# APPENDIX 6

# State Environmental Planning Policy No. 65 - Design Quality of Residential Flat Development

An assessment of the SEPP 65 Design Quality Principles was included in Section 5 of the previously submitted Environmental Assessment Report. SEPP 65 is supported by the Residential Flat Design Code, which provides further detail of how to achieve the design principles contained in SEPP 65. The following provides an assessment of the amended Concept Plan against the key guidelines and provisions of the Design Code to demonstrate the proposal is a quality design and will enable the achievement of good design in the detailed design stage to be undertaken with the future Project Application. This information supplements the SEPP 65 Design Statement provided with the previously submitted EA.

## 1 Building Depth

*Guidelines*

1. *An apartment building depth of 10-18 metres is appropriate (18m measured from glass line to glass line-ie excluding balcony)*
2. *Developments that propose wider than 18 metres must demonstrate how satisfactory daylight and natural ventilation are to be achieved.*

*Comment*

The proposed maximum building depths satisfy this guideline:

| | |
|---|---|
| Building A2 | 12.5metres (excluding balcony) |
| Building A3 | 12.5 metres (excluding balcony) |
| Building C1 | 16.4 metres (excluding balcony) |
| Building C2 | 16.4 metres (excluding balcony) |
| Building C3 | 10.5 metres (excluding balcony) |
| Building D1 | 16.4 metres (excluding balcony) |
| Building D2 | 16.4 metres (excluding balcony) |
| Building D3 | 10.5 metres (excluding balcony) |
| Building D4 | 16.4 metres (excluding balcony) |
| Building E1 | 12.5 metres (excluding balcony) |
| Building E2 | 12.5 metres (excluding balcony) |
| Building E3 | 12.5 metres (excluding balcony) |
| Building F1 | 16.9 metres (excluding balcony) |
| Building G1 | 12.5 metres (excluding balcony) |
| Building G2 | 12.5 metres (excluding balcony) |
| Building H2 | 16.4 metres (excluding balcony) |
| Building H3 | 16.4 metres (excluding balcony) |
| Building H4 | 16.4 metres (excluding balcony) |
| Building J1 | 16.4 metres (excluding balcony) |

Building P1: Building P1 is 26.6 metres in depth at its axis and reduces in depth as it tapers toward its northern and southern points. Based on the building types identified in the Design Code, Building P1 is an elliptical tower building, which will have a limited number of apartments arranged around a central core. The Design Code states that tower buildings may have building depths greater than 18m provided adequate amenity for building occupants in terms of sun access and natural ventilation is achieved. The buildings elliptical shape provides the opportunity for living areas and balconies to have a northerly orientation, as well as views to the city skyline, an allows lift cores and services to be located toward the south - western façade of the building. This is demonstrated in the Indicative Apartment Layout prepared by Bates Smart included at Appendix 1. Furthermore, the elliptical shape of the building reduces its bulk and scale.

## 2 Building Separation

*Guidelines*

- *Separation of buildings up to four storeys in height:*
    - *12m between habitable rooms/balconies*
    - *9m between habitable rooms/balconies and non habitable rooms*
    - *6m between non-habitable rooms.*
- *Between five to eight storeys in height:*
    - *18m between habitable rooms*
    - *13m between habitable rooms/balconies and non-habitable rooms*
    - *9m between non-habitable rooms*
- *Between nine storeys and above/ over 25 metres*
    - *24 metres between habitable rooms/balconies*
    - *18 metres between habitable rooms/balconies and non-habitable rooms*
    - *12 metres between non-habitable rooms*

The building separations are indicated on the Land Use Plan prepared by Bates Smart and attached at Appendix 1and outlined below. As the internal apartment layouts have not been designed, the exact location of habitable and non-habitable room is not yet known. It is noted however, that the maximum recommended separations (between habitable rooms) are achieved for most buildings:

- *Separation between Buildings A2, A3, E1, E2, E3 and dwellings across Wilson Street:* As Wilson Street separates the existing dwellings and the proposed Buildings A2, A3, E1, E2, E3, a separation in excess of 12m is achieved, which is recommended for buildings up to four storeys.

- Buildings C1, C2, D1 and D2 range in height from 8 to 12 storeys. The building separations comply with the maximum 24m separation recommended for buildings nine storeys and above as demonstrated below:
    - Building C1 to C2: 26.550m
    - Buildings D1 to D2: 28.6m
    - Buildings C2 to D1: 24m
- Building D4 is 6 storeys and Building A3 is 4 storeys. These buildings are 15m apart, which is considered adequate, given the maximum recommended separation for a 4 storey building is 12m and for buildings between five and eight storeys an18m separation is recommended.
- Building A2 is 4 storeys and C4 is the existing Clothing Store, which has an equivalent height of two storeys. These buildings are approximately around 27m apart which is well in excess of the maximum recommended building separation of 12m for buildings up to four storeys.
- Buildings C4, the existing Clothing Store building is 6m from Buildings C1 and C2. The achievement of the recommended separation distances is constrained by the retention of the existing heritage building. The design of apartment layouts proposed with future applications will minimise opportunities for direct views between the buildings given the southern elevation of C4 faces Buildings C1 and C2 and is unlikely to accommodate habitable rooms. Furthermore, the principle living areas of C1 and C2 are likely to be orientated to the north –east and not towards the Clothing Store.
- Building D4 is approximately 14.8m from Buildings D1 and D2. Building D4 is 6 storeys, D1 is 8 storeys and D2 is 12 storeys. The recommended separation distances between habitable rooms for buildings between 6 and 12 storeys ranges from 18m to 25m, 13m to 18m between habitable and non-habitable rooms and 9m to 12m between non-habitable rooms. The design of apartment layouts proposed with future application will minimise opportunities for direct views between the buildings given the southern elevation of Building D4 faces Buildings D1 and D2 and is unlikely to accommodate habitable rooms. Furthermore, the principle living areas of D1 and D2 are likely to be orientated to the north –east and not towards Building D4. Accordingly the 14.8m buildings separation is considered adequate.
- Buildings to E1 and E2 are four storeys and Buildings G1 and G2 are 6 storeys. Buildings E1 and E2 are 15m from Buildings G1 and G2. The 15m separation is considered adequate, given the maximum recommended separation for a 4 storeys building is 12m and for buildings between five and eight storeys an18m separation is recommended.

- Buildings H2, H3, and H4 are the four storey additions located on top of the existing Paintshop Buildings. There is a 17.2m separation between each of these buildings. This exceeds the maximum separation of 12m recommended for 4 storey buildings.

- All other proposed residential buildings are separated from other residential buildings by proposed roadways, parks and open space and achieve separation distances in excess of the maximum recommended distances.

## 3 Side Setbacks

*Guidelines:*

- *To retain or create rhythm or pattern of development that positively defines the streetscape so that space is not just what is left over around the building form.*
- *Consider building separation, open space and soil zones*
- *Relate setbacks to existing streetscape pattern*

Comment: The urban design framework for the site is based on the creation of a coherent and legible framework that consists of a pattern of streets and blocks. The visual continuity of neighbourhood streets through the site is maintained through a series of north-south streets, pedestrian access and view corridors. The existing heritage buildings have been used to establish the alignment of east - west streets. The combination of the two street patterns establishes a framework of traditional streets and blocks in a configuration that responds to both the neighbourhood streets and heritage buildings on the site.

At the southern boundary of the site, a setback of around 20 metres to the railway line has been provided. The setback also provides for Railcorp access. Iverys Lane is located on the western boundary of the site. The amended Concept Plan proposes a new park at the western end of the site with a depth of around 52 metres. The distance between Iverys Lane and the nearest building on the site is approximately 69 metres. A new park is proposed at the eastern boundary of the site consistent with the RWA Built Environment Plan (Stage One).

## 4 Orientation

*Guidelines*

- *Orient buildings to maximise north facing walls and provide adequate building separation*
- *Respond to streetscape and optimise solar access*
- *Courtyards and setbacks to northern boundaries*
- *Optimise solar access to living spaces and private open spaces by orienting them to the north*

- *Building elements to maximise sun in winter and shade in summer.*

Comment: As previously indicated, the design and layout of apartments does not form part of this application, but will be included in future project applications. However, to demonstrate that the proposed building orientations and envelopes will ensure adequate solar access and amenity for future apartments, Bates Smart have prepared Indicative Apartment Layouts which are attached at Appendix 1. In addition, Bates Smart has undertaken detailed solar analysis for the indicative apartment layouts, which is included at Appendix 2. The solar analysis demonstrates that living rooms and private open spaces for at least 70% of apartments receive a minimum of three hours direct sunlight between 9am and 3pm in mid winter.

# 5 Building Height and Floor Space Ratio

State Environmental Planning Policy (Major Projects) identifies maximum permitted heights and floor space ratios for the eastern, western and central portions of the site. Building Height and FSR are addressed in the previously submitted Environmental Assessment Report and Section 4.1 of this report.

# 6 Open Space

*Guidelines*

- *Communal open space should generally be between 25-30% of the site area*
- *Where development are unable to achieve the recommended communal open space, such as those in dense areas, they must demonstrate that residential amenity is provided in the form of increased private open space and/or in public open space*
- *Minimum private open space for each apartment is 25m$^2$ at ground level/above podium with a minimum dimension of 4m.*

Comment: Public parks and public domain in the development comprise 15,952m$^2$ or 15% of the site. Private open space serving the needs of residents and workers comprises over 9,000m$^2$. In all the amount of communal open space and public domain is around 23% of the site. This equates to approximately 10m$^2$ per person.

The residential typology consists of: 16.4m deep linear floorplates with a 3m balcony projection; 12.5m deep linear floor plates with a 2.5m balcony projection and a 10.5m linear floor plate with 3 metre balcony projection. The balconies all have a northerly or north-easterly orientation to maximise solar access.

As this Concept Plan application does not seek approval for internal building layouts or apartment layouts, the final configuration of open space will be determined in the subsequent Project Application. However, the amended concept plans indicate the potential for ground level apartments to be provided with private open space in the form of courtyards.

## 7 Deep Soil Zones

*Guidelines*

- *Optimise provision of deep soil zones*
- *25% of open space to be deep soil zone*

Comment: The proposed public parks will provide for deep soil planting as the extent of basements beneath the proposed parks has been minimised with the amended Concept Plan. Deep soil planting is to be provided along the eastern boundary of the site adjacent to Little Eveleigh Street properties to provide a buffer. Deep soil planting will also be provided along the western boundary adjacent to Iverys Lane boundary.

## 8 Landscape Design

*Guidelines:*

- *Improve amenity of open space with landscape design, including shade and screening*
- *Contribute to streetscape and public domain.*
- *Improve energy efficiency and solar efficiency of dwellings and microclimate of private open spaces*
- *Design landscape with regard to site characteristics*
- *Contribute to water and stormwater efficiency*
- *Provide sufficient depth of soil above pavers*
- *Minimise maintenance by robust landscape elements*

Comment: The final landscaping design will be resolved at the Project Application Stage. The Statement of Commitments included in Section 3 outlined the matters to be considered in the development of the Detailed Landscape Plan. This includes but is not limited to the: the provision of play equipment; details of heritage interpretation, provision of deep soil planting and soft landscaping; incorporation of water sensitive urban design measures; and the provision of buffer zones.

## 9 Safety

*Guidelines:*

- *Delineate private and public space*
- *Optimise visibility, functionality, and safety of building entrances*
- *Improve opportunities for casual surveillance*
- *Minimise opportunities for concealment*

Comment: As outlined in the Environmental Assessment Report and in the Statement of Commitments the principles of Crime Prevention through Environmental Design (CEPT) have been taken into consideration in the design of buildings, open space and landscaping to maximise community safety and minimise crime and ant-social behaviour. A key element has been to ensure surveillance of the street and public open space from the apartments. Furthermore, the Statement of Commitments requires the preparation of a Safety Management Strategy for future Project Applications to provide guidelines for the application of CPTED principles and Safer by Design best practice models.

## 10 Visual Privacy

*Guidelines:*

- *Maximise visual privacy between adjoining buildings by separation, setbacks and site layout.*
- *Design layouts to minimise direct overlooking of rooms and private open spaces.*
- *Use site and building layouts to minimise direct overlooking of rooms and private open spaces.*

Comment: As discussed under building separation the proposal generally complies with recommended separation distances to ensure adequate privacy. In terms of privacy in regard to apartment layout, this does not form part of the Concept Plan and will need to be considered at Project Application stage. The provision of design elements that have the ability to enhance privacy may also be considered with the more detailed design resolution to be undertaken at Project Application stage.

## 11 Building Entry and Pedestrian Access

*Guidelines:*

- *Improve presentation to street by entry treatment.*
- *Direct connection and clear transition between street and entry.*
- *Ensure equal access for all.*
- *Provide safe and secure access. Separate building entry from car parks.*

Comment: This application does not seek approval for the internal building layouts or apartment layouts. As such the treatment of building entries will be addressed in the future Project Application stage. However, the general siting and location of the buildings proposed within this Concept Plan ensure the guidelines can generally be achieved with the Project Application. The ability to achieve the above guidelines is demonstrated below;

- For buildings A, E, F and N2 apartments will be accessible from Wilson Street, with rear access from Carriageworks Way or Shepherd St. Ground floor apartments for Buildings C, D, G, J and P will be accessible from new streets within the development.

- The Statement of Commitments included at Section 3 require the provision continuous paths of travel to the main entrances and within all floors of the new residential and commercial buildings, to the main entrances of the heritage buildings, and will seek to provide access within all floors of the heritage buildings.

- New buildings will be able to provide separate building entry from basement car parks.

## 12 Vehicle access

*Guidelines:*

- *Ensure adequate separation between vehicle entries and street intersections.*
- *Optimise opportunities for active street frontages and streetscape design.*
- *Limit width of driveways to 6m.*
- *Locate vehicle entries away from pedestrian entries and on secondary frontages.*

Comment: The Concept Plan provides adequate separation between vehicle entries and street intersections, optimises opportunities for active street frontages and enables vehicle entries to be located away from pedestrian entries and on secondary frontages. Detailed driveway widths do not form part of this Concept Plan Application, but will be the subject of a future Project Application.

## 13 Apartment Layout and Mix

*Guidelines:*

- *Single aspect apartments to have maximum depth of 8m from a window.*
- *The back of the kitchen should be no more than 8m from a window.*
- *Cross over or cross through apartments greater than 15m deep to have minimum width of 4m.*
- *Determine apartment sizes in relation to location, market, spatial configuration and affordability.*
- *Ensure apartment layouts are resilient over time.*
- *Design layouts to respond to natural and built environments and optimise site opportunities.*
- *Avoid locating kitchen in circulation space.*

- *Include adequate storage in the apartment.*
- *Ensure apartments facilitate furniture removal and placement.*
- *Provide variety of apartments in larger buildings.*
- *Refine appropriate mix by considering population trends and proximity to transport, employment and services.*
- *Locate a mix of 1 and 3 bedroom units on the ground floor to enable access by disabled, elderly and families.*
- *Optimise accessible and adaptable apartments.*

Comment: The internal building and apartment layouts do not form part of this application. Further detail will be required at project application stage.

## 14 Balconies

*Guidelines:*

- *Provide primary balconies for all apartments with a minimum depth of 2m.*

Comment: While the internal building and apartment layouts do not form part of this application, the amended Concept Plan indicates that each building can accommodate balconies with depths of 2.5m and 3m.

## 15 Ceiling Heights

*Guidelines:*

- *Minimum floor to ceiling height of 2.7m for all habitable rooms and 2.4m is the preferred minimum height for non-habitable rooms.*

Comment: While the internal building and apartment layouts do not form part of this application, the concept plans indicate that the floor to floor height within each building is a minimum of 3m, indicating that the 2.7m height could be achieved.

## 16 Ground Floor Apartments

*Guidelines:*

- *Optimise the number of ground floor apartments with separate entries.*
- *Provide ground floor apartments with access to private open space, preferably as a terrace or garden.*

Comment: The amended Concept Plan demonstrates the potential to provide ground level apartments with separate entries and courtyard/terrace, within the proposed buildings. The apartment layouts, including the design of ground floor apartments, will form part of the subsequent Project Application.

## 17 Daylight Access

*Guidelines:*

- *Orient buildings to optimise northern aspect.*
- *Optimise apartments receiving daylight access to habitable rooms and principal windows.*
- *Living rooms and private open space of at least 70% of apartments should receive 3 hours direct sunlight between 9am and 3pm in mid winter.*
- *Limit single aspect apartments with a southerly aspect to a maximum of 10% of all units.*
- *Ensure daylight access to communal open space March-September and shade in summer.*
- *Developments which seek to vary from the minimum standards must demonstrate how site constraints and orientation prohibit the achievement of these standards.*

Comment: Buildings have been oriented to maximise daylight access to apartments. The internal building and apartment layouts do not form part of this application. However, as previously highlighted in the discussion relating to orientation, the indicative apartment layouts and solar studies prepared by Bates Smart's demonstrate compliance with the above guidelines can be achieved.

## 18 Natural ventilation

*Guidelines:*

- *Utilise building layout and section to increase potential for natural ventilation.*
- *Building depths, which support natural ventilation range from 10-18m.*
- *60% of units to be naturally cross-ventilated.*
- *25% of kitchens to have access to natural ventilation.*
- *Developments which seek to vary from the minimum standards, must demonstrate how natural ventilation can be satisfactorily achieved.*

Comment: The depth of all buildings (excluding balconies) is less than 18m, other than for P1 the 16 storey building elliptical building. As outlined in the discussion relating to building depth, adequate ventilation can still be achieved to P1, which is a tower style building.

## 19 Acoustic Privacy

*Guidelines:*

- *Maximise acoustic privacy be adequate separation.*

Comment: Acoustic privacy will be addressed in the Project Application through the design of the internal apartment layouts and common areas, selection of construction materials and the provision of design measures where required. Notwithstanding, it is considered that the location and separation of the buildings proposed with this Concept Application will ensure acoustic privacy is achieved.

## 20 Overshadowing

The shadow diagrams and solar analysis prepared by Bates Smart included at Appendix 2 demonstrate that the proposal does not have unreasonable overshadowing impacts on adjoining properties. The shadow analysis also demonstrates that adequate solar access is achieved for residential apartments and public and private open spaces within the development, in accordance with the following criteria.

- Residential Flat Code:
  - Living rooms and private open spaces for at least 70% of apartments in a development will receive a minimum of 3 hrs direct sunlight between 9am and 3pm in mid winter. Notwithstanding, the code does allow a minimum of 2 hrs in dense urban areas may be acceptable.
  - Single aspect apartments with a southerly aspect to be limited to a maximum of 10% of the total No. of apartments.
- 50% of Public Open Space is to receive 3 hours of sunlight between 10am and 2pm in Winter.

The shadow impacts on adjoining properties are addressed below.

- Building B1 has been removed in the amended Concept Plan.
- The shadow diagrams prepared by Bates Smart included at Appendix 2 demonstrate that there will be no overshadowing impacts on adjoining properties by the 8 storey buildings.
- The shadow diagrams prepared by Bates Smart included at Appendix 2 demonstrate the 12 storey building (C1) results in marginal overshadowing of three Iverys Lane properties between 9am and 9.30am during midwinter. By 9.30am the proposal does not cast shadows over these properties.
- The shadow impacts of the 12 storey building C1 are addressed above. Overshadowing from D2 falls on the site and the rail corridor and does not affect adjoining residential properties.
- The shadow diagrams prepared by Bates Smart included at Appendix 2 demonstrate the 16 storey building cast shadows on a small section of the apartments located on Cornwallis Street at 3pm during mid winter. No additional shadows are cast before 3pm. As such the proposal will not reduce solar access to the apartments between 9am and 2.45pm.
- The shadow diagrams demonstrate that 50% of the area of each of the proposed parks will receive 4 hours of sunlight in mid winter between 10m and 2pm.