

Table 1. Summary of compliance with the key Apartment Design Guide 'Design Criteria'

Control	ADG Design Criteria	Compliance
<p><b>3D Communal Open space</b></p>	<p>Minimum of 25% of the site area should be devoted to communal open space.</p> <hr/> <p>Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter)</p>	<p>Site area: 1,578m<sup>2</sup>                      Required Communal open space: 395m<sup>2</sup> (25%)                      Proposed Communal open space: 497m<sup>2</sup> (31%)  <b>Exceeds</b>                      Communal open space is provided at both Level 3 and the level 17. A high level of solar access and amenity is achieved to both communal open spaces.                      An additional 120m<sup>2</sup> of communal and community space is also accommodated within the ground floor community hub and residential communal room on Level 3.                      Overall communal space = 617m<sup>2</sup></p> <hr/> <p>A minimum of 2 hours direct sunlight is provided to at least 50% of the communal open space on Level 3 and Level 17.  <b>Complies</b></p>
<p><b>3E Deep Soil Zones</b></p>	<p>Minimum of 7% of a site should be a deep soil zone with the following minimum dimensions:</p> <ul style="list-style-type: none"> <li>- greater than 1,500m<sup>2</sup> – 6m</li> </ul>	<p>Required deep soil zone: 110m<sup>2</sup>, 6m wide                      Deep soil planting is not proposed owing to the recommended site remediation approach of capping the site.  <b>Variation sought</b></p>
<p><b>3F Visual Privacy</b> Building separation</p>	<p>Up to four storeys/12 meters</p> <ul style="list-style-type: none"> <li>• 6 meters to the boundary between habitable rooms/balconies</li> <li>• 3 meters to the boundary between non-habitable rooms</li> </ul> <p>Five to eight storeys /up to 25 meters</p> <ul style="list-style-type: none"> <li>• 9 meters to the boundary between habitable rooms/balconies</li> <li>• 4.5 meters to the boundary between non-habitable rooms</li> </ul> <p>Nine storeys and above/ over 25 meters</p> <ul style="list-style-type: none"> <li>• 12 meters between habitable rooms/balconies</li> <li>• 6 meters between non-habitable rooms</li> </ul>	<p>Up to four storeys/12 meters</p> <ul style="list-style-type: none"> <li>• 6 meters to the boundary between habitable rooms/balconies</li> <li>• 3 meters to the boundary between non-habitable rooms</li> </ul> <p>Five storeys and above</p> <ul style="list-style-type: none"> <li>• 9 meters to the boundary between habitable rooms/balconies</li> <li>• 4.5 meters to the boundary between non-habitable rooms</li> </ul> <p><b>Variation sought for Levels 9-17</b> based on privacy issues being ameliorated through relocating bedroom window facing sideways and providing high windows where facing habitable rooms.                      NB: Setbacks are measured to the centreline of the road</p>
<p><b>3J Bicycle and Car Parking</b></p>	<p>The maximum car parking rates are as follows:</p> <p>Residential                      0.6 Spaces per 1 Bed                      0.9 Spaces per 2Bed                      1.4 Spaces per 3 Bed</p> <p>Retail: 1 per 25m<sup>2</sup>                      Visitors: 1 per 4 dwellings</p> <p>The SDCP 2012 bike parking rates are as follows:</p> <p>Residential                      1 Spaces per dwelling</p>	<p>No car parking is proposed                      Required Bicycle spaces: 183                      Proposed Bicycle spaces: 92  <b>Variation sought</b> on the basis of tenants having incidences of low bike ownership and providing a community bike hub (accessible to both residents of the building and the broader community)</p>

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	Visitor: 1 per 10 dwellings  Retail: Offices: 1 per 150m <sup>2</sup> , visitor 1 per 400m <sup>2</sup> Shop, restaurant or café: 1 per 250m <sup>2</sup> , visitor 2 plus 1 per 100m <sup>2</sup> over 100m <sup>2</sup>	
<b>4A Solar + Daylight Access</b>	Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas.	Proposed: 70%  <b>Complies</b>
	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter.	17 units not receive direct sunlight between 9 am and 3 pm at mid-winter (11%)  <b>Complies</b>
<b>4B Natural Ventilation</b>	At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed.	Number of Apartments in the first 9 storeys: 72 Cross Ventilated Apartments: 44/72 apartments (61%)  <b>Complies</b>
	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line.	No cross over or cross through apartments proposed  <b>Complies</b>
<b>4C Ceiling heights</b>	Minimum ceiling heights are as follows: <ul style="list-style-type: none"> <li>• 2.7m for habitable rooms</li> <li>• 2.4m for non-habitable rooms</li> <li>• double storey apartments – 2.7m for main living area, 2.4m for second floor where its area does not exceed 50% of the apartment area</li> <li>• attic spaces – 1.8m at edge of room with a minimum 30 degree slope</li> <li>• in mixed use areas – 3.3m for ground and first floor</li> </ul>	Proposed height 2.7m habitable– <b>Complies</b> Proposed height 2.4 m non habitable – <b>Complies</b> Proposed height 4.5 for mixed uses on the ground first floor/ community hub double height – <b>Complies</b>
<b>4D-1 Apartment Size + layout</b>	Minimum apartment sizes: <ul style="list-style-type: none"> <li>• 35m<sup>2</sup> for studios</li> <li>• 50m<sup>2</sup> for 1 bedroom</li> <li>• 70m<sup>2</sup> for two bedrooms</li> <li>• 90m<sup>2</sup> for three bedrooms.</li> </ul>	Proposed apartment sizes: <ul style="list-style-type: none"> <li>• 42m<sup>2</sup> for studios</li> <li>• 51m<sup>2</sup> - 59m<sup>2</sup> for 1 bedroom</li> <li>• 71m<sup>2</sup> - 82m<sup>2</sup> for two bedrooms</li> <li>• 108m<sup>2</sup> for three bedrooms</li> </ul> <b>Complies</b>
	Every habitable room must have a window in an external wall with a total minimum glass area of no less than 10% of the floor area of the room. Day light and air may not be borrow from another room	All habitable rooms have ceiling to floor operable windows to comply with natural ventilation and daylight requirements

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<b>4D-2 Apartment Size + layout</b>	Habitable room depths are limited to a maximum of 2.5 x the ceiling height. Open plan layouts (where living, dining and Kitchen are combined habitable room depth from the window is 8m	<b>Complies</b>
<b>4D-3 Apartment Size + layout</b>	Master bedrooms have a minimum area of 10m <sup>2</sup> and other bedrooms 9m <sup>2</sup> (excluding wardrobe space).	<b>Complies</b>
	Bedrooms have a minimum dimension of 3m (excluding wardrobe space).	<b>Complies</b>
	Living rooms or combined living/dining rooms have a minimum width of: <ul style="list-style-type: none"> <li>• 3.6m for studio and 1 bedroom apartments</li> <li>• 4m for 2 and 3 bedroom apartments</li> </ul>	<b>Complies</b>
	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts.	<b>Complies</b>
<b>4E Private open space and balconies</b>	Apartments are to have the following balcony dimensions: <ul style="list-style-type: none"> <li>• 1br – 8m<sup>2</sup> with min.2m depth</li> <li>• 2br – 10m<sup>2</sup> with min. 2m depth</li> <li>• 3br – 12m<sup>2</sup> with min. 2.4m depth</li> </ul>	<b>Complies</b>
	Ground level apartments should contain a minimum of 15m <sup>2</sup> of open space, with a minimum dimension in one direction of 3m.	N/A
<b>4F Common circulation and spaces</b>	The maximum number of apartments off a circulation core on a single level is eight.	While the maximum number of apartments off a circulation core on a single level is ten, all lobbies and corridor are designed to have natural light and ventilation; with direct access to the communal gardens on level 3 & 17. <b>Complies with the design objective</b>
	For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.	A letter (attached) from Arrow, our engineers advising on vertical transport have confirmed two lifts are sufficient for the proposal. Complies with the intent of the design criteria. <b>Complies</b>
<b>4G Storage</b>	<ul style="list-style-type: none"> <li>• Studio apartments require 4m<sup>2</sup> of storage area</li> <li>• One bedroom dwellings require 6m<sup>3</sup> of storage area</li> <li>• Two bedroom dwellings require 8m<sup>3</sup> of storage area.</li> <li>• Three bedroom dwellings require 10m<sup>3</sup> of storage area.</li> </ul>	Residential storage is provided within all apartments at the required rates <b>Complies</b>



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27<sup>th</sup> September 2018  
Saint George Community Housing  
PO Box 348  
Hurstville BC 1481

Reference: NS18138 L01

Attention: Kim Gray

Dear Kim

**Project :** SGCH 11 Gibbons St, Redfern  
**Subject:** Vertical Transportation

Further to your recent correspondence, we can confirm that the proposal for two lifts to serve this project has been analysed and is considered to provide an acceptable level of service.

As you may be aware I have been undertaking the design of lift installations on a continuous basis for the last 20 years, having been the senior lift designer at two of Sydney's leading consulting engineering firms prior to founding Arrow Consulting Engineers 5 years ago.

While the contribution of the Apartment Design Guide in improving the design standards of residential buildings within New South Wales is acknowledged the following is advised:

- We understand that the limit of 40 apartments served by a single lift to 40 is not mandated through SEP 65 and is therefore only provided as a guide.
- The criteria used in the Apartment Guide is not a true measure of the level of service provided by a lift installation, as the number of apartments does not give a accurate indication of the building population (the number of bedrooms will vary between apartment) and does not take into consideration the impact of lift speed.
- The more suitable criteria to use are the average wait time and the Handling Capacity (the percentage of the population on the floors served by the lift group that is transported on average within 5 minutes).
  - The industry accepted criteria for the average wait time in a residential building is  $\leq 60$  seconds. For this building the calculated average wait time is 52 seconds, and therefore this criterion has been achieved.
  - The industry accepted criteria for the handling capacity in a residential building is  $\geq 7\%$  of the building population. For this building the calculated handling capacity is 7.4% of the building population, and therefore this criterion has been achieved.

On the basis of the above we can confirm that the provision of 2 lifts rated at 1350 kg and 1.75m/s will provide an acceptable level of service to this building.

Yours faithfully

**Arrow Consulting Engineers**

Brian Calcutt

Director

BE (Elec), RPEQ, RBP, BPB

**ARROW CONSULTING ENGINEERS**