATIVE WATER SOURCES ACCEPTABLE OUTCOMES

1. All external landscape irrigation and toilets are to be plumbed to precinct alternative water source if available.

Permeable Hard Landscape

Permeable Tree Protection

Joplin Public Library Rain Gardens

4.12 WASTE MANAGEMENT

INTENT

Waste management processes and facilities should be integrated into development built form and shared public spaces offering convenient, efficient and sustainable waste management.

Facilities and servicing of these facilities should be planned and located to minimise visual, acoustic and physical amenity impacts on the public.

ELEMENT OBJECTIVES

1. Waste storage and management minimise negative impacts on the streetscape, building entries and the amenity of residents, workforce and visitors.
2. Waste to landfill is minimised by providing safe and convenient collection points and information on separation and recycling.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface;

4.3 Circulation and common spaces;

4.4 Storage; and

4.5 Managing the impact of noise.

Fish Cleaning Station

ACCEPTABLE OUTCOMES

1. Waste storage to be provided in accordance with the WALGA Commercial and Industrial Waste Management Plan Guidelines.
2. Communal waste to be screened from view from the public domain, including public open space and streets.
3. Design on site vehicle access and circulation to suit waste management requirements.

DESIGN GUIDANCE

1. Explore opportunities for whole of waste cycle management from generation, disposal, storage and collection.
2. A waste management plan may be required to accompany a development application.

Waste Collection Integrated into Public Realm

Public Recycle Bins

Floating Seabin Innovation

4.13 UTILITIES

INTENT

Care should be taken when considering the position of all services fixtures to ensure that the placement of such services has a minimal impact on the visual amenity when viewed from other developments and public vantage points, as well as not to detract from the architectural design of the building to which they service.

ELEMENT OBJECTIVES

1. All utilities located to be accessible.
2. Utilities are not visually intrusive on the street or open space within the precinct.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface;

4.3 Circulation and common spaces;

4.9 Landscape design; and

4.15 Security.

Gas Station

Restrooms

ACCEPTABLE OUTCOMES

1. All service fittings, fixtures and rubbish bin storage areas to be screened from public view.
2. All piped and wired services, air-conditioners, clothes drying areas and hot water storage are to be concealed from the street and public view by being:
   - Incorporated within the external walls and roof;
   - Located to the back of developments; or
   - Concealed by elements that are consistent with the building.
3. If services must be located on the ground level and adjacent to a roadway or public open space or reserve, as a result of service provider requirements, or where no other alternative exists, the unit must be suitably screened by aluminium or hardwood battening, louvered screens or other material, in a finish equivalent or to match the external walls of the building, or screened by appropriate landscaping.
4. Service units should be prevented from being hung on external walls where possible. Where there is no alternative, a unit hung from an external wall is to be screened from view using materials that match the finish of the wall to which the unit is attached.
5. Any satellite dishes are to be concealed from public view.
6. Solar panels should be installed at an appropriate pitch and integrated into the overall design of the roof/building.
7. Solar panels may be visible only where they are located in the same plane as the roof and there is no alternative location that can offer a similar level of solar efficiency.

DESIGN GUIDANCE

1. Requirements of service providers to be well integrated into the building façade.
2. Consider the provision of communal services facilities.

4.14 SIGNAGE

INTENT

A high standard of private signage is expected.

ELEMENT OBJECTIVES

1. All signs, with respect to their scale, location, design and content require the approval of the responsible authority.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface; and

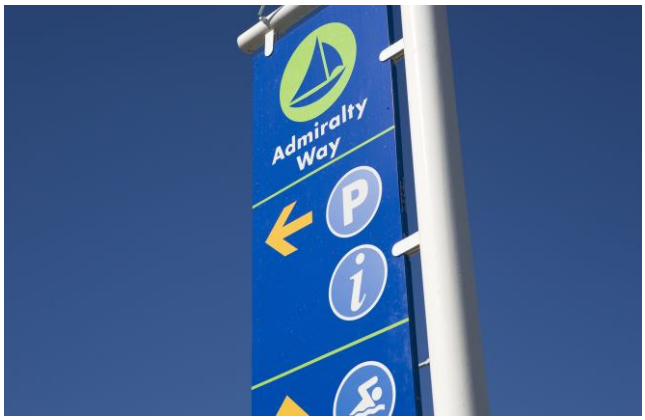
4.7 Façade design.

ACCEPTABLE OUTCOMES

1. Signs attached to buildings are to be aligned with and relate to the architecture of the building and should not obscure architectural features.
2. Signs attached to buildings including awnings and canopies shall have a minimum clearance of 2.75m.
3. In buildings with numerous tenants, consolidated shared signage is preferred.
4. Pylon signs are not permitted unless they specifically relate to the architecture of a building.

DESIGN GUIDANCE

1. A signage concept plan is to be prepared in conjunction with each development application to the satisfaction of the responsible authority.
2. Either a sign licence or development approval will be required from the responsible authority.



4.15 SECURITY

INTENT

Building design should contribute to the creation of a safe public environment.

ELEMENT OBJECTIVES

1. Avoid dead-end spaces and areas of potential entrapment.
2. Ensure that all public areas and areas used/accessed by the public are subject to casual surveillance from surrounding properties.
3. Avoid a predominance of security fencing and facilitate an open aspect to the precinct.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface;

3.6 Pedestrian and cycle access and entries;

3.7 Vehicle access;

3.8 Car and cycle parking; and

4.7 Façade design.

ACCEPTABLE OUTCOMES

1. Except for front fences, boundary fences may be up to 1.8 metres in height and visually permeable above 1 metre.
2. Front and side fences forward of the building not to exceed 1.2 metres in height.

DESIGN GUIDANCE

1. Consideration to be given to ongoing monitoring and evaluation of security through management plans.
2. High levels of maintenance are required to all areas exposed to prevailing elements to ensure security measures are in functional working order.

Building Security

Brisbane Showground Car Park

3D Curved Welded Fencing

4.16 TEMPORARY STRUCTURES AND BUILDINGS

INTENT

The Marine Enterprise Precinct should have a high quality character which is maintained through good design and layout of the buildings, landscape and functional spaces within the precinct. Whilst it is accepted that some temporary facilities and structures may be required from time to time, the location, quality and purpose of these elements should be carefully considered and should not detract from the overall structure, appearance and function of the precinct.

ELEMENT OBJECTIVES

1. To limit the amount of temporary structures and facilities to ensure the physical and visual quality and amenity of the precinct, particularly areas open to the public are maintained.
2. To guide the installation of appropriate temporary structures and facilities to facilitate enjoyment and activity in the precinct.

RELATED ELEMENTS

To be considered in conjunction with:

3.5 Public domain interface;

4.3 Circulation and common spaces;

4.6 Universal design; and

4.15 Security.

ACCEPTABLE OUTCOMES

1. Temporary structures and facilities to remain in place no longer than 12 months.
2. Temporary facilities and structures to be only located in locations where health, safety and environmental standards can be maintained.
3. Siting of temporary structures and facilities should not create a potential risk to public safety, or detract from the streetscape, character, amenity or environmental attributes of the precinct.
4. The structural integrity and stability to meet relevant Australian Standards and Building Code of Australia requirements.
5. To ensure the development is sympathetic to the character of the precinct.

DESIGN GUIDANCE

1. Unless used for the purpose of entertainment, hospitality and events temporary structures and facilities should be screened from view from the street, mixed use precinct interface and communal spaces and circulation areas.

Cube Tent Structure

Trimo Modular Units