

columbia **precinct** regeneration

HOMEBUSH

CONCEPT PLAN SEPP 65 ASSESSMENT



Version 1: July 2011



Introduction

SEPP 65 contains ten design quality principles, which are to be considered in the design of a residential flat building. The Columbia Precinct Concept Plan is assessed herein under these design principles. Additionally, this report addresses select 'rules-of-thumb' within the Residential Flat Design Code on the basis of their applicability to the indicative design submitted with this Concept Plan application.

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Key Elements of the Residential Flat Design Code (RFDC)

- Solar Access
- South Facing Units
- Natural Ventilation
- Building Separations
- Open Space and Deep Soil Zones



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Design Quality Principles

Principle 1: Context

Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area.

Responding to context involves identifying the desirable elements of a location's current character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies. New buildings will therefore contribute to the quality and identity of the area.

The site's current context is characterized by an area undergoing transition from a combination of largely industrial, infrastructural, commercial and low-density residential area to a higher density mixed-use precinct with a focus on new housing and services for those new residents.

The site's location between Parramatta Rd and Homebush Village and Station provide the opportunity for a transit-oriented mixed use development with easy connectivity to both local and metropolitan destinations reached via walking, cycling, train, bus, or private vehicle.

The site is separated from surrounding development by the local infrastructural elements including rail lines, rail operational land, stormwater channel, and electrical substation. This attribute provides both opportunity and constraint. The opportunity provided by this separation includes the ability to create a new neighbourhood which is connected but distinct. Surrounding non-residential land to the south of the site ensures that shadows cast by taller buildings on the site do not overshadow or overlook existing residential buildings.

The proposal is comprehensively consistent with the aims and objectives listed within Strathfield DCP 20 - Parramatta Rd Corridor which include *Location* (relationship to Parramatta Rd and Sydney Olympic Park), *Accessibility*, *Public Domain*, *Streetscape*, *Landscaped Open Space*, and *Building Form*.



Principle 2: Scale

Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings.

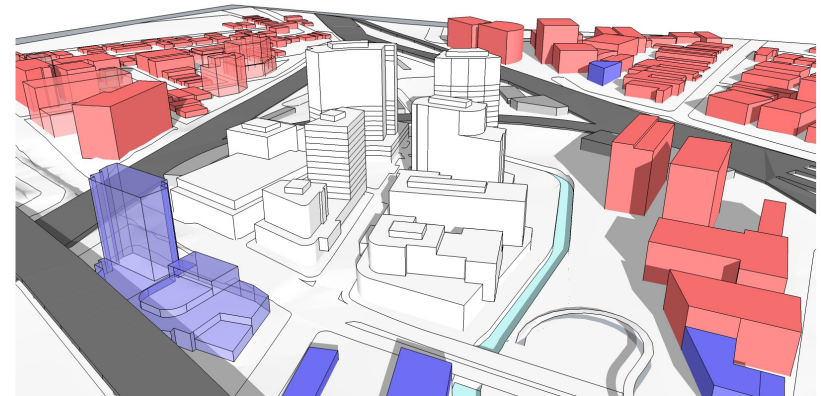
Establishing an appropriate scale requires a considered response to the scale of existing development. In precincts undergoing a transition, proposed bulk and height needs to achieve the scale identified for the desired future character of the area.

The scale of the proposal is derived from a detailed environmental analysis of the site and its surrounding features and development.

Height has been distributed across the site in a manner rising from lower buildings at Parramatta Rd. at the north, to the tallest proposed buildings at the southern end of the site. The highest portion of the proposal is 21 storeys for two towers at the southern end of the site. This height gradation allows for tall buildings which will sit comfortably in their surroundings for several reasons including:

- There are existing residential buildings to the east, west, and south in the range of 10-14 storeys which have irrevocably changed the area's future character from that prevailing in the mid 1990's when the Parramatta Rd studies were conducted (upon which DCP 20 is based). To the north there is a proposal for 13 storey commercial development as part of the Bakehouse Quarter expansion. These existing and proposed developments surround the site with medium rise buildings. The proposed site is currently a void in the middle of this newer development. The proposal reverses this situation to make the site the centre of this developing medium and high density residential mixed use area. Refer to Drawing A.202 "Comparative Building Height Study" for graphic demonstration of this building gradation not only within the site but within the surrounding areas.
- The individual tower building footprints, particularly those of the tallest buildings are modest in size ensuring the building forms are slender and not overly bulky. This will allow for development of an elegant skyline which has generous spacing between individual tower buildings.
- The tallest buildings are located toward the south of the site which places them at a significant distance from most currently accessible public spaces. In particular, the view to the tallest proposed buildings from Parramatta Rd is largely obscured by shorter buildings proposed on the northern part of the site. Similarly, views from public space within the Strathfield Triangle as well as Station St are or will be largely blocked by existing or proposed future buildings. The view to the site from some portions of The Crescent will allow for more unobstructed view of the tallest buildings but at a distance of over 150 metres. This separation minimises any risk of an overbearing presence.

A Visual Impact Assessment report has been prepared by Richard Lamb & Associates which concludes that the potential visual impacts are acceptable and do not result in any significant negative visual effects or impacts on the visual catchment area.



Principle 3: Built Form

Good design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions, building type and the manipulation of building elements.

Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views, vistas, and provides internal amenity and outlook.

The proposal adopts a combination of perimeter block buildings and tower-on-podium building types. This has been designed to enable both the perimeter block buildings and podiums to frame and contain the public spaces proposed including street, lanes, public square and public park. Tower building forms have been proposed for residential usage above the podium buildings to allow for a high-density proposal (similar to recent developments to both the immediate east and west of the subject site), which also provides high levels of amenity with respect to solar access, ventilation, visual and acoustic privacy, outlook and open space.

Typically the podium buildings are expressed as 2 to 3 storey facades with commercial/ retail and community uses on the ground floor, helping to create active building frontages addressing the proposed public spaces. The upper podium levels contain a mix of commercial and residential uses, with the tower buildings containing exclusively residential uses.

Refer also to the Urban Design Report prepared by Professor Peter Webber which also addresses the site's proposed built form in some detail.



Principle 4: Density

Good design has a density appropriate for a site and its context; in terms of floor space yields (or number of units / dwellings).

Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.

The Concept Plan promotes a high-density mixed use precinct based on several underlying attributes of the site:

1. **Access to Public Transport** - The site is within 200-400 metres of Homebush station. The site is also less than 1 kilometre from both Strathfield Station and North Strathfield Station. Additionally, frequent and varied bus services are available at along the site's frontage to Parramatta Rd. Collectively the site is very well serviced by public transport.
2. **Central Position within Greater Metropolitan Sydney** – The site lies near the geographic centre of metropolitan Sydney. Almost all major Sydney employment, education, health-care and recreational areas are within a 15km radius of the site.
3. **Under-utilised Urban Land** - The current site is under-utilised considering its strategic position described by points 1 and 2 above. Only a few people work on the site and there is no residential accommodation. Further the site provides no public amenity or contribution and is visually unattractive from all viewing points including from both public and adjacent private land. High density development of this suitable land will lessen development pressures on land which is inherently more sensitive or less suitable to increased development.
4. **Access to local and nearby facilities** The site has nearby access to varied local and district facilities that can be accessed by walking or cycling. These include Homebush Village, Bakehouse Quarter, Powell's Creek Reserve corridor, Sydney Olympic Park / Bicentennial Park / Millennium Parklands, Rhodes West peninsula, Strathfield Town Centre and many nearby schools and other facilities, both public and private.

Recent nearby residential development have already recognised the attributes of the area which suit higher than traditional residential densities and are acknowledged in the Sydney Metropolitan Strategy. These recent developments include sites on:

- Station St., Homebush
- Strathfield Triangle lands, Strathfield
- Beresford Rd. / The Crescent lands, Strathfield.

These developments have estimated FSR figures in the order of 2.4:1 to 3.5:1. These sites do not however provide general public benefits. The aim of this proposal is to provide a similar density but with a higher contribution to public space, neighbourhood facilities and visual identity. The proposal seeks an FSR of approximately 2.8:1 - similar to recent existing developments to the east, west and south of the site.

The proposed density is considered to be appropriate for the area under transition in which the site is located and with particular respect to the central location within Greater Sydney as well as the site's accessibility to multi-modal public transport.



Principle 5: Resource, Energy And Water Efficiency

Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction.

Sustainability is integral to the design process. Aspects include demolition of existing structures, recycling of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings, layouts and built form, passive solar design principles, efficient appliances and mechanical services, soil zones for vegetation and reuse of water.

Resources Efficiency

Resource Efficiencies from Proposed Site Density

The proposed density allows for varied resource efficiencies when compared to lower density development. From a land efficiency point of view, the currently under-utilised site will yield a significant quantity of much needed residences in a highly accessible position. From a construction efficiency point of view, the proposed density allows for efficient reticulation of services ensuring minimal material is used for pipes, conduits, ductwork, cabling etc. From an operational point of view, the density allows for resource efficiency through means such as highly centralised waste collection. This can result in significantly less service vehicle movements, saving fuel and human labour.

Re-Use and Recycling

With respect to re-use of the existing structures and their materials, one of the largest existing buildings is proposed to be retained. This building is a 1920's concrete framed warehouse type building with brick exterior walls. Retaining this building will reduce the quantity of building required by approximately 7,800 sqm of gross floor area when compared to replacing it with new construction. Re-use of existing on-site building materials from the existing buildings to be demolished will be investigated at the construction management stage. If existing buildings materials are not able to be re-used on site then recycling of appropriate materials will be incorporated into the Construction Management Plan provided for each future development application.

Design for Resource Efficiency

Whilst much of the design resolution will be determined at the development application stages, the indicative apartment layouts provided with the Concept Plan application demonstrate a high efficiency of floor space usage, ensuring little "wasted" floor space and (associated construction materials) are used in providing the proposed housing. Additionally, the proposed parking rates are reduced when compared to the general locality as a result of the multi-modal transport options available from the site. These reduced parking rates will result in less basement excavation and construction than what would be required to accommodate more vehicles, saving both material resources and energy through the construction and operational phases of the proposed buildings' life-cycles. Building materials will be selected at development application and construction documentation stages under the guidance of an accepted overall ESD implementation plan.

Energy efficiency:

Passive Solar Design

Passive solar design has been integral to the general building massing proposed. The gradation of building heights with lower buildings at the north and taller buildings at the south allows for maximised solar access to the building facades. Occupant control over this solar access into the internal spaces will be further demonstrated and closely quantified at the development application stage, ensuring appropriate levels of solar penetration during the cooler months and solar shading during the warmer months.

Natural Ventilation

The indicative design drawings demonstrate that the proposed building envelopes can be designed to allow for a high level of natural cross-ventilation. The indicative design demonstrates over 66% of residential units to be cross-ventilated. Refer to the Natural Ventilation Assessment Report prepared by SLR Consulting for further detail on this matter.

Minimisation of Private Vehicle Usage

The combination of the site location and the proposed design combine to encourage reduced private vehicle usage. The site location allows for access to multiple bus routes at the site's Parramatta Rd. frontage. Homebush Station is under 400m and a level walk from all parts of the site. Additionally, Strathfield Station and North Strathfield Station are less than 1 km from the site. Accordingly the site is very well serviced by existing public transport options. The site location is also very central within the greater metropolitan Sydney area as well as to local places of employment, recreation and education. Improvement of the pedestrian and cycling network to integrate this site with the surrounding areas is proposed to maximize the amenity of walking and cycling to local and district destinations such as Sydney Olympic Park via the Powell's Creek reserve. Due to the combination of transport options, the Concept Plan adopts private vehicle parking rates which are lower than typically found in the locality, further discouraging both use and ownership of private vehicles. To supplement this effort, a car sharing scheme is proposed to form a part of the overall transport management plan for the site.

Alternative and Renewable Energy

The Concept Plan allows for the inclusion of renewable on-site power generation in the form of co-generation/tri-generation power plants and / or PV solar installations. Detail feasibility studies of these options will be undertaken at the development application stages. Refer to the ESD Report prepared by SLR Consulting for further details.

Water Efficiency:

A Water Sensitive Urban Design (WSUD) Strategy has been developed for the site. Water efficiency is an important component of this strategy handled strategically through the combination of water efficient appliances, rainwater collection and re-use and grey-water re-use. Collectively these initiatives will significantly reduce water demand. Appliance efficiency will include all taps, toilets and showers. The rainwater and grey-water re-use will be directed to irrigation as well as potentially toilet flushing and washing machine water.

The WSUD strategy also addresses Water Quality of stormwater falling onto the site and draining into the local drainage infrastructure. Implementation of this strategy detailed in the WSUD Report (prepared by SLR Consulting) will reduce the pollution of the run-off when compared to the existing site situation. This approach achieves efficiency gains at the metropolitan level when considering the level of treatment required at the metropolitan water treatment plants.