6 January 2011

Department of Planning
GPO Box 39
SYDNEY N.S.W 2001

Attention: Andrew Beattie

RE: MAJOR PROJECT APPLICATION, SHEPHERDS BAY URBAN RENEWAL
STAGE 1 PROJECT APPLICATION (MP09_0219)

Pursuant to clause 50(1A) of the Environmental Planning and Assessment Regulation 2000, effective from July 26 2003:

I hereby declare that I am a qualified designer, which means a person registered as an architect in accordance with the Architects Act 1921 as defined by clause 3 of the Environmental Planning and Assessment Regulation 2000.

I designed or directed the design, of the residential flat development stated above and I affirm that the design achieves the design quality principles as set out in Part 2 of the State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development, appropriate requirements of the Building Code of Australia, the Environmental Planning and Assessment Regulation and relevant Australian Standards

Regards,

Brian Mann
DIRECTOR

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## 1. CONTEXT

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area.<br><br>Responding to context involves identifying the desirable elements of a locations current character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies.<br>New buildings will thereby contribute to the quality and identity of the area. | Meadowbank Employment Area is undergoing transition from a former predominantly industrial to a residential use environment.<br>The proposal has been developed in relation to the existing context and the desired future character of the area. It will incorporate a future character of an urban village that will comprise of predominant residential use with some retail/convenient store and cafes.<br>The building envelopes respond to the undulating topography through orientation, height and bulk.<br>The north-south alignment preserves existing view lines to the water and provides good access to prevailing winds.<br>The proposed pedestrian networks integrate and extend into existing networks providing cohesive and easy access to all public destinations within the MEA.<br>The road grid has been maintained and proposed road extension connecting Nancarrow Avenue to Hamilton Crescent integrated into the proposal.<br>Further details regarding preservation of existing views from adjoining development, existing and future view corridors and views from Parramatta River are provided in the report submitted with the application – View analysis prepared by "Richard Lamb & Associates". | The subject site is part of the Meadowbank Employment Area that is being progressively developed from industrial to residential in accordance with the site specific DCP.<br><br>This proposal, 41 Belmore Street, is located at the junction of Belmore Street and Rothesay Avenue and stretches back up to Hamilton Crescent to the north.<br><br>The surrounding existing architecture is a mix of contemporary residential and large old industrial warehouses.<br><br>The area surrounding 41 Belmore Street has some built form and landscape characteristics that the proposed development responds to like the recently constructed residential development on adjoining site of up to 5 storeys, parklands adjoining the site, extensive water views towards the South, South-West and South-East of the site, and exposure to Parramatta River Foreshore and Waterfront.<br><br>The development will include a new public pocket park at the western termination of Nancarrow Avenue. A new pedestrian walkway will connect the pocket park down to the existing foreshore park. This will provide a resource not only for this development but also for the wider community. |

## 2. SCALE

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings.<br><br>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 proposed building envelopes are appropriate in terms of their bulk and height. Their height in stories responds to the scale of the surrounding buildings and the public spaces between them.<br><br>The building envelopes step down towards the foreshore and surrounding buildings and increase in height along the natural ridge line running within the sites establishing a legible hierarchy to the public spaces, limiting adverse impact of overshadowing to the foreshore and presenting an interesting and interactive skyline as seen from Parramatta river.<br><br>Building articulation, facade treatment and colour composition provide relief and reduce overall bulk perception. | The proposal is to build 242 residential apartments with bulk and height stepping back up the slope along Belmore street. There is an existing DA approved on the site to develop 92 apartments, childcare centre, and an auditorium.<br>Proposed development is fronting a public foreshore park with the Parramatta River beyond.<br><br>The proposed bulk and scale is appropriate to the bulk and scale of adjoining residential development to the East and existing heights of industrial buildings to the North West. |

## 3. BUILT FORM

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| 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.<br>Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook. | The proposal achieves an appropriate built form for the site and the building's purpose. The envelope responds to the key existing road alignments without compromising on views and vistas down to the water and through the site.<br><br>The overall built form composition consists of building envelopes oriented north-south separated by landscaped communal courtyards, public streets, pedestrian pathways and a pedestrian promenade. The building envelopes reinforce the built alignment and view corridors down Bowden Street, Belmore Street, Nancarrow Avenue, Hamilton Crescent West and Constitution Road.<br><br>The main entry into the master plan via Hamilton Crescent West is reinforced by taller building envelopes that rises up to two twelve storey towers at the highest point on site and then steps down to the water through the main public pedestrian promenade.<br><br>All units have good views, taking advantage of vistas towards the Parramatta river and suburb of Rhodes beyond. The north – south oriented 18m minimum gaps between the buildings provide increased sun access into the apartments. | The design of the proposed development has been dictated by the waterfront location of the site, the height of nearby buildings, solar access to units, aspects in relation to views and impacts on established and future view corridors in the vicinity of the site.<br>Proposed development is a perimeter block 'U' shaped building with the open end facing southern boundary to allow for direct and oblique water views for apartments facing the internal communal courtyard. It is set back to retain the large fig trees along the southern boundary.<br>The courtyard provides both privacy for the residents and waterfront aspect to most of the apartments.<br><br>The building disposition on the site allows retaining existing view corridor along Belmore Street and creating a new view corridor from upper West end of the development adjoining Nancarrow Avenue down to the water.<br><br>The built form was generated by a multiplicity of factors – statutory controls, cross ventilation, solar access, view access and urban design considerations. The façade is detailed in layers, breaking down the overall height of the building, to establish a relationship of human scale between the public open space and the building. |

## 4. DENSITY

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| Good design has a density appropriate for a site and its context; in terms of floor space yields (or number of units or residents).<br>Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing a 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 form of the proposed development has evolved through a process of urban design analysis. Recognizing urban consolidation policy and the site location, the density is appropriate for the site as it responds to the local context and availability of current infrastructure.<br><br>The non-residential uses include convenience shops (such as retail, newsagents, etc) / cafes / commercial premises.<br><br>The surrounding developments are becoming of a comparative density as they are progressively developed from industrial uses to residential.<br><br>The area is well served for rail, bus and ferry routes and is located 40 minutes away from the airport. | There are 242 apartments with a range of 1 bed, 2 bed and 3 bed apartments to allow for a range of typologies and living patterns. |

## 5. RESOURCE, ENERGY & WATER EFFIENCY

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| 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. | The development is designed to embrace ESD principles.<br><br>The massing, internal layouts and orientation have been organised so as to provide good natural day lighting and solar access into primary living spaces and courtyards. Energy efficient appliances and water efficient devices will be specified to minimise water consumption of resources.<br><br>The master plan will include tanks for the retention of stormwater to be re-used for irrigation and car wash bays.<br><br>Refer to BASIX certificates by Robertson + Marks Architects for further information. | To minimize the use of energy, most of the apartments offer cross ventilation (dual aspect).<br>Where possible the number of units with solar access is maximized.<br><br>Tinted glazing, slab projections and louvre screens have been provided to control solar access where required. Metal deck roof is insulated to achieve required thermal comfort and reduce heat loads.<br><br>Other energy saving initiatives include extensive soft landscaping with predominant use of native species (70%), on site detention of rain water used for irrigation of the landscaped areas, laundries (washing machines) and toilets (toilet flashing and baths), AAA rating showerheads and energy efficient appliances to be installed. |

## 6. LANDSCAPING

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| Good design recognises that together landscape and buildings operating as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both occupants and the adjoining public domain.<br>Landscape design builds on the existing site's natural and cultural features in responsible and creative ways. It enhances the development's natural environmental performance by co-ordinating water and soil management, solar access, microclimate, tree canopy and habitat values. It contributes to the positive image and contextual fit of development through respect for streetscape and neighbourhood character, or desired future character.<br>Landscape design should optimise usability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide for practical establishment and long-term management. | The landscape masterplan for Stage 1 will create a strong integrated landscape framework that responds to the needs of both residents and visitors and capitalises on the sites attributes and establishes a clear vision for the landscape.<br><br>The landscape design will enhance the appearance and amenity of the proposed development by sensitively integrating architecture and landscape through effective site planning and landscape design. The high quality landscape is based on the synthesis of development objectives, contextual issues, legibility, site constraints and opportunities, sustainable asset management and general best practice.<br><br>The landscape Design for both the public and private domain will therefore contribute to a premium quality sustainable development and will promote environmentally sustainable design principals. These include the strategic planting of deciduous trees for solar access in winter, low water demand / low maintenance plant selection throughout, the use of quality, long lasting, recycled hardscape materials in the design where possible. | The central courtyard of the building as the main communal open space and landscaped area provides passive recreation option for residents, privacy relative to the foreshore area, pleasant outlook from the apartments overlooking the courtyard and enhances building's appearance when viewed from the Parramatta River. Design intent has been to provide visually interesting and diverse range of planting providing links appropriate to the historical context of the area and materials to enhance the natural character inherent in the parkland context. |

## 7. AMENITY

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| Good design provides amenity through the physical, spatial and environmental quality of a development.<br>Optimising amenity requires appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook and ease of access for all age groups and degrees of mobility. | The organisation of built form and open space is laid out in response to the existing and proposed urban morphology and the intrinsic opportunities and constraints of the site.<br><br>All units have primary living areas facing water views or into well defined and landscaped courtyards.<br><br>Privacy is maintained between apartments through orientation and internal layouts.<br><br>Retail accessible car bays are provided along with regular on street retail parking near all retail/commercial premises with level or accessible footpaths from car park to the shop. | Consideration of amenity is taken in both public and private domains of the proposed development. In the public domain open spaces are landscaped to integrate with the overall landscape theme of the site.<br><br>Appropriate room sizes and shapes are provided in the building and supported by access to sunlight and ventilation, sufficient storage, efficient layouts and service areas.<br><br>Accessible apartments are provided throughout the building to different typologies to offer variety to potential purchasers.<br><br>Access to sunlight, ventilation and views are maximised.<br><br>Occupants are provided with access to extensive activities both active and passive in the surrounding area and as provided on site.<br><br>It is proposed to provide both private and communal open space within the site for use by residents.<br><br>A public open space in the form of a pocket park that extends along the western edge of the development is provided overlooking Parramatta River Foreshore and adjoining parklands. |

## 8. SAFETY AND SECURITY

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| Good design optimises safety and security, both internal to the development and for the public domain.<br>This is achieved by maximising overlooking of public and communal spaces while maintaining internal privacy, avoiding dark and non-visible areas, maximising activity on streets, providing clear, safe access points, providing quality public spaces that cater for desired recreational uses, providing lighting appropriate to the location and desired activities, and clear definition between public and private spaces. | Safe access is achieved by well defined and lit pedestrian footpaths through the site that connect to three public pocket parks, a large public square and down to the large semicircular public plaza which forms an extension of the existing foreshore park.<br><br>The public parks and square are clearly defined, distinct from private and communal open space. They are well lit and avoid dead end spaces that are not visible.<br><br>There is a main pedestrian promenade and a number of smaller pedestrian laneways running north-south through the development to bring activation into the heart of the development and clear delineated connection to the public foreshore area.<br><br>Passive surveillance is afforded by balconies and windows at higher levels, taking in all aspects.<br><br>Apartments entries are clearly defined, well lit and secure.<br><br>There will be appropriate lighting to all exterior areas, both public and communal. | The development is surrounded by public streets to the North, East and South edges. A pocket park and a public landscaped corridor extend along the western edge down to the foreshore park along Parramatta River. An internal central courtyard runs along the central spine of the development and terminates down at Rothesay Avenue.<br>Balconies are designed to overlook all sides of the development promoting passive surveillance of the spaces below.<br>Private courtyards of ground floor apartments are secured by the use of gates, walls and fences.<br>The access point to the internal courtyard is located clearly at the edge of Rothesay Avenue. The major building entries are secured and will be adequately lit at night to ensure dark areas are minimized.<br>The design of units at street level allows surveillance of public areas to achieve a level of safety and security.<br>Large public recessed areas around the perimeter are minimized to maintain the majority of areas in public view.<br>There is a clear vehicular access from Belmore street that provides secure access for residents, visitors and for garbage collection.<br>Visitor's parking areas are secured at the street and adequately lit at night. Visitors enter the car park via access control systems activated by residents from their units. |

| 9. SOCIAL DIMENSIONS | | |
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| **PRINCIPLES** | **ANALYSIS – MASTER PLAN** | **ANALYSIS - STAGE 1** |
| Good design responds to the social context and needs of the local community in terms of lifestyles, affordability, and access to social facilities. New developments should optimise the provision of housing to suit the social mix and needs in the neighbourhood or, in the case of precincts undergoing transition, provide for the desired future community. | The development provides for the breadth of needs in the community. A variety of accommodation in terms of unit size and configuration is provided, allowing for future social diversity in the area.<br><br>The outdoor spaces are designed to engender community spirit for residents within the development by offering areas for congregation, celebration and activity.<br><br>The master plan incorporates 3 new pocket parks, a public square and a large public plaza with small retail/convenience store and cafe facilities that will service both the development and the wider community. | The proposal provides a range of unit typologies and sizes that enables a range of choice in terms of affordability. |

## 10. AESTHETICS

| PRINCIPLES | ANALYSIS – MASTER PLAN | ANALYSIS - STAGE 1 |
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| Quality aesthetics require the appropriate composition of building elements, textures, materials and colours and reflect the use, internal design and structure of the development.<br>Aesthetics should respond to the environment and context, particularly to desirable elements of the existing streetscape or, in precincts undergoing transition, contribute to the desired future character of the area. | The master plan contributes to both the existing streetscapes and the desired future character of the area through a diverse but coherent aesthetic approach in which each individual building and the public domains contribute to a sense of place with high aesthetic value through a related palate of forms, materials and colours.<br><br>The strong industrial heritage has been captured through interpretive building facade treatment, colours, textures and public art forms. | The buildings have been designed to manage bulk and scale by the variation of facade treatments.<br><br>Emphasis has been on maintaining a strong base and ground line. Extensive terracing and landscaping at ground levels provides a smooth transition between the building and the site.<br><br>A palate of natural materials and colours are proposed to break up the scale and massing of the building and blend with the waterfront reserve. Elements such as sun shading louvers and pergolas are designed to soften and articulate the facades of the buildings as viewed from the public domain. They are designed to integrate the building into the wider context of the overall natural aesthetics of the parkland environment. |

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| | **PART 2 SITE DESIGN** | | | | | | |
| **1** | **PRIMARY DEVELOPMENT CONTROLS** | | | | | | |
| **1.1** | **BUILDING HEIGHT** | **2_24** | | | | | |
| | Test heights against the number of storeys and the minimum ceiling heights required for the desired building use. | | | ✔ | Building height:<br>• The number of storeys determined in the detailed urban design analysis including maximising views and solar access, refer to EA Section 32.<br>• The proportions of the street are being enhanced by lowering street wall heights and are not impeded by taller sections set well back from those edges.<br>• Taller buildings in a slender built form cast narrower shadows which are mainly onto the individual proposed development sites. At the foreshore and near public spaces heights are lower to reduce impact and offset any impact of the taller building components. | Building height:<br>• Stage 1 complies with the Concept Plan heights and SEPP 65 Rule of Thumb for ceiling heights. | ✔ |
| **1.2** | **BUILDING DEPTH** | **2_26** | | | | | |
| | Maximum building plan depth should be 18 metres from glass line to glass line (excludes articulation zone - balconies, bay windows, shading devices)<br>- The 18m metre guideline generally applies to street wall buildings with dual and opposite aspect and buildings with minimal side setbacks.<br>- Freestanding buildings (the big house or tower building types) may have greater depth than 18m only if they still achieve satisfactory daylight and natural ventilation. | | | ✔ | Building depth:<br>• All Concept Plan buildings comply. In the case where buildings exceed the maximum plan depth, they will be required to provide supporting documentation to justify satisfactory daylight and natural ventilation. | Building depth:<br>• The building plan depth varies within a range of approx. 15m to 22m. However, solar access and natural ventilation are maximised. Refer to the Solar Access and Natural Ventilation Assessment (Annexure 12). | ✔ |

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| **1.3** | **BUILDING SEPARATION** | **2_28** | | | | | |
| | Building separation is proportionate to building height to facilitate better urban form and improved residential amenity. | | | ✔ | Building separation:<br>• All buildings in the Concept Plan will comply with the minimum separation required by the RFDC.<br>• Building separations have been strategically designed to create new and maintain existing view corridors to Parramatta River. | Building separation:<br>• Stage 1 complies with the Concept Plan building envelopes. Separations range between 18.8 – 20.3m (18m is required).<br>• View corridors to the water are provided along the eastern boundary (Belmore Street) and wester boundary (new through-site pedestrian spine/ public open space) | ✔ |
| **1.4** | **STREET SETBACKS** | **2_30** | | | | | |
| | Identify desired streetscape character, the common setback of building in the street, the accommodation of street planting and height of buildings and daylight access controls. | | | ✔ | Street setbacks:<br>• All perimeter street setbacks in the Concept Plan comply with the current Ryde DCP 2010 street setbacks map(above finished ground level).<br>• The Concept Plan retains all existing street reservations and in some circumstances augment them and enhance the character of the spaces for people. | Street setbacks:<br>• Stage 1 complies above finished ground level. Minor encroachment occurs below ground to maximise basement car parking. These areas of the building cannot be viewed from the streets or any public domain areas and do not impact on any significant trees. | ✔ |
| **1.5** | **SIDE AND REAR SETBACKS** | **2_33** | | | | | |
| | Relate side and rear setback to existing streetscape patterns. | | | ✔ | Side and rear setbacks:<br>• The Concept Plan side and rear setbacks have been informed by adjacent developments, public domain areas and RFDC separations. | Side and rear setbacks:<br>• Setbacks in Stage 1 development comply with Concept Plan as follows:<br>- 5m to Rothsay Ave, Belmore St and Hamilton Cres;<br>- 3m to proposed pedestrian link to the west. | ✔ |
| **1.6** | **FLOOR SPACE RATIO** | **2_35** | | | | | |

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| | | | | | Floor space ratio:<br>• The proposal has undergone a series of design iterations, extensive urban design analysis in consultation with the authorities to achieve the current layout and bulk and resultant approximate GFA of 260,000sqm. | Floor space ratio:<br>• The Stage 1 development complies with the Concept Plan building envelopes. | |
| **2** | **SITE CONFIGURATION** | | | | | | |
| **2.1** | **DEEP SOIL ZONES** | **2_44** | | | | | |
| | A minimum of 25% of the open space area of a site should be a deep soil zone; more is desirable. | | ✔ | | Deep soil zones:<br>• The Concept Plan provides significant areas of open space. Detailed calculations of deep soil zones will be provided at each stage of development. | Deep soil zones:<br>• Stage 1 has a deep soil zone of 1,232 sqm.<br>• Additionally, setbacks to streets ensures that there is adequate landscaping on these street frontages and that they will positively enhance the streetscape.<br>• The Stage 1 site also adjoins the extensive foreshore reserve.<br>• The Stage 1 Project incorporates a new landscaped public pedestrian link to the waterfront. | ✘ |
| **2.2** | **FENCES AND WALLS** | **2_45** | | | | | |
| | Respond to the identified architectural character for the street and/or the area.<br><br>Clearly delineate the private and public domain without compromising safety and security.<br><br>Contribute to the amenity, beauty and useability of private and communal open spaces by incorporating | | | ✔ | Fences and walls:<br>• Fencing and wall details will be determined at the detailed design phase of each stage of development | Fences and walls:<br>• Fencing shall define the edge of the development and provide privacy to private open spaces.<br>• Fencing will be integrated with the architectural and | ✔ |

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| | some of the following in the design of fences and walls.<br>- Benches and seats<br>- Planter boxes<br>- Pergolas and trellises<br>- Barbeques<br>- Water features<br>- Composting boxes and worm farms<br><br>Retain and enhance the amenity of the public domain by:<br>- Avoiding the use of continuous lengths of blanks walls at street level.<br>- Using planting to soften the edges of any raised terraces to the street, such as over sub basement car parking, and reduce their apparent scale.<br><br>Select durable materials, which are easily cleaned and graffiti resistant. | | | | | landscape design. It will contribute to creating an attractive streetscape.<br>• The street front facades are highly articulated and contain apartment terraces and plantings.<br>• The proposed public pedestrian spine will incorporate high quality landscaping, water features and low walls for seating. | |
| **2.3** | **LANDSCAPE DESIGN** | **2_46** | | | | | |
| | Contribute to streetscape character and the amenity of the public domain.<br><br>Improve the energy efficiency and solar efficiency of dwellings and the microclimate of private open spaces.<br><br>Design landscape which contributes to the site's particular and positive characteristics, for example by:<br>- Enhancing habitat and ecology<br>- Retaining and incorporating trees, shrubs, and ground covers endemic to the area, where appropriate<br>- Retaining and incorporating changes of level, visual markers, views and any significant site elements.<br><br>Contribute to water and stormwater efficiency by integrating landscape design with water and stormwater management.<br><br>Provide a sufficient depth of soil above paving slabs to enable growth of mature trees. | | | ✔ | Landscape design:<br>• The landscape design contributes to a high quality sustainable development and will promote ESD principals through the strategic planting of deciduous trees for solar access in winter, low water demand/ low maintenance plant selection and the selection of quality, durable, recycled hardscape materials in the design where possible. Refer to the Landscape Report (Annexure 13). | Landscape design:<br>• The central communal open space and landscaped area in Stage 1 provides passive recreation option for residents, privacy relative to the foreshore area, pleasant outlook from the apartments overlooking the open space and enhanced the building's appearance when viewed from the Parramatta River. Design intent has been to provide visually interesting and diverse range of planning providing links appropriate to the historical context of the area and materials to enhance the natural character inherent in the parkland context.<br>• Refer to the Landscape Report (Annexure 13). | ✔ |

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| | Minimise maintenance by using robust landscape elements. | | | | | | |
| **2.4** | **OPEN SPACE** | **2_48** | | | | | |
| | The area of communal space required should generally be at least between 25-30% of the site area.<br><br>Min. Area for private open space at ground or similar space on a structure, such as podium or car park, is 25sqm; the minimum preferred dimension in one direction is 4m. | | ✔ | | Open space:<br>• The Concept Plan illustrates public open spaces and communal open spaces which are to be accommodated via podium gardens, public walkways, parks and a public plaza.<br>• Approximately 10,000 sq.m of the site as public domain incorporating approximately 4,125 sq.m of new parkland (this is 280% more than a complying DCP scheme). | Open space:<br>• Refer to the Landscape Report (Annexure 13).<br>• The proportions of the public and communal open spaces is such that they are rendered 'useable spaces':<br>- Public open space 500sq.m;<br>- Communal open space 560 sq.m (upper) + 700sq.m (lower).<br>• Ground floor apartments are provided with individual courtyards/ terraces. | ✔ |
| **2.5** | **ORIENTATION** | **2_50** | | | | | |
| | Plan the site to optimise solar access.<br><br>Select building types which respond to the streetscape whilst optimising solar access.<br><br>Optimise solar access to living spaces and associated private open spaces by orientating them north.<br><br>Detail buildings elements to modify environmental conditions, as required, to maximise sun access in winter and sun shading in summer. | | | ✔ | Orientation:<br>• The Concept Plan site is south facing with topography sloping towards the south. The orientation places constraints on solar access. The internal grid arrangement of development provides a high level of permeability, through-site linkages and views. The built form creates internal open spaces and adequate building separation for natural daylight access, privacy and view sharing.<br>• Most of the apartments will have NE and SW facing living spaces due to orientation of site and water views to the south. | Orientation:<br>• Refer to Shadow Diagrams (Annexure 2); Solar Access and Natural Ventilation Assessment (Annexure 12). | ✔ |

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| **2.6** | **PLANTING ON STRUCTURES** | **2_52** | | | | | |
| | Design for optimum conditions for plant growth by:<br>- Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established.<br>- Providing appropriate soil conditions and irrigation methods.<br>- Providing appropriate drainage.<br><br>Design planters to support the appropriate soil depth and plant selection.<br><br>Minimum soil depth for planting. | | | ✔ | Planting on structures:<br>• Development is to be carried out in accordance with the Concept Plan Landscape Plan (Annexure 13). Planting on structures is proposed. The detailed landscape design will be determined at each stage of development. | Planting on structures:<br>• Sufficient soil depths have been provided on top of the central landscaped common open space for Stage 1 (on top of the basement car park) to ensure the growth of medium sized trees and shrubs. | ✔ |
| **2.7** | **STORMWATER MANAGEMENT** | **2_54** | | | | | |
| | On dense urban sites where there is no potential for deep soil zones to contribute to stormwater management, seek alternative solutions. Structural stormwater treatment measures may be used including:<br>- Litter or gross pollutant traps to capture leaves, sediment and litter.<br>- On-site detention storage.<br><br>Reduce the need for expensive sediment trapping techniques by controlling erosion. Design solutions include:<br>- Landscape design incorporating appropriate vegetation.<br>- Stable(non-eroding) flowpaths conveying water at non-erosive velocities.<br><br>Consider using grey water for site irrigation. | | | ✔ | Stormwater management:<br>• The Concept Plan makes provision for area-wide stormwater management. | Stormwater management:<br>• Stage 1 makes provision for stormwater works. Refer to the Integrated Stormwater Management Report (Annexure 17). | ✔ |
| **3** | **SITE AMENITY** | | | | | | |
| **3.1** | **SAFETY** | **2_56** | | | | | |

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| | Separate residential parking from other building use and control access from public and common areas.<br><br>Provide direct access from car parks to apartment lobbies for residents.<br><br>Provide separate access for residents in mixed-use buildings.<br><br>Provide audio or video intercom for visitor entry.<br><br>Provide key card access for residents. | | | ✔ | Safety:<br>• The Concept Plan design addresses surveillance (passive and active), access control, territorial re-enforcement and space management. Refer to Crime Risk Assessment Report (Annexure 7). | Safety:<br>• Stage 1 complies with the Concept Plan and design addresses surveillance (passive and active), access control, territorial re-enforcement and space management. Refer to Crime Risk Assessment Report (Annexure 7). | ✔ |
| | Carry out a formal crime risk assessment for all residential developments of more than 20 new dwellings. | | ✔ | | Safety:<br>• The Concept Plan design addresses surveillance (passive and active), access control, territorial re-enforcement and space management. Refer to Crime Risk Assessment Report (Annexure 7). | Safety:<br>• Stage 1 complies with the Concept Plan and design addresses surveillance (passive and active), access control, territorial re-enforcement and space management. Refer to Crime Risk Assessment Report (Annexure 7). | ✔ |
| **3.2** | **VISUAL PRIVACY** | **2_58** | | | | | |
| | Locate and orient development to maximise visual privacy.<br><br>Design building layouts to minimise direct overlooking of rooms and private open space. | | | ✔ | Visual privacy:<br>• The Concept Plan layout orientates buildings towards the Parramatta River and/ or adjacent public open spaces. Buildings will be provided with adequate setbacks, orientations and layouts designed to maximise views whilst having regard to visual privacy. | Visual privacy:<br>• Apartments have been orientated and appropriately separated to provide visual privacy. Screening is proposed to areas where there is potential for overlooking. | ✔ |
| **4** | **SITE ACCESS** | | | | | | |
| **4.1** | **BUILDING ENTRY** | **2_60** | | | | | |
| | Improve the presentation of the development to the street by: | | | ✔ | Building entry:<br>• Building envelopes are sited | Building entry:<br>• Multiple building entries are | ✔ |

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| | - Locating entries so that they relate to the existing street and subdivision pattern, street tree planting and pedestrian access network.<br>- Designing the entry as clearly identifiable element of the building in the street.<br>- Utilising multiple entries-where it is desirable to activate the street edge or reinforce a rhythm of entries along a street.<br><br>Provide as direct a physical and visual connection as possible between street and entry.<br><br>Achieve clear lines of transition between public street, the shared private, circulation spaces and apartment unit.<br><br>Generally provide separate entries from the street for pedestrians and cars and different uses.<br><br>Provide and design mailboxes to be convenient for residents and not to clutter the appearance of the development from the street. | | | | with multiple frontages to streets and public spaces. All buildings will have numerous well defined building entries. | proposed to be provided to the Stage 1 development to maximise pedestrian circulation and access.<br>• Building entries are proposed to be clearly identifiable by horizontal elements, awnings, paving and landscaping.<br>• Building entries are to be direct and legible from the street frontages and public pedestrian spine.<br>• Pedestrian and vehicle entries are separate. | |
| **4.2** | **PARKING** | **2_62** | | | | | |
| | Determine the appropriate car parking space requirements in relation to:<br>- The development's proximity to public transport, shopping and recreational facilities.<br>- The density of the development and the local area.<br>- The site's ability to accommodate car parking. This may be affected by other requirements, such as deep soil zones, water table, topography and size and shape of the lot.<br><br>Give preference to underground car parking, whenever possible.<br><br>Provide bicycle parking which is easily accessible from ground level and from apartments. | | | ✔ | Parking:<br>• Car parking is based on Ryde DCP 2010 controls and dependant on landuse/ apartment mix (based on a sample mix of 2600 apartments, a maximum of 4500 car parking spaces will be provided) | Parking:<br>• Total number of basement parking provided = 386. This is inclusive of 26 disabled parking spaces.<br>• Parking complies with Council's DCP requirement<br>• 22 Bicycle parking spaces have been provided in the basement level and is easily accessible from the apartments via lifts. | ✔ |
| **4.3** | **PEDESTRIAN ACCESS** | **2_64** | | | | | |
| | Identify the access requirements from the street or car | | ✔ | | Pedestrian access: | Pedestrian access: | ✔ |

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| | parking area to the department entrance.<br><br>Follow accessibility standard AS 1428 (Pt 1 & 2) as a minimum.<br><br>Provide barrier free access to at least 20 percent of dwellings in the development. | | | | • The Concept Plan requires the provision of clear legible pedestrian access through the site to provide access to the foreshore, public open spaces, public transport, communal areas, and development entries.<br>• New through-site pedestrian linkages are proposed. | • A new through site linkage is provided along the western boundary of Stage 1.<br>• Access to the central common area will be accessible.<br>• Adaptable apartments are included. Refer to Accessibility Report (Annexure 26). | |
| **4.4** | **VEHICLE ACCESS** | **2_65** | | | | | |
| | Generally limit the width of driveways to a max of 6m.<br><br>Locate vehicle entries away from main pedestrian entries and on secondary frontages. | | ✔ | | Vehicle access:<br>• The grid layout of the development provides buildings with multiple road frontages. | Vehicle access:<br>• Vehicular access is provided from Belmore Street. This will reduce vehicular movement along Rothesay Avenue where access is available to the foreshore.<br>• The driveway is 6m in width and will be softened by adjacent landscaping. | ✔ |
| | **PART 3 BUILDING DESIGN** | | | | | | |
| **5** | **BUILDING CONFIGURATION** | | | | | | |
| **5.1** | **APARTMENT LAYOUT** | **3_67** | | | | | |
| | Determine appropriate apartment sizes in relation to:<br>- Geographic location and market demands<br>- The spatial configuration of an apartment, not just its plan e.g. maisonette apartments are often small in sqm but have double-height living spaces.<br>- Affordability: a range of apartment sizes provides more choice for more people.<br><br>Ensure apartment layouts are resilient over time. Design issues to address may include:<br>- Accommodating a variety of furniture arrangements.<br>- Providing for a range of activities and privacy | | | ✔ | Apartment layout:<br>• A Market Assessment has been prepared that supports predominant residential use on site (Annexure 10).<br>• A mix of apartment sizes is provided to increase housing choice. | Apartment layout:<br>• A mix of apartment sizes is provided:<br>- 46 x 1 bed (19%)<br>- 169 x 2 bed (70%)<br>- 27 x 3 bed (11%)<br>• Rooms are designed for flexible use and layout.<br>• All apartments have balconies or terraces.<br>• Living spaces are orientated towards the primary outlook.<br>• Screening will be provided | ✔ |

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| | levels between different spaces within the apartment.<br>- Utilising flexible room sizes and proportions or open plans.<br>- Ensuring circulation by stairs, corridors and through rooms is planned as efficiently as possible thereby increasing the amount of floor space in rooms.<br><br>Design apartment layouts, which respond to the natural and built environments and optimise site opportunities by:<br>- Providing private open space in the form of a balcony, a terrace, a courtyard or a garden for every apartment.<br>- Orientating main living spaces toward the primary outlook and aspect and away from neighbouring noise sources or windows.<br>- Locating main living spaces adjacent to main private open space.<br>- Locating habitable rooms, and where possible kitchens and bathrooms, on the external face of the buildings thereby maximises the number of rooms with windows.<br>- Maximising opportunities to facilitate natural daylight.<br>- Avoid locating kitchen as part of main circulation spaces, such as a hallway or entry space.<br><br>Ensure apartment layouts and dimensions facilitate furniture removal and placement. | | | | | where necessary to maximise privacy.<br>• Natural ventilation and daylight access is provided where possible. Refer to the Solar Access and Natural Ventilation Assessment (Annexure 12). | |
| | In addition to kitchen cupboards and bedroom wardrobes, provide accessible storage facilities at the Following rates:<br>- studio apartments 6m3<br>- one-bedroom apartments 6m3<br>- two-bedroom apartments 8m3<br>- three plus bedroom apartments 10m3<br><br>Single aspect apartments should be limited in depth to 8m from a window.<br><br>The back of kitchen should be no more than 8m from a window. | | ✔ | | Apartment layout:<br>• Adequate storage facilities shall be provided to all apartments.<br>• Solar access to living spaces is to be maximised where possible.<br>• Apartment sizes are to comply with the minimum sizes provided by Affordable Housing Service. | Apartment layout:<br>• All apartments are provided with appropriate storage facilities (6 -10m3 per apartment).<br>• There are a number of single aspect apartments some of which exceed a depth of 8m from a window or contain kitchens more than 8m from windows. Refer to to Solar Access and Natural Ventilation Assessment | ✔ |

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| | The width of cross-over or cross-through apartments over 15m deep should by 4m or greater to avoid deep narrow apartment layouts.<br><br>Buildings not meeting minimum standards listed above must demonstrate how satisfactory daylight and ventilation can be achieved.<br><br>As a guide, the Affordable Housing Service suggest the following minimum apartment sizes:<br>- 1 bedroom apartment 50m2<br>- 2 bedroom apartment 70m2<br>- 3 bedroom apartment 95m2 | | | | | (Annexure 12).<br><br>• Apartment sizes exceed the minimum sizes outlined by the Affordable Housing Service. | |
| **5.2** | **APARTMENT MIX** | **3_70** | | | | | |
| | Provide a variety of apartment types.<br><br>Refine the appropriate apartment mix for a location by:<br>- Considering population trends in the future as well as present market demands.<br>- Noting the apartment's location in relation to public transport, public facilities, employment areas, schools and universities and retail centres.<br><br>Locate a mix of one and three bedroom apartments on the ground level where accessibility is more easily achieved for disabled, elderly people or families with children.<br><br>Optimise the number of accessible and adaptable apartments to cater for a wider range of occupants. Australian Standards are only a minimum.<br><br>Investigate the possibility of flexible apartment configurations, which support change in the future. | | | ✔ | Apartment mix:<br>• A Market Assessment has been prepared that supports predominant residential use on site (Annexure 10).<br>• Approximately 2400 - 2800 apartments between 60 to 115 sq.m for a unit mix of<br>- 10% 1 bed<br>- 75% 2 bed<br>- 15% 3 bed | Apartment mix:<br>• Provision of 10% adaptable units.<br>• Total apartments 242:<br>- 46 x 1 bed (19%)<br>- 169 x 2 bed (70%)<br>- 27 x 3 bed (11%) | ✔ |
| **5.3** | **BALCONIES** | **3_71** | | | | | |
| | Provide primary balconies for all apartments with a minimum depth of 2m. | | ✔ | | Balconies:<br>• All apartments shall be provided with balconies with | Balconies:<br>• Ground floor apartments are provided with terraces/ | ✔ |

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| | Require scale plans of balcony with furniture layout to confirm adequate, useable space when an alternate balcony depth is proposed. | | | | a minimum depth of 2m. | courtyards.<br>• All other apartments are provided with balconies with a minimum depth of 2m. | |
| **5.4** | **CEILING HEIGHTS** | **3_73** | | | | | |
| | Minimum recommended heights in residential flats or other residential floor of mixed use buildings measured from finished floor level (FFL) to finished ceiling level (FCL):<br>- 3.3m minimum for ground floor to promote future flexibility of use.<br>- 2.7m min for all habitable rooms, 2.4m preferred min for non-habitable rooms, however 2.25m permitted.<br>- For two storey units with a two storey void space, 2.4m min ceiling heights.<br>- Attic spaces 1.5m min wall height at edge of room with 30 degree min ceiling slope.<br><br>Developments which seek to vary the recommended ceiling heights must demonstrate that apartments will receive satisfactory daylight. | | ✔ | | Ceiling heights:<br>• Provide flexible spaces with higher ceilings on ground floors.<br>• 2.7m for all other floors with habitable rooms. | Ceiling heights:<br>• Ground floor ceiling height is 2.9m.<br>• Ceiling heights for all other floors with habitable rooms is 2.7m. | ✔ |
| **5.5** | **FLEXIBILITY** | **3_75** | | | | | |
| | Provide robust building configurations, which utilise multiple entries and circulation cores, especially in larger buildings over 15m long.<br>- Thin building cross sections, which are suitable for residential or commercial uses.<br>- A mix of apartment types.<br>- Higher ceilings in particular on the ground floor and first floor.<br>- Separate entries for the ground floor level and the upper levels.<br>- Sliding and/or movable wall systems.<br><br>Provide apartment layouts, which accommodate the changing use of rooms.<br><br>Utilise structural systems which support a degree of furniture change in building use or configuration<br><br>Promote accessibility and adaptability by ensuring: | | | ✔ | Flexibility:<br>• Provide flexible spaces with higher ceilings on ground floors.<br>• 10% of developments will be adaptable dwellings. | Flexibility:<br>• Ground floor ceiling heights are suitable for accommodating any future change of use.<br>• Refer to Accessibility Report (Annexure 26). | ✔ |

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| | - The number of accessible and visitable apartments is optimised.<br>- Adequate pedestrian mobility and access is provided. | | | | | | |
| **5.6** | **GROUND FLOOR APARTMENTS** | **3_77** | | | | | |
| | Optimise the number of ground floor apartments with separate entries and consider requiring an appropriate percentage of accessible units. This relates to the desired streetscape and topography of the site.<br><br>Provide ground floor apartments with access to private open space, preferably as a terrace or garden. | | ✔ | | Ground floor apartments:<br>• 10% of developments will be adaptable dwellings.<br>• Ground floor apartments will have separate terraces/ courtyards. | Ground floor apartments:<br>• Ground floor apartments have terraces/ courtyards directly accessible from living areas.<br>• Landscaping and fencing will be provided to provide privacy and safety requirements and to enhance the streetscape. | ✔ |
| **5.7** | **INTERNAL CIRCULATION** | **3_79** | | | | | |
| | In general where units are located off a double loaded corridor the number of units accessible from a single core should be limited to 8. | | ✔ | | Internal circulation:<br>• Building layouts will enable provision of multiple building entries and through site linkages to maximise circulation. | Internal circulation:<br>• Multiple entries are provided from adjoining streets and to the central communal space.<br>• Lifts are distributed throughout the building to improve circulation.<br>• Through site linkages are provided (north-south and east –west). | ✔ |
| **5.8** | **MIXED USE** | **3_80** | | | | | |
| | Choose a mix of uses that compliment and reinforce the charter, economics and function of the local area.<br><br>Choose compatible mix of uses. | | | ✔ | Mixed use:<br>• The Concept Plan comprises 250,000sq.m GFA residential + 10,000sq.m GFA commercial/ retail. | Mixed use:<br>• A new pedestrian spine along the western boundary of the site linked to a partially constructed (500sq.m pocket | ✔ |

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| | Consider building depth and form in relation to each use's requirements for servicing and amenity.<br><br>Design legible circulation systems, which ensure safety of users.<br><br>Ensure building positively contributes to public domain.<br><br>Design for acoustic privacy from the beginning of the project to ensure that future services, such as air conditioning, do not cause acoustic problems later.<br><br>Recognising the ownership /lease patterns and separating requirements for purposes of BCA for considerations. | | | | • Commercial/ retail uses will be provided in key locations such as activity nodes, particularly around the central foreshore plaza open space.<br>• Convenience retailing, cafes and the like will be encouraged in high use areas adjoining public open spaces.<br>• Mixed uses will activate public spaces, create a sense of place and draw people into the foreshore neighbourhood. | park). This space provides an important visual and physical link for the community through the Concept Plan site. | |
| **5.9** | **STORAGE** | **3_82** | | | | | |
| | In addition to kitchen cupboards and bedroom wardrobes, provide accessible storage facilities at the following rates:<br>- studio apartments 6m3<br>- one-bedroom apartments 6m3<br>- two -bedroom apartments 8m2<br>- three plus bedroom apartments 10m3 | | ✔ | | Storage:<br>• Adequate storage areas are to be provided to all apartments. | Storage:<br>• Storage has been provided in the apartments in the form of bedroom wardrobes, kitchen cupboards and laundry cupboards (6-10m3 per apartment).<br>• Additionally, storage has been designated to each apartment and provided in the basement carpark.<br>• Bicycle racks are also provided in the basement carpark. | ✔ |
| **6** | **BUILDING AMENITY** | | | | | | |
| **6.1** | **ACOUSTIC PRIVACY** | **3_83** | | | | | |
| | Utilise the site and building layout to maximise the potential for acoustic privacy by providing adequate building separation with the development and from neighbouring buildings. | | | ✔ | Acoustic privacy:<br>• Acoustic privacy is generally maintained by ensuring adequate separation between buildings. Habitable rooms are to be | Acoustic privacy:<br>• Stage 1 development does not adjoin any major roads.<br>• High use areas such as public open spaces and communal open spaces have been | ✔ |

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| | | | | | orientated away from each other.<br>• Development along Church Street and Constitution Road will be designed to mitigate acoustic impacts.<br>• Acoustic Assessments shall be prepared for each stage of development. | considered during the design.<br>• Internally, living and bedroom areas are separated and have regard to adjoining uses.<br>• Refer to Acoustic Report (submitted under separate cover). | |
| **6.2** | **DAYLIGHT ACCESS** | **3_84** | | | | | |
| | Living rooms and private open spaces for at least 70% of apartments in a development should receive a min 3 hours direct sunlight between 9am and 3pm in mid winter. In dense urban areas min. 2 hours may be acceptable.<br><br>Limit the number of single-aspect apartments with a southerly aspect to a maximum of 10% of total units. | | ✔ | | Daylight access:<br>• The Concept Plan site is south facing with topography sloping towards the south. The orientation places constraints on solar access. The internal grid arrangement of development provides a high level of permeability, through-site linkages and views. The built form creates internal open spaces and adequate building separation for natural daylight access, privacy and view sharing. | Daylight access:<br>• Refer to Shadow Diagrams (Annexure 2); Solar Access and Natural Ventilation Assessment (Annexure 12). | ✔ |
| **6.3** | **NATURAL VENTILATION** | **3_86** | | | | | |
| | Building depths which support natural ventilation typically range from 10-18m.<br><br>60% of residential units should be naturally cross ventilated.<br><br>25% of kitchens should have access to natural ventilation. | | ✔ | | Natural ventilation:<br>• Building layouts have been designed to maximise the number of apartments that will benefit from cross ventilation. | Natural ventilation:<br>• Refer to Solar Access and Natural Ventilation Assessment (Annexure 12). | ✔ |
| **7** | **BUILDING FORM** | | | | | | |

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| **7.1** | **AWNINGS AND SIGNAGE** | **3_88** | | | | | |
| | Awnings encourage pedestrian activity on streets.<br><br>Signage should be carefully considered and integrated into the development. | | | ✔ | Awnings and signage:<br>• Provision for awnings above retail/cafe areas.<br>• Provision for awnings above building entries.<br>• Provision for signage above retail/cafe areas. | Awnings and signage:<br>• Covered entries are provided to common entries and to the community/ commercial space.<br>• No signage is proposed at this stage. | ✔ |
| **7.2** | **FACADES** | **3_89** | | | | | |
| | Compose facades with appropriate scale, rhythm and proportion, which respond to building uses and contextual character.<br><br>Design facades to reflect the orientation of the site using elements such as sun shading, depending on orientation. | | | ✔ | Facades:<br>• Vertical and horizontal building elements, textures, materials and colours will be used to articulate building facades. | Facades:<br>• The materials, colours, finishes that are used in the development are of a very high standard and integrate with the emerging character of development in the area.<br>• The composition and articulation of the proposed building facades are of high quality and will contribute positively to the streetscapes. The balconies are arranged to provide visual interest. Elements such as sun shading louvers and balustrades add interest to the overall massing of the building.<br>• The façade is detailed in layers, breaking down the overall height of the building to establish a relationship of human scale between the public open space and the building. | ✔ |
| **7.3** | **ROOF DESIGN** | **3_91** | | | | | |
| | Relate roof design to the desired built form.<br><br>Design the roof to relate to the size and scale of the | | | ✔ | Roof design:<br>• Roof design is to consider views from the Parramatta | Roof design:<br>• The stepped roof design responds to topography, | ✔ |

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| | building.<br><br>Design roofs to respond to the orientation of the site, for example by using eaves and skillion roofs to respond to sun access.<br><br>Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.<br><br>Support the use of roofs for quality open space in denser urban areas by<br>- Providing space and appropriate building systems to support the desired landscape design.<br>- Incorporating shade structures and wind screens to encourage open space use.<br><br>Ensuring open space is accessible. | | | | River, views from existing and future development and solar access. | solar access and view access.<br>• Pop-up elements are provided to add visual interest. | |
| **8** | **BUILDING PERFORMANCE** | | | | | | |
| **8.1** | **ENERGY EFFICIENCY** | **3_93** | | | | | |
| | Incorporate passive solar design techniques to optimise heat storage in winter and heat transfer in summer by:<br>- Maximising thermal mass in floor & walls in northern rooms.<br>- Hard floor finishes instead of carpet.<br>- Limiting number of single aspect apartments with southerly aspect to max 10%.<br>- Insulating roof/ceiling to R2.0, external walls to R1.0 and floor including separation from basement parking to R1.0.<br><br>Improve control of mechanical space heating & cooling by:<br>- Designing apartments so that entries open into lobbies or vestibules and are isolated from living areas by doorways. | | | ✔ | Energy efficiency:<br>• Shadow Diagrams and BASIX Certificates will be provided for each stage of development.<br>• Energy efficient appliances and efficient hot water systems will be provided to minimise energy consumption. | Energy efficiency:<br>• Refer to Shadow Diagrams (Annexure 2); Solar Access and Natural Ventilation Assessment (Annexure 12); ESD guidelines and Report (Annexure 14); and BASIX Certificates (Annexure 15).<br>• Most apartments offer cross ventilation.<br>• Tinted glazing, slab projections and louvre screens have been provided where required.<br>• Metal deck roof is insulated to achieve required thermal comfort and reduce heat loads. | ✔ |

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| | Provide or plan for future installation of photovoltaic panels.<br><br>Improve efficiency of hot water systems.<br><br>Reduce reliance on artificial lighting.<br><br>Maximise the efficiency of household appliances. | | | | | • Energy efficient appliances are to be installed.<br>• Gas instantaneous (solar boosted) hot water systems will be provided to all apartments. | |
| **8.2** | **MAINTENANCE** | **3_95** | | | | | |
| | Select manually operated systems, such as blinds, sunshades, pergolas and curtains in preference to mechanical systems. | | | ✔ | Maintenance:<br>• Selection of low maintenance building materials. | Maintenance:<br>• Materials selected are durable and low maintenance.<br>• The majority of windows are accessible directly from balconies for cleaning. | ✔ |
| **8.3** | **WASTE MANAGEMENT** | **3_96** | | | | | |
| | Incorporate existing built elements into new work, where possible.<br><br>Provide every dwelling with a waste cupboard or temporary storage area of sufficient size to hold a single days waste and enable source separation Supply waste management plan with DA. | | ✔ | ✔ | Waste management:<br>• Prepare Waste Management Plans for each stage of development.<br>• Provide adequate waste storage cupboards for each apartment. | Waste management:<br>• Refer to Waste Management Plan (Annexure 27). The WMP includes:<br>- Recycling and reuse of building materials.<br>- Dedicated waste and recycling areas in basement carpark.<br>• Each apartment is provided with cupboards suitable for accommodating daily waste storage. | ✔ |
| **8.4** | **WATER CONSERVATION** | **3_97** | | | | | |
| | Rainwater is not to be collected from roofs coated with lead – or bitumen based paints, or from asbestos-cement roofs. Normal guttering is sufficient for water collections provided that it is kept clear of leaves and debris. | | ✔ | | Water efficiency :<br>• AAA (or higher) rated shower heads and basin outlets are proposed.<br>• Roof rainwater will be | Water efficiency:<br>• Refer to BASIX certificates (Annexure 15).<br>• AAA (or higher) rated shower heads and basin outlets are | ✔ |

| ITEM NO. | ITEM | PART/ PAGE | RULES OF THUMB | BETTER DESIGN PRACTICE | NOTES | | PROPOSAL COMPLIANT |
|---|---|---|---|---|---|---|---|
| | | | | | CONCEPT MASTER PLAN | STAGE 1 | |
| | | | PROPOSED FEATURE | PROPOSED FEATURE | | | |
| | | | | | collected and stored in rainwater tanks across the site and reused for irrigation of t6he landscaped areas, laundries, toilets and car wash bays.<br>• Predominant use of native species. | proposed.<br>• Roof rainwater will be collected and stored in rainwater tanks across the site and reused for irrigation of t6he landscaped areas, laundries, toilets and car wash bays.<br>• Predominant use of native species (70%). | |