



D. INDICATIVE DEVELOPMENT STAGES

SHEPHERDS BAY URBAN RENEWAL

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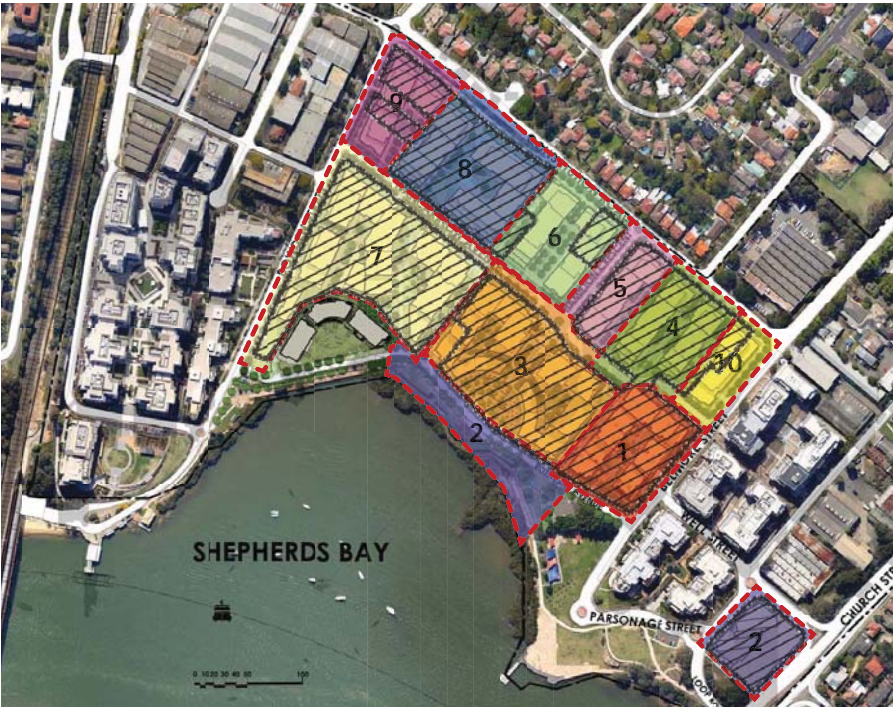


FIGURE 50. STAGING PLAN

45. STAGE 1

The Stage 1 Project site is known as 39-41 Belmore Street, Ryde and has an area of 9,750 sq.m. It is located in the south east portion of the main site bounded by Rothesay Avenue to the south and Belmore Street to the east. The site is directly opposite the 'Bay One' development and fronts the existing foreshore reserve.

Stage 1 is the subject site for the Stage 1 Project Application.

The Stage 1 Project involves construction of two new 5-9 storey residential buildings that step down towards the foreshore. The position of this precinct close to the foreshore has influenced the design with development orientated towards the open space and foreshore. Stage 1 also comprises construction of part of a new 500 sq.m public pocket park and pedestrian corridor to the water to be dedicated to Council.

46. STAGE 2

Stage 2 is the 'signature site' to the south-west of the main site and adjoins the new 'Bay One' residential development. The site has an area of 13,060 sq.m and is bounded by Well Street to the north, Loop Road to the west and south and Church Street to the east.

The precinct will contain two tower buildings of 16 and 18 storeys respectively, above a commercial podium orientated towards the adjoining waterfront reserve. The design objective for this development

44. INDICATIVE STAGING

At the request of the Director General, the Concept Plan site has been divided into ten (10) indicative development stages.

Accordingly an indicative Staging Plan has been developed. Approval of this staging is not sought as part of the subject applications, with the exception of the Stage 1 being the first stage in the redevelopment. The Staging Plan is included for information only.

As the Concept Plan is the overarching master plan for staged future development of the Shepherd's Bay site it is considered inappropriate to provide detailed architectural resolution of each site as the redevelopment of the whole site could take ten to fifteen years to complete. The Concept Plan Application does not seek approval to construct. It does however, provide guidance on building typologies, heights setbacks, parking rates and future developments will be required to also be designed to be consistent with SEPP 65 Design Principles, BASIX and future versions of these. Detailed architectural plans are provided for the Stage 1 Project as it is an application to construct that development.



FIGURE 51. STAGE 1

parcel is to create a high quality signature building to announce the development at its entry point close to Church Street and the Ryde Bridge. It is intended that the lower levels of buildings on this site be used for commercial or community uses to activate the development at ground level and minimise noise impacts from Church Street on future residents of the development.

The identified building envelope includes a significant setback of the residential towers from the Church Street boundary to minimise noise impacts in accordance with the Australian Standards and the Department's Interim Guidelines for Development near Rail Corridors and Busy Roads.

This Stage also includes the completion of the landscape works along the foreshore reserve, including completion of pedestrian, cycle and vehicular links to Bowden Street.

47. STAGE 3

The Stage 3 site is located in the centre of the Concept Plan area adjacent to the foreshore reserve. It has an area of 17,970 sq.m.

This development parcel will form the main activity centre and gateway to the development from the waterfront. The precinct is intended to contain residential dwellings above commercial and retail development fronting a large (2,000 sq.m) public plaza abutting the foreshore reserve to be dedicated to Council. The new foreshore park and central spine is to be provided to define the 'active heart of the development'.

Stage 3 comprises building envelopes for residential development that step up away from the water from 4 to 8 storeys with two 12 storey towers included in the central portion of the site to articulate the built forms vertically and create of a sense of place at the central spine of the new living area of Shepherd's Bay.

48. STAGE 4

The Stage 4 is located in the northwest portion of the site fronting Constitution Road opposite its intersection with Gale Street. It has an area of 9,110 sq.m.

Stage 4 comprises building envelopes for residential development with buildings setback from Constitution Road to respect the lower density residential development and school opposite. Building heights and forms have been stepped at the Nancarrow Avenue frontage to maximise sunlight access to the public street and parklands to the south. Nancarrow Avenue extension creates a new public road.



FIGURE 52. STAGE 2



FIGURE 53. STAGE 3



FIGURE 54. STAGE 4

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This stage incorporates a new public upper parkland and pedestrian connection to Nancarrow Avenue to be dedicated to Council.

49. STAGE 5

Stage 5 is 6,100 sq.m. and is located in the north-west portion of the site fronting Constitution Road.

Stage 5 comprises building envelopes for residential development with buildings setback from Constitution Road to respect the lower density residential development opposite.

This stage encompasses the upgrading of Hamilton Crescent to form the main vehicular entry to the new development area.



FIGURE 55 STAGE 5

50. STAGE 6

Stage 6 is located in the centre of the site bordering across Hamilton Avenue from Stage 5 fronting Constitution Road. Stage 6 has an area of 9,165 sq.m.

Stage 6 comprises building envelopes for residential development oriented around a central communal open space. Similar to all proposed building forms in the Concept Plan along Constitution Road, buildings are to be setback and heights stepped to respect residential development opposite.

This Stage also incorporates a new pedestrian parkland dedicated to Council linking to Nancarrow Avenue.



FIGURE 56. STAGE 6

51. STAGE 7

Stage 7 is located in the south-west portion of the site and is bounded by Nancarrow Avenue to the north, Bowden Street to the west and the 146 Bowden Street development site to the south. This development parcel is 21,280 sq.m. and contains part of the overland flow path for this part of Meadowbank. This development parcel is located close to both the railway station and ferry wharf.

Similar to the proposed building forms in the Concept Plan along Constitution Road, it is proposed that buildings be setback from the street frontages with an additional 'pop up' storey set further back from the main building lines to maximise solar access to public areas and apartments and provide an open streetscape.

The Stage 7 development parcel will include an upper portion of the 'riparian' park dedicated to Council, providing a new pedestrian link between Nancarrow Avenue and the foreshore reserve. This parkland will also contain an additional open space dedicated to Council which will contain an orange grove as a



FIGURE 57. STAGE 7

heritage interpretive element reminiscent of the former orchards on the site.

52. STAGE 8

This Stage is located on Constitution Road, mid block between Bowden Street and Hamilton Crescent. This development parcel is 13,000 sq.m and also contains the upper part of the overland flow path for this part of Meadowbank.

Stage 8 comprises building envelopes for residential development oriented towards the central public parkland and communal open spaces. Similar to all proposed building forms in the Concept Plan along Constitution Road, buildings are to be setback and heights stepped to respect residential development opposite.

The Stage 8 development parcel will include a dedicated parkland to form the upper riparian park, providing a new pedestrian link between Constitution Road and Nancarrow Avenue and then on to the foreshore reserve.



FIGURE 58. STAGE 8

53. STAGE 9

Stage 9 is located in the north east corner of the site at the corner of Constitution Road and Belmore Street. It has an area of 7,160 sq.m. This is the north western gateway to the new development area.

Stage 9 comprises building envelopes for residential development oriented towards the central communal open spaces and street frontages. Similar to all proposed building forms in the Concept Plan along Constitution Road and Bowden Street, buildings are to be setback and heights stepped to respect residential development opposite.

Building envelopes have been deliberately setback from the Bowden Street/ Constitution Road corner of the site to enable provision of a public art/landscaped entry statement in this location.



FIGURE 59. STAGE 9

54. STAGE 10

Stage 10 is 4,680 sq.m and is located in the north-east portion of the site on the corner of Belmore Street and Constitution Road.

Similar to all proposed building forms in the Concept Plan along Constitution Road, buildings are to be setback and heights stepped back from both street frontages to respect residential development opposite, maximise sunlight access to public spaces and neighbouring residences and enhancement of road reserve.



FIGURE 60. STAGE 10



E. STAGE 1 PROJECT

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55. INTRODUCTION

The Stage 1 Project Application site is known as 39 and 41 Belmore Street, Ryde and is legally defined as Lot 1 DP 384185 and Lot 1 DP 1072555. The site is located in Stage 1 in the south-eastern portion of the main site. It has frontage to Belmore Street to the east, Rothesay Avenue to the south and Hamilton Crescent to the north.

The Stage 1 Project has been designed to support and comply with the Concept Plan. Specifically the Stage 1 Project Application seeks approval for:

Subdivision

- Consolidation of Lot 1 DP 384185 and Lot 1 DP 1072555
- Excision by subdivision of a portion of existing Lot 1 DP 1072555 for dedication to Council to enable the future connection of Nancarrow Road through to Belmore Street
- Subdivision of a portion of Lot 1 DP 1072555
- Strata subdivision of development parcel

Demolition and Construction

- Demolition and removal of the existing Energy Australia substation on Lot 1 in 384185, known as No.39 Belmore Street
- Removal of all existing buildings. Demolition of the building on No.41 Belmore Street has approval under the commenced Development Consent (No. 1244/2002)
- Construction of two (attached) residential buildings ranging between 5 and 9 storeys in height
- The proposed height of the buildings is 5 storeys at the Belmore Street frontage with taller building elements setback from the main building line to maximise solar access to the public domain
- Construction of 637 sq.m. commercial/ community space off the pedestrian spine
- 242 apartments (comprised of 19% 1 bed, 70% 2 bed and 11% 3 bed)
- 386 car parking spaces including 26 disabled spaces in a three level basement carpark accessed from Belmore Street
- Landscaping and public open spaces dedication of 500 sq.m of land to Council forming part of the lower pedestrian spine and pocket park
- Landscaping including deep soil planting
- Infrastructure, stormwater and utility works
- Communal open space in a central courtyard and public open space around the perimeter of the site (including perimeter planting and public footpaths)
- Private courtyards provided at ground level and balconies to upper floors



FIGURE 61. STAGE 1 BUILDING FOOTPRINT PLAN

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56. DRAWING SCHEDULE

Drawings for Stage 1 are outlined in **Table 6** below.

Table 6. Drawing Schedule

No.	Dwg No.	Description	Date	Rev.	Author	Annexure
1	A101	Basement Plan	12 Nov 2010	C	Robertson + Marks Architects	2
2	A102	Precinct 1 Upper Basement Plan	12 Nov 2010	C	Robertson + Marks Architects	2
3	A103	Precinct 1 Lower Ground Floor Plan	12 Nov 2010	D	Robertson + Marks Architects	2
4	A104	Ground Floor Plan	12 Nov 2010	D	Robertson + Marks Architects	2
5	A105	Level 1 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
6	A106	Level 2 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
7	A107	Level 3 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
8	A108	Level 4 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
9	A109	Level 5 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
10	A110	Level 6 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
11	A111	Level 7 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
12	A112	Level 8 Floor Plan	12 Nov 2010	C	Robertson + Marks Architects	2
13	A113	Roof Plan	12 Nov 2010	C	Robertson + Marks Architects	2
14	A114	Rothesay Avenue & Belmore Street Elevation	12 Nov 2010	C	Robertson + Marks Architects	2
15	A115	Hamilton Crescent & Commercial Street Elevation	12 Nov 2010	C	Robertson + Marks Architects	2
16	A116	Sections A-B	12 Nov 2010	C	Robertson + Marks Architects	2
17	A117	Sections C-D	12 Nov 2010	C	Robertson + Marks Architects	2
18	A118	Existing Boundaries	13 Oct 2010	B	Robertson + Marks Architects	2
19	A119	New Boundaries	13 Oct 2010	B	Robertson + Marks Architects	2
20	A120	Shadow Diagrams Sheet 1	12 Nov 2010	B	Robertson + Marks Architects	2
21	A121	Shadow Diagrams Sheet 2	12 Nov 2010	B	Robertson + Marks Architects	2

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57. STAGE 1 PROJECT DESIGN PHILOSOPHY

The Stage 1 Project development supports the vision and development parameters established in the Concept Plan.

As detailed by Roberston + Marks Architects in the SEPP 65 Assessment at **Annexure 9**, the Stage 1 Project design has been informed and responds to the emerging character of Shepherds Bay, the LEP objectives , recently constructed adjacent residential development, solar access, cross ventilation, parklands adjoining the site, extensive water views towards the south, south-west and south-east of the site, and its location fronting the Parramatta River foreshore reserve.

The development will include part of a new public pocket park at the western termination of Nancarrow Avenue and part of a new pedestrian walkway will connect the pocket park down to the existing foreshore park. These new public areas will be dedicated to Council and will provide enhanced amenity not only for the Stage 1 development but also for the wider community.

The proposed development form is a perimeter block ‘U’ shaped primarily residential building above basement car parking, 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 from Rothesay Avenue to retain the large existing trees along the southern boundary and within Anderson Park. Building bulk is stepped up away from Belmore Street to retain a similar presentation to the street as the ‘Bay One’ development opposite and ensure a human scale in the street.

The building disposition on the site allows retention of the existing view corridor down Belmore Street and the creation of a new view corridor from upper west end of the development adjoining Nancarrow Avenue down to the water.

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.

To minimize the use of energy, most of the apartments offer cross ventilation (dual aspect). Where possible the number of units with solar access is maximized.

Proposed public and communal open spaces are to be landscaped to integrate with the overall landscape themes of the Concept Plan site. Balconies are

designed to overlook all sides of the development promoting passive surveillance of the spaces below.

The proposal provides a range of apartment types and sizes that provides a range of choice in terms of affordability.

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.

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 façades of the buildings as viewed from the public domain.

Car parking has been provided based on the DCP car parking rates for sites with good access to public transport. The majority of visitor parking spaces provided within the basement car park (9 provided on adjoining street front in Belmore Street and Rothesay Avenue). Visitors will enter the car park via a security controlled access system activated by residents from their units.

On site parking rates have been kept to a sustainable minimum as requested in the DGR’s. For further discussion of proposed Stage 1 car parking provision refer **Annexure 6**.

58. DEVELOPMENT STATISTICS

A summary of the development statistics is provided below:

- Total GFA: 23,365 sq.m
- Total public open space: 500 sqm
- Communal open space: 560 sqm (upper) + 700 sq.m (lower)
- Private balconies or terraces to each apartment
- Storage 6-10 m³ per apartment
- Parking: 386 spaces (including 26 disabled spaces)
- Bike storage (22 spaces)
- Total apartments: 242
- Apartment mix:
 - 46 x 1 bed 19%
 - 169 x 2 bed 70%
 - 27 x 3 bed 11%
- Adaptable dwellings 10%
- Employment (approximately 400 construction jobs and 1-4 operational jobs)

59. PROPOSED LAND USES

59.1 Residential

The Stage 1 development comprises a 5 to 9 storey stepped residential development containing 242 apartments. A mix of apartment sizes has been provided and will include two studio apartments.

Table 7. Stage 1 Apartment Mix and Size Summary			
	Number	Unit Mix	Average Unit Size
Bed 1	46	19%	60
Bed 2	169	70%	88
Bed 3	27	11%	115

59.2 Open Space

Communal Open Space

A central communal space is proposed to facilitate community interaction. The communal space will comprise landscaping, paving, lighting and water features. The high quality space will be an attractive informal space for residents to interact. The water features will create a visual linkage to Parramatta River. This space will be overlooked by apartment terraces and balconies which will maximise opportunities for passive surveillance.

Public Open Spaces

A significant portion of the new public pedestrian spine along the western boundary of the site linked to a partially constructed public pocket park will be constructed as part of the Stage 1 Project development. This will be a public space and will provide an important physical and visual corridor for the community through the Concept Plan site. Public domain areas will also be landscaped around the perimeter of the site.

59.3 Interface with Foreshore Area

The foreshore is an important part of the Meadowbank neighbourhood. Opposite the Stage 1 site is Anderson Park which contains several mature figs. An attractive landscaped edge is proposed to be provided along the southern boundary of the site. The generous setbacks and stepped ‘u-shape’ design of the building with a central communal open space will ensure the development appropriately addresses and respects this important public domain area. Building articulation and elements will create an attractive and interesting façade to the foreshore area.

60. BUILDING FORM

60.1 Heights (finished levels), Setbacks, Building Depths and Separations

The Stage 1 buildings will range in height from 5 to 9 storeys above the new reshaped topography ground plane and comply with the Concept Plan setback and Height Maps.

Lower building heights have been provided at the Belmore Street frontage and on the southern façade facing Shepherds Bay and Anderson Park. The lower building heights along these edges break up the building bulk, integrate the development with the scale of the adjoining development and ensure the building maintains a human scale at the interface with the streetscape and park.

60.2 Overshadowing and Building Orientation

As detailed on the Shadow Diagrams at **Annexure 2**, the south-west orientation and topography of the Stage 1 site creates significant constraints on solar access to the development. The building footprints and heights have been designed to create pleasant open spaces, good permeability, linkages and views. Whilst not all apartments receive full solar access a redesign would result in loss of these other benefits. The siting of the proposed building in a ‘U’ shape configuration will result in significant permeability benefits and provide views to many apartments. The design of the buildings include skylights to increase solar access to top floor units.

Consideration of impacts on adjacent private and public domain areas was given during the design and the stepped height of the building between 5 and 9 storeys will minimise overshadowing impacts on these areas. A Solar Access assessment is attached at **Annexure 12**.

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60.3 Floor by Floor Description

The Stage 1 development comprises 242 apartments with associated balconies, terraces, a ground floor commercial/community space, car parking and a central communal space.

A floor by floor description is provided below.

Table 8. Proposed Stage 1 Apartment Numbers

	1 bed	2 bed	3 bed	TOTAL
Upper Basement	2	7	1	10
Lower Ground Floor	2	19	1	22
Ground Floor	6	27	1	34
Level 1	6	26	2	34
Level 2	6	25	3	34
Level 3	6	24	3	33
Level 4	6	18	4	28
Level 5	4	12	3	19
Level 6	4	9	3	16
Level 7	2	1	3	6
Level 8	2	1	3	6
TOTAL	46	169	27	242
APARTMENT MIX	19.0%	79.8%	11.4%	100.0%

60.4 Building Articulation

Images, sketches or something to illustrate interesting, articulated facades and roof forms. Building articulation will consist of variations in materials, building elements such as balconies and roof form.

60.5 Ceiling Heights

Higher ceilings will be provided to ground floor spaces to facilitate any future change of use.

60.6 Storage

General storage is to be in accordance with SEPP 65 'rule of thumb' (studio: 6m³, 1bed: 6m³, 2bed: 8m³, 3bed: 10m³).

60.7 Adaptable Dwellings

Approximately 10% of the development will comprise adaptable apartments. 26 disabled parking spaces will be provided and access paths to the communal space will be suitable for disabled access.

60.8 Affordable Housing

A mix of apartment sizes will be provided. The increased housing supply in the area and proposed apartment mix will ease affordable housing issues in the area.

60.9 Materials and Finishes

Materials and finishes will be sympathetic with the recent adjoining residential development but vary to provide individuality and identity to the development.

A Sample Board of materials and finishes has been submitted as part of this application, refer to sample board accompanying this application.

61. PRIVATE, COMMUNAL AND PUBLIC OPEN SPACES

Landscape Plans and Design Report prepared by PLACE Design Group, September 2010 are attached as Annexure 13. A summary of proposed landscape works is provided below.

61.1 Landscape Design

The Stage 1 Landscape Plan has two distinct spaces - the internal courtyard and the external spaces which comprises part of the new a public pocket park, pedestrian link and street front areas of the development.

61.2 Public Open Spaces

The public pocket park on the western side of the site is dictated by level changes and the linearity of the space. The northern end of the linear park is the highest end of the park and it provides densely planted terraced walls and shaded seating. Water connects through the park and in turn creates a visual connection to the Parramatta River. At the lower level of the park is a space has been cleared to serve as break out spaces for potential future commercial development included in the indicative Stage 3 development.

61.3 Communal Open Spaces

The internal courtyard is split level with an upper and lower level, both enjoying views over the Parramatta River. The upper level is designed to be a tranquil space with large shade trees and soft bubbling water jets. The lower level is more energetic with a 3.2m water cascade. Both spaces are easily accessible via a light weight central staircase that expands over the water body.

61.4 Private Open Spaces

Terraces and balconies are provided to all upper floor apartments whilst ground floor apartments will have courtyards. The courtyards will be provided with fences and movable screening. Landscape buffers will be provided between private and public areas.

61.5 Planting Zones

Trees are proposed in the communal courtyard, public pocket park and street planing. These trees balance the vertical scale of the development, provide shade and aesthetic and environmental benefits.



FIGURE 62. STAGE 1 LANDSCAPE PLAN

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61.6 Road Layouts

The streetscape treatment has given consideration to the existing streetscape, recent improvements to nearby streets and the location of the corner site adjacent to the foreshore. Belmore Street treatment comprises planting to buffer and screen the development and to provide privacy to the ground floor apartments. The existing street trees along Rothesay Avenue will be retained and will be integrated with new commercial plaza trees on the western portion of the Stage 1 street frontage.

61.7 Pedestrian Access and Linkages

Pedestrian access is provided around the perimeter of the development with multiple at grade access points to the public domain. The public park is designed to lead people to the water with pedestrian access running north-south. Hamilton Crescent is 6m above the pedestrian circulation for Stage 1. Terraced walls with dense shrub planting and trees are proposed to soften the vertical elements and create a green backdrop to the pocket park. A canopy walk amongst the tree foliage is proposed to connect the street footpath in Hamilton Crescent to the Stage 1 building.

61.8 Bicycle Access and Linkages

Bicycle racks will be provided in the lower area of the public domain. In addition, bicycle cages for residents will also be provided within the buildings carpark.

61.9 Riparian Environment and Habitat Protection

The Stage 1 site although adjacent to the Parramatta River it is separated from the riparian environment by Anderson Park and Rothesay Avenue. Based on the findings of the Flora and Fauna Assessment by LesryK Environmental Consultants and the City of Ryde’s list of preferred species, native and locally occurring plant species were selected and consideration was given to their aesthetic attributes and functionality. The planting for Stage 1 is consistent with the Planting Palette for the Concept Plan which was informed by Council’s Public Domain Manual.

62. ACCESS AND PARKING

62.1 Car, Motor Bike and Cycle Parking and Access

Access to the Stage 1 development will be provided from Belmore Street. Three levels of underground parking are proposed and a total of 386 car parking spaces will be provided including 26 disabled spaces. Bicycle cages are proposed in the building’s car park and will accommodate 22 bicycles.

62.2 Loading and Emergency Access

Emergency vehicle access is from the surrounding streets Rothesay Avenue, Nancarrow Avenue (east), Belmore Street and Hamilton Crescent. The strata management plan will address loading protocols.

As Stage 1 does not contain any commercial uses loading and unloading to the residential uses is proposed to be from the adjacent kerbsides in Rothesay Avenue and Belmore Street. In this regard, the Proponent is prepared to enter discussions with Ryde Council to provide a time shared loading/parking space in front of the development in Rothesay Avenue.

Table 9. Proposed Stage 1 Car Parking

Available Car Parking	
Basement	210
Upper Basement	119
Lower Ground Floor	57
TOTAL	386

Table 10. Proposed Car Parking Allocation

43 X 1 bed apts.	43 (1:1)
166 X 2 bed apts.	233 (1:1.4)
27 X 3 bed apts.	43 (1:1.6)
TOTAL RESIDENT	319
Visitors	59 (@ 25%)
TOTAL	378

Note: 26 disabled car parking spaces are proposed. Additionally, 22 bicycle spaces will be provided in the basement plus bicycle racks also within the public pedestrian link park.

63. ESSENTIAL SERVICES AND INFRASTRUCTURE

Proposed stormwater management for the site has been designed to improve the existing stormwater system, reduce run off and associated impacts on Shepherds Bay and incorporate rainwater recycling. Refer to Integrated Water Management Plans at **Annexure 17**.

Preliminary investigations and discussions by Floth Sustainable Building Consultants with relevant service providers indicated that the site can be provided with utility services from existing infrastructure with system augmentation. Refer to the Services Infrastructure Report attached as **Annexure 20**.

64. GEOTECHNICAL STABILITY AND CONTAMINATION

The Stage 1 Project Application seeks approval to carry out localised filling of the site to provide accessible entries to buildings, new public accessways and pocket park and future connections to the upper areas of the Concept Plan site. A Geotechnical Assessment was prepared for the existing development approval on the Stage 1 site.

A further Preliminary Geotechnical and Groundwater Assessment was undertaken by Douglas Partners in July 2010, refer **Annexure 19**.

The Stage 1 project development will adopt the relevant Conditions of Development Consent for excavation works and any potential remediation works.

If remediation works are required in accordance with the previous development approval, a Remedial Action Plan (RAP) will be prepared. A Site Validation Report and a Site Audit Statement will be prepared upon completion of works and submitted to Council.

65. RESIDENTIAL AMENITY

65.1 Visual Privacy

The development has been designed to orientate living areas towards the water where possible with suitable screening included to protect privacy between adjacent dwellings.

65.2 Acoustic Privacy

An Acoustic Assessment Report is found at **Annexure 28**.

65.3 Daylight Access

The Stage 1 site is south facing with topography sloping towards the south. The orientation of the site places constraints on solar access. The layout and siting of the buildings has been designed to increase permeability, through-site linkages and views. Buildings have been orientated to maximise solar access to open spaces (public and private) and living areas of apartments where possible.

65.4 Wind

The orientation of the site and location adjacent to a waterway will result in exposure to winds. Winds from the south-west and north-west have been considered in the planning of the development.

65.5 Safety and Security

The Stage 1 development has incorporated Crime Prevention through Environmental Design (CPTED) principles and strategies to minimise risk. Refer to the Crime Risk Assessment Report prepared by PLACE Design Group at **Annexure 7** for further details.

65.6 Construction Management

A Construction Management Plan will be prepared for the development.

66. SUSTAINABILITY

66.1 Building Performance BASIX

The proposed development has been designed to maximise natural heating and cooling to reduce energy consumption. The apartments will be fitted with water efficient fixtures and rainwater will be captured and reused on-site. Refer to **Annexure 15**.

66.2 Waste Management

A Waste Management Plan (WMP) is attached at **Annexure 27**.

66.3 Section 94 Contributions

A Voluntary Planning Agreement (VPA) will be prepared for the development in consultation with Council and the Department of Planning outlining the proponent’s contributions and community benefits.

66.4 BCA and Fire Safety

A report prepared by a BCA consultant attached at **Annexure 25** indicates that the building work proposed as part of Stage 1 will comply with the Building Code of Australia 2010.