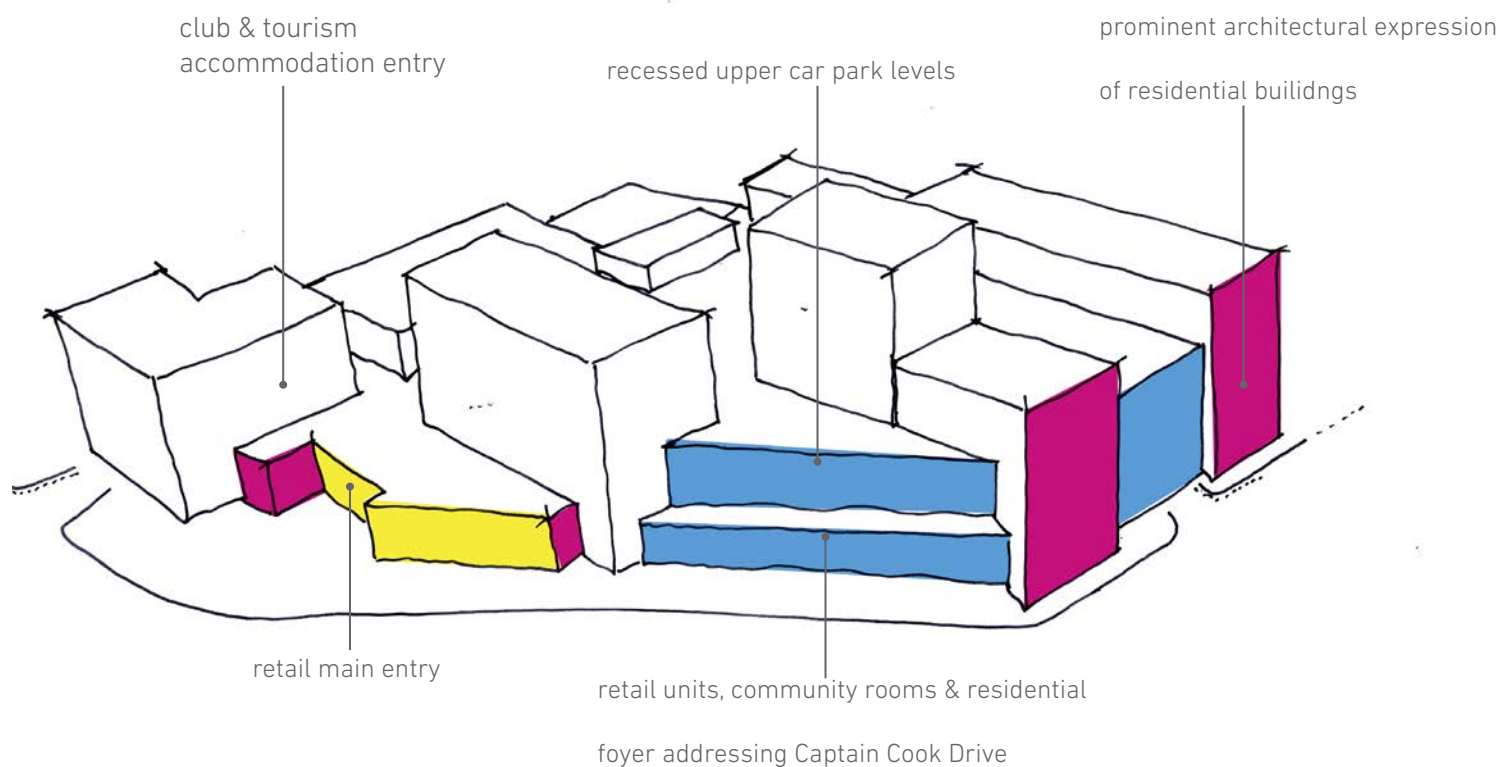


Massing Diagram: Residential buildings touch the ground and have a clear identity within the streetscape



Massing Diagram: Animating the retail base.

## Design Quality Principle 4

### Sustainability

Good design combines positive environmental, social, and economic outcomes.

Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of the residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operations costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

### Proposal

The development has been designed to embrace ESD principles. The orientation of apartments, apartment planning, passive and active building systems have all been incorporated in the planning of the development to minimise energy use, resources and to provide a high level of amenity to residents.

The articulation and distribution of built form together with minimising the depth of buildings has enabled a significant number of corner, dual aspect and north facing apartments. In addition, shading to facades with louvres, deep reveals and where required, performance glazing, further enhance the passive design features of the development.

The proposed landscape treatments and extent of deep soil planting ensures that water use is minimised and the ground water replenished.

The building's energy demand has been significantly reduced by taking the opportunity of the above ground car park structures to introduce natural air make up.

The proposal will be consistent with the ESD commitments & conditions of the original concept approval.



View of the Bay Central precinct looking north from the Junction of Captain Cook Drive and Woollooware Road North



## Design Quality Principle 5

### Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.

Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management.

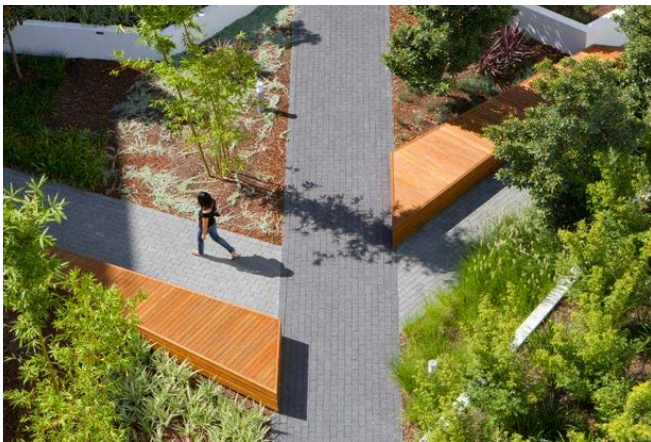
### Proposal

The proposal provides a variety of landscaped areas that through the composition of both hardscape and softscape planting provide a hierarchy of communal and private open spaces. These spaces respond to the need for a variety of different uses, both passive and active.

At street level, the generous setback incorporate street trees, planters and hard landscaping.

The communal courtyard at level 07 provides generous planting for outlook, privacy and shade. A residents external pool and deck are located on the northern edge of the podium structure. For further information and detail refer to the Landscape Design Report and drawings prepared by Aspect Studios.

The Landscaping plays a fundamental role in the design development of the Bay Central Precinct - refer to the section above which outlines the 'Mangroves' and 'North-South Central Axis' concepts.



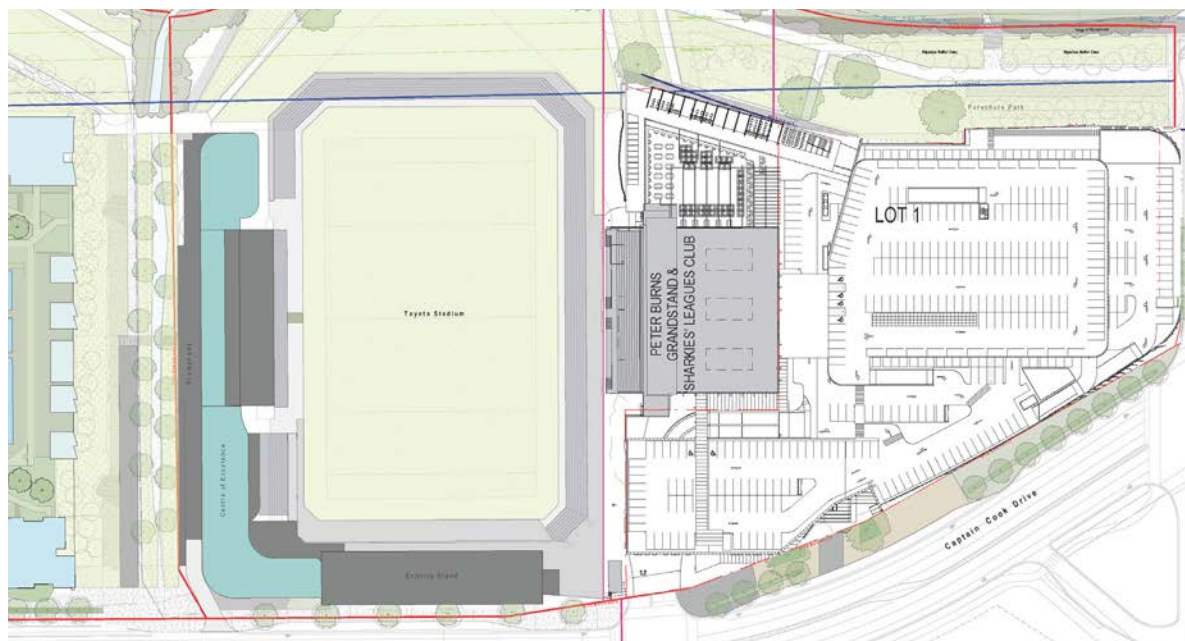
Proposed landscape elements



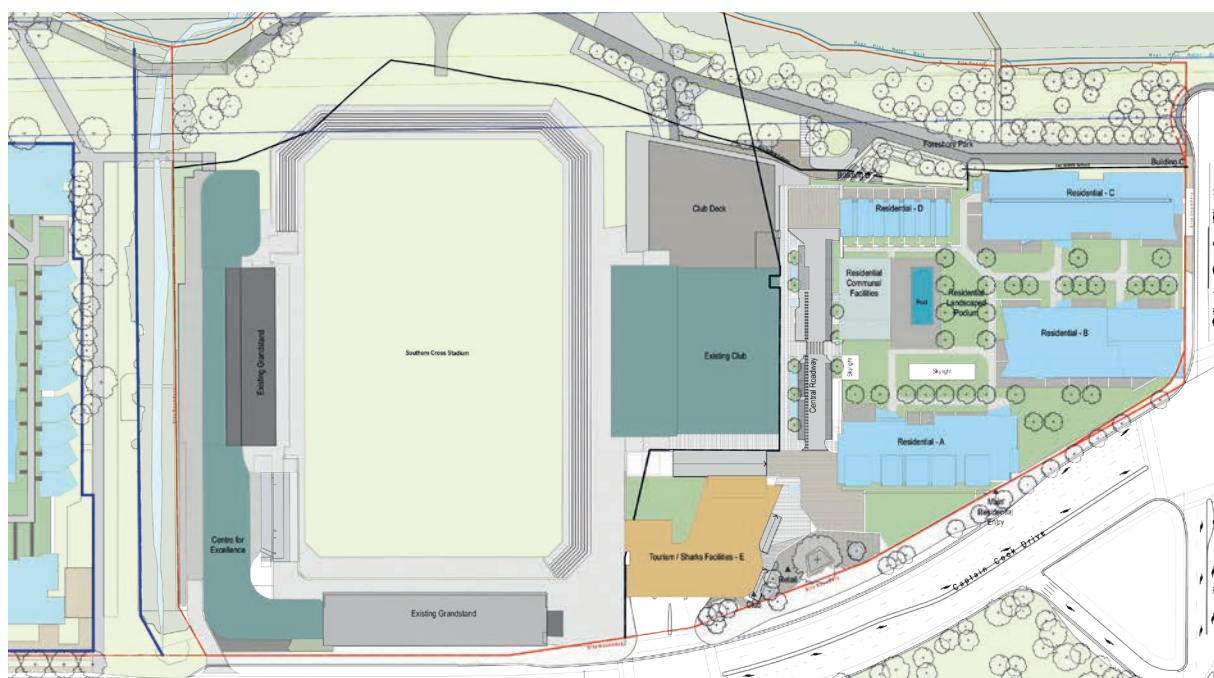
## Design Quality Principle 5

### Landscape

The proposed modifications will provide a significantly increased area of soft landscaping. The previously approved open car parks of the retail centre will be replaced with a soft landscaped residential podium courtyard at Level 07. Significant additional planting is also provided in the Level 03 roadway and in the Level 04 planted set back/ledge along the southern perimeter of the car park.



Plan Diagram illustrating the large car park areas of the original Scot Carver approved scheme



Plan Diagram illustrating the increased soft landscaping of the proposed modification

## Design Quality Principle 6

### Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

### Proposal

The evolution of the design for the Bay Central precinct has aimed to provide a mixed use vibrant town centre. The holistic approach to the planned uses allows for significant amenities and facilities for residents within the site.

The organisation of the built forms and open space has been designed to maximise the amenity of apartments within the development.

The built form results in apartments with generally wide frontages and balconies that are inherently private and are not overlooked by adjacent apartments. The large podium at Level 07 allows for generous building separation. A clearly defined separation between commercial/club and residential uses further reinforce privacy to and from apartments.

The residential buildings have been designed with multiple lift cores which allows for a small number of units on each corridor. All corridors and lift

lobbies have natural light via external glazing. The multiple cores, façade articulation ensure a minimum of 70% apartments receive 2 hours winter solar access and a minimum of 60% natural cross ventilation. There are just under 15% south facing units.

The large portion of apartments gain bay views to the north, whilst the others gain district views across the golf course, Captain Cook Oval or to Cronulla.

The design of the landscaping between the street and building edges, foreshore parklands and the main communal courtyard create a variety of active and passive external spaces for all apartments.

30% of apartments (67no) in the Bay Central Precinct will be adaptable for accessible retro fitting. This is higher than the 20% agreed as part of the concept plan for Stages 1-3.



Holistic planning approach to the proposed town centre modifications



### Design Quality Principle 7

#### Safety and Security

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit visible areas that are easily maintained and appropriate to the location and purpose.

### Proposal

The mix of uses will allow for meaningful security and surveillance of the adjoining foreshore parklands and streetscape outside of regular business hours, resulting in a safer urban environment.

Apartments have a legible entry via the main foyer at street level or from the multiple foyers on the Level 07 residential podium courtyard. Secure lift access to car park levels is provided to all apartments. The multiple entries provide an activated podium communal courtyard. The proposal will ensure restricted access to residential lift lobbies, residential car parking and the communal courtyards.

The surrounding public domain and foreshore parklands are well surveyed by apartments, retail, tourism accommodation and club facilities. Pathways in the foreshore parklands will be well lit at night.

The proposed new Level 03 street will have passive surveillance from the adjacent tourism accommodation, Leagues Club, apartments in Building A and residents communal facilities at Levels 07. The street will be used as a shared way for traffic and pedestrians, with the residential car park ramp accessed from the northern end of the street. Taxi ranks and pick-up/drop off zones will be provided along the full length of the street. Well designed lighting will be provided.



Apartments on the north elevation provide meaningful passive surveillance over the proposed foreshore parklands

### Design Quality Principle 8

#### Housing Diversity and Social Interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix.

Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

### Proposal

Currently the indicative plans provide a mix of 1 bedroom (36.5%), 2 bedroom (47.3%), and 3 bedroom (16.2%) apartments. Within each apartment type there is also a range of sizes, orientations, and balcony or terrace sizes. The accommodation, mix and size of apartments have been determined to appeal to a diverse range of occupant profiles.

Substantial storage provisions will be allowed for in each unit.

The wider frontage allows for balconies that are consolidated at one level and located directly off the main living space.

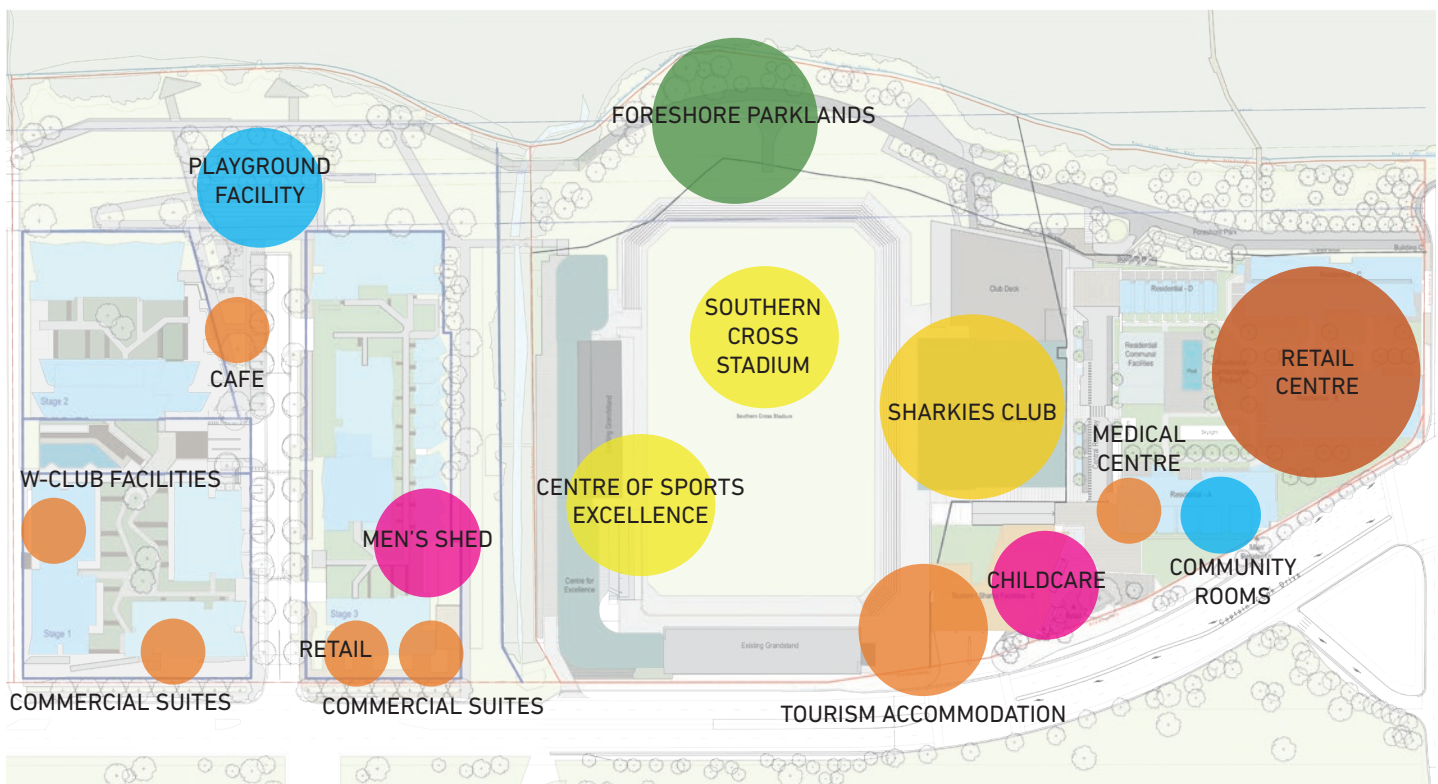
30% adaptable apartments will be provided which is above the 20% agreed in initial Concept Plan for Stages 1 - 3. This will assist the housing choice for an aging demographic in Sutherlandshire.

The communal facilities in the residential courtyard are equally accessible from all apartments and provide a diversity of landscaped areas for informal and formal social interaction.

A large external swimming pool & deck, along with a resident's meeting room facility on Level 07 will reinforce the sense of community in the precinct. The residential buildings will have easy access to the extensive retail, cafe, and league club facilities within the Bay Central precinct.

A public community room is proposed to be located off the Level 2 retail plaza. This will be managed by the club but will be for the use of local community groups.

The tourism accommodation will provide badly needed short stay accommodation for Sutherlandshire. Overall the new development greatly improves the existing club facilities, its relationship to its immediate environment, and to the greater Woollooware community. It safeguards the future viability of this important club facility which has strong historical ties to the area.



Proposed new community facilities.

### Design Quality Principle 9

#### Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

The visual appearance of a well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

#### Proposal

The proposed residential buildings at Bay Central precinct will draw their inspiration from their direct waterfront location. While the architecture should be familiar with the other residential stages, the design will allow for a diversity of styles. Bay Central at Woollooware Bay adds to the family of buildings which together create this new waterfront community.

The buildings at Bay Central have been designed to allow each part to express their own particular identity and use through variance in form. Their articulated forms, together with a podium base, develop a legible design that is both recognisable and contextually appropriate for Woollooware Bay Town Centre.

Cognisant of the waterfront location, materials will be selected from a natural palette and tonal range to add a sense of warmth. Facade materials will have texture so that there is a play on light and shade. Shutters and louvres add to the composition of texture and shade glazing that is flush with the facades.

The selection of materials ensures low maintenance finish to ensure the quality of the development is maintained.



Indicative view showing the medical centre facility on Captain Cook Drive and adjoining retail centre.





Indicative Materials and Finishes - use of quality material suitable for the civic importance of the proposal

Page	Recommendation	Proposal
20	Relating to local context.	<p><b>Yes, meets the objectives.</b></p> <p>The proposal relates to the context and is consistent with the approved Concept Plan building envelopes for Stages 1 to 3. The residential use is appropriate to the local context and consistent with the future desired character of the mixed use town centre development.</p>
35	In general a depth of residential buildings 12-18m (glass-to-glass) wide is appropriate. If wider, demonstration of satisfactory daylighting and natural ventilation.	<p><b>Yes , with qualifications</b></p> <p>Buildings A, B, &amp; C – overall envelopes are 18000 to 21000mm deep, however due to the stepped facade &amp; recesses, the buildings meet the required solar and natural ventilation requirements.</p> <p>Building D – overall envelope is approximately 12000mm deep, and meets the required solar and natural ventilation requirements.</p>
37	<p>Distance between buildings:</p> <p>Five to eight storeys / up to 25m: 18m between habitable rooms / balconies; 12m between habitable rooms / balconies and non-habitable rooms; and 9m between non-habitable rooms.</p> <p>Nine storeys and above / over 25m: 24m between habitable rooms / balconies 18m between habitable rooms / balconies and non-habitable rooms 12m between non-habitable rooms</p>	<p><b>Yes, exceeds the objectives</b></p> <p>The proposal meets building separation requirements</p> <p>The separation between Building B (7 storeys above the Level 07 podium) and Building C (7 storeys above the Level 07 podium) is greater than 18000mm.</p> <p>The separation between Building A (11 storeys above the Level 03 street) and the tourism accommodation/function centre (6 storeys above the Level 03 street) is greater than 18000mm.</p> <p>With consideration to the rules of thumb for amenity including privacy – visual, acoustic, solar access and natural ventilation the following considerations have been made:</p> <p>The angle of separation between apartments and placement of solid walls and window arrangement ensures that there is no visual access between adjoining apartments; and</p> <p>Privacy screens are placed on the 'sides' of balconies.</p>
61	<p>Minimum 25% open space area to be deep planting.</p> <p>Deep soil zones to meet the following minimum requirements:</p> <ul style="list-style-type: none"> <li>- 7% of site area</li> <li>- Less than 650sqm, no min dimension</li> <li>- 650sqm - 1500sqm, 3m min dimension</li> <li>- Greater than 1500sqm, 6m min dimension</li> </ul>	<p><b>Yes, exceeds the objectives</b></p> <p>The minimum deep soil requirement of 25% of 25% open space equates to 2033sqm (site area is 32529sqm). The deep soil zones will exceed minimum requirements for the Bay Central precinct due the extent of foreshore parkland to the north. These parklands mainly consists of riparian zones with indigenous planting and little hard landscaping. The current foreshore parklands proposal to the north of the proposal Bay Central precinct has in excess of 5000sqm landscaped area (ie excluding pathways, roads, etc) with the majority being deep soil. Additional to this, the communal Level 07 residential podium includes approx. 2000sqm landscaped area, with extensive raised planters that allow for substantial tree types with soil depths of 1000mm to 1200mm. Please refer to the Landscape Architects Report for the Foreshore Parklands and Level 07 podium design.</p>
55	<p>Communal open space has a minimum area equal to 25% of site</p> <p>Communal open space should have a minimum dimension of 3m</p>	<p><b>Yes, exceeds the objectives</b></p> <p>There is 1700sqm communal open space at Level 03, and 3600sqm communal open space on the Level 07 podium. Once the extensive foreshore parklands to the north of the Bay Central precinct are also included, the total communal open space substantially exceeds 25%.</p>
93	Minimum recommended area of private open space for each apartment at ground level or on a structure such as podium or car park is 15sqm; minimum preferred dimension in one direction is 3 metres.	<p><b>Yes, exceeds the objectives</b></p> <p>Each of the podium level apartments have large generous private courtyards that are in excess of the minimum 15sqm. These courtyards will be designed to include outdoor entertaining areas, plus planters and vegetation where possible.</p>



Page	Recommendation	Proposal
48-49	Site - Orientation	<p><b>Yes, with qualifications</b></p> <p>The relevant section of the ADG relates to aligning with streets and maximising the number of units facing north.</p> <p>The building form within the approved envelopes has maximised the number of north facing apartments. Multiple cores reduce the length of corridors and the amount of south facing units. There are 15% south facing units which is compliant with the ADG. See Solar Access for further information.</p>
66-67	Site amenity - safety Pedestrian access and entries	<p><b>Yes</b></p> <p>The ADG requires secure ground level access, passive surveillance, reinforcing the building boundary, orientating entrances to streets, providing clear lines of site from the lobbies to the street, provision of adequate illumination. The proposal responds positively to all of these requirements.</p>
64-65	Site amenity – visual privacy	<p><b>Yes</b></p> <p>Visual privacy from the public domain and between apartments is integral to the building design and includes the following:</p> <p>Apartments have sufficient separation from other uses such as retail, hotel, club and function centre.</p> <p>Apartments are elevated above street level from Levels 07 to 13.</p> <p>Due to the large size of the site and extensive residential podium, the buildings achieve the minimum ADG building separation requirements. Where there is the chance of overlooking between apartments, louvred privacy screens will be provided, which double up as wind breaks.</p>
84-85, 91	<p>The width of cross over or cross through apartments over 15m deep should be 4m (wide) or greater to avoid deep narrow apartment layouts.</p> <p>The overall depth must not exceed 18m (glassline to glassline)</p>	<p>Yes, meets the objectives</p>
88	8m max. to rear of kitchen from glass. If more, demonstration of satisfactory daylighting and natural ventilation.	<p><b>Yes</b></p> <p><i>The design of the buildings for this stage are only indicative, The units shown in this Stage have not yet been designed and are indicated in block form. As per Stages 1 to 3, generally all kitchens will be within 8m of glazing for natural light and ventilation, with the exception of some longer cross ventilated units where the back of the kitchen may be marginally greater than 8m from the nearest window. Note that the buildings exceed Solar Access requirements</i></p>
89	8m maximum depth to single aspect units. If more, demonstration of satisfactory daylighting and natural ventilation.	<p><b>Yes, meets the objectives</b></p> <p>Single aspect units in the indicative plans generally have a 9m maximum depth. Note that the buildings exceed both Solar Access and Natural Ventilation requirements.</p>
89	<p>Minimum unit internal areas: (includes for one bathroom only)</p> <p>Studio: 35sqm</p> <p>1 bed: 50sqm</p> <p>2 bed: 70sqm</p> <p>3 bed: 90sqm</p> <p>Every additional bathroom will increase the internal area by 5sqm.</p>	<p><b>Yes, meets the objectives</b></p> <p>1Bed Units : range 50sqm to 61sqm</p> <p>2Bed Units : range 72sqm to 88sqm</p> <p>3Bed Units: range 104sqm to 113sqm</p>

Page	Recommendation	Proposal
93	<p>All apartments are required to have primary balconies as follows:</p> <ul style="list-style-type: none"> <li>- Studio 4m<sup>2</sup> min</li> <li>- 1 Bedroom 8m<sup>2</sup> min and 2m depth</li> <li>- 2 Bedroom 10m<sup>2</sup> min and 2m depth</li> <li>- 3 Bedroom 12m<sup>2</sup> min and 2.4m depth</li> <li>- The minimum balcony depth to be counted as contributing to the balcony area is 1m</li> </ul>	<b>Yes, meets the objectives</b>
86-87	<p>Measured from the finished floor level to finished ceiling level, minimum ceiling heights are:</p> <ul style="list-style-type: none"> <li>- Habitable rooms 2.7m</li> <li>- Non-habitable 2.4m</li> <li>- For 2 storey apartments 2.7m for main living area floor, 2.4m for second floor, where its are does not exceed 50% of the apartment area</li> <li>- Attic spaces 1.8 at edge of room with a 30 degree minimum ceiling slope</li> </ul> <p>If located in mixed used areas 3.3m for ground and first floor to promote future flexibility of use</p>	<b>Yes</b>
67	<p>Optimise the number of ground level units with separate entries.</p>	<p><b>Yes, with qualifications</b></p> <p>The residential units are located from Levels 05 to 16. Street level is activated by the multiple entries to the retail centre, club, hotel, medical centre, community rooms, and main residential lobby. The residential buildings are located around the perimeter of the site and have clear sight lines to the adjoining streets and parklands, offering meaningful surveillance and security. Podium level apartments have direct access from there private external terraces to the adjoining communal podium courtyard.</p>
97	<p>The maximum number of apartments off a circulation core on a single level is eight</p> <p>For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40</p> <p>Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level</p>	<p><b>Yes, with qualifications</b></p> <p>The residential buildings have been designed with multiple cores which allows for a small number of units on each corridor. All corridors and lift lobbies have natural light via external glazing.</p>
101	<p>Storage provision:</p> <ul style="list-style-type: none"> <li>1 bed: 6 cu m;</li> <li>2 bed: 8 cu m;</li> <li>3 bed: 10 cu m.</li> </ul> <p>(Minimum 50% within unit)</p>	<p><b>Yes</b></p> <p><i>The design of the buildings for this stage are only indicative, The units shown in this Stage have not yet been designed and are indicated in block form. As per the initial residential Stages 1 to 3, sufficient storage requirements will be achieved.</i></p>
79	<p>70% of units to receive 2 hours of direct sunlight in midwinter, between 9am and 3pm, to living rooms and private open spaces.</p>	<p><b>Yes</b></p> <p>The <i>indicative plans</i> achieve a minimum of 2hrs solar access to 70% of the living spaces (1sqm of glazing) and balconies.</p>



Page	Recommendation	Proposal
79	<p>Limit the number of single aspect apartments with a southerly aspect (SW-SE)</p> <p>A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid winter</p>	<p><b>Yes, with qualifications</b></p> <p><i>The indicative plans have 15% of units with a southerly aspect. Top floor apartments are provided with a skylight and vent to ensure solar are met and to assist with cross ventilation. Overall the residential buildings within the precinct meet the Cross Ventilation and Solar Requirements.</i></p>
83-85	<p>At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building.</p> <p>Apartments at ten storeys or greater are deemed to be crossed ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed</p>	<p><b>Yes</b></p> <p><i>The design of the buildings for this stage are only indicative, The units shown in this Stage have not yet been designed and are indicated in block form. The proposed indicative plans achieves minimum 60% naturally cross ventilated apartments.</i></p>
119	<p>Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features</p>	<p><b>Yes</b></p> <p><i>The design of the buildings for this stage are only indicative. The units shown in this Stage have not yet been designed and are indicated in block form. It is proposed to provide 30% Adaptable Units at Bay Central, which is over and above the 20% requirement as agreed for Stages 1 to 3 to the west of the stadium, and will provide for 20% Livable Units.</i></p>

