

Appendix 3.2.5(a) Development Location

Sydney CBD
12 kms

Drummoyne

North Ryde

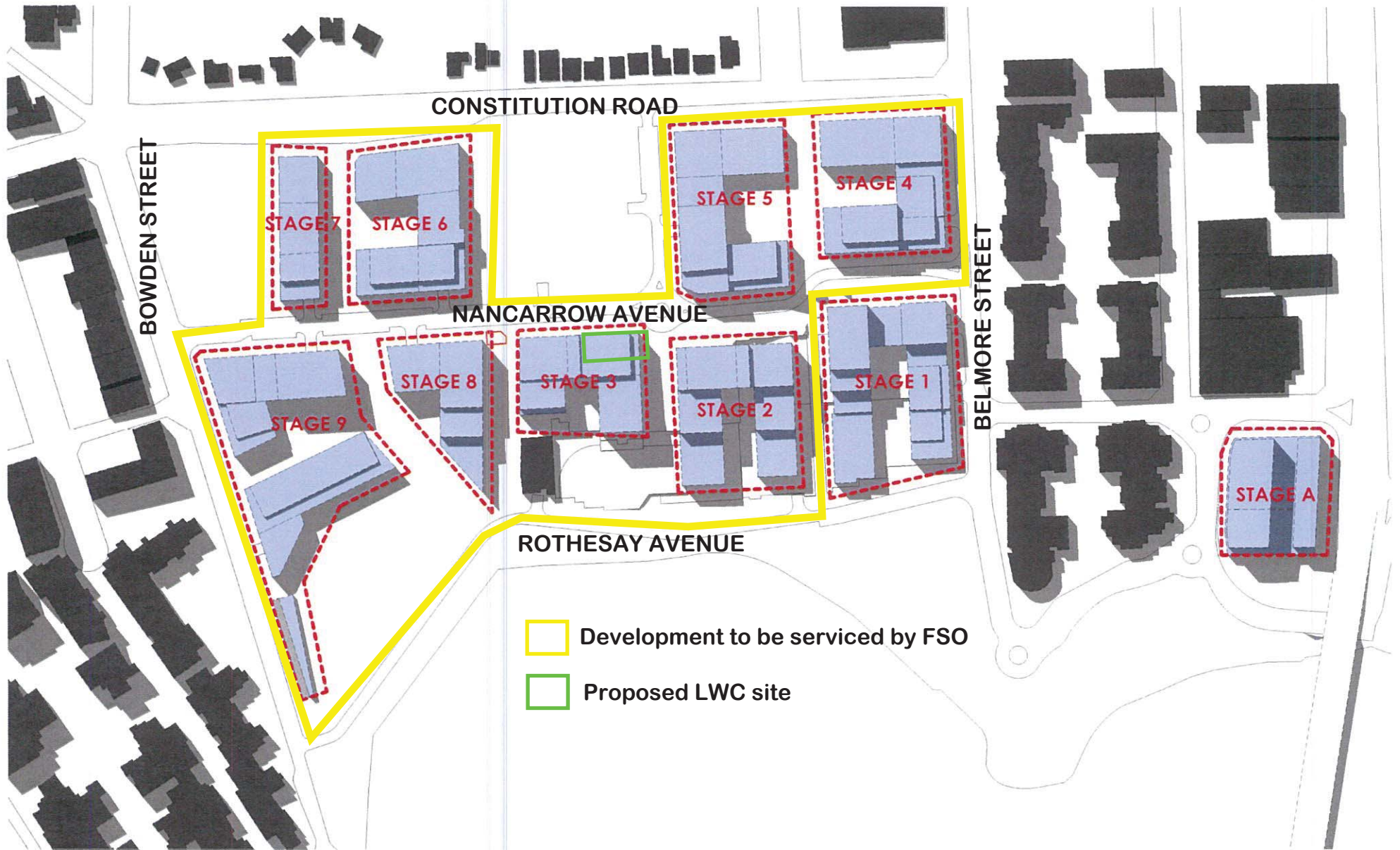
SHEPHERDS BAY
MEADOWBANK



Parramatta River

- Food
- Education
- Parks
- Retail
- Sport
- Transport



Appendix 3.2.5(b) Development Masterplan and LWC Site



-  Development to be serviced by FSO
-  Proposed LWC site

SHEPHERDS BAY DEVELOPMENT MASTERPLAN



Local Water Centre

Future Stage

Kingston Quarter

Kingston Quarter

Kingston Quarter

Future Stage

Crewman

The Row

Harvard

Oxford

Future Stage

JAMES ST

GHEESY AVE

Appendix 3.2.5(c) Proposed Development Staging

CONSTITUTION ROAD

STAGE 7

STAGE 6

STAGE 5

STAGE 4

NANCARROW AVENUE

STAGE 9

STAGE 8

STAGE 3

STAGE 2

STAGE 1

ROTHESAY AVENUE



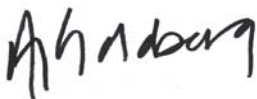
Appendix 3.5.1(a) Development Concept Approval

Concept Approval

Section 75O of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure under delegation executed on 14 September 2011, the Planning Assessment Commission of New South Wales (the Commission) determines:

- (a) to approve the concept plan referred to in Schedule 1, subject to the terms of approval in Schedule 2 and the Proponent's Revised Statement of Commitments in Schedule 4, pursuant to Section 75O of the *Environmental Planning and Assessment Act 1979*; and
- (b) that pursuant to section 75P(1)(a) of the *Environmental Planning and Assessment Act 1979*, further environmental assessment requirements for approval to carry out the development as set out in Schedule 3 are required.



Abigail Goldberg
Member of the Commission



Donna Campbell
Member of the Commission



Garry Payne AM
Member of the Commission

Sydney

6 March 2013

SCHEDULE 1

PART A: PARTICULARS

- Application No.:** MP09_0216
- Proponent:** Holdmark Property Group
- Approval Authority:** Minister for Planning & Infrastructure
- Land:**
- 41 Belmore Street, Ryde (Lot 1 DP 1072555);
 - 116 Bowden Street, Meadowbank (Lot 2 DP 792836);
 - 118-122 Bowden Street, Meadowbank (Lot 102, DP 1037638);
 - 2 Constitution Road and 7-9 Hamilton Crescent, Ryde (Lot 2, DP 550006 and Lots 1-2, DP 982743);
 - 4-6 Constitution Road, Ryde (Lot 1, DP 104280 and Lots 1-2, DP 930574);
 - 8-14 Constitution Road, Ryde (Lot 1, DP 713706);
 - 16 Constitution Road, Ryde (Lot 3, DP 7130);
 - 18 Constitution Road, Ryde (Lots 1-2, DP 810552);
 - 6 Nancarrow Avenue, Ryde (Lot 1, DP 322641);
 - 8 Nancarrow Avenue, Ryde (Lot 11, DP 7130);
 - 10 Nancarrow Avenue, Ryde (Lot 12, DP 7130);
 - 12-16 Nancarrow Avenue, Ryde (Lots 13-15, DP 7130);
 - 18 Nancarrow Avenue, Ryde (Lot 16, DP 7130);
 - 37-53 Nancarrow Avenue, Ryde (Lot 9, DP 19585, Lot 1, DP 122205, Lots 1-7, DP 19585 and Lots 10-17, DP 19585);
 - 8 Parsonage Street, Ryde (Lots 13-14 DP 738232, Lot 7, DP

809282, Lot 100, DP 851723 and Lot 15, DP 738232);

- 9-10 Rothesay Avenue, Ryde (Lot 1, DP 703858); and
- 11 Rothesay Avenue, Ryde (Lot 18, DP 7130).

Project:

Mixed use residential, retail and commercial development incorporating:

- building envelopes for 12 buildings incorporating basement level parking;
- Infrastructure works to support the development;
- publically accessible open space and through site links; and
- pedestrian and cycle pathways.

PART B: NOTES RELATING TO THE DETERMINATION OF MP No. 09_0216

Responsibility for other approvals/ agreements

The Proponent is responsible for ensuring that all additional approvals and agreements are obtained from other authorities, as relevant.

Appeals

The Proponent has the right to appeal to the Land and Environment Court in the manner set out in the Act and the Regulation.

Legal notices

Any advice or notice to the approval authority shall be served on the Director General.

PART C: DEFINITIONS

Act means the *Environmental Planning and Assessment Act 1979* (as amended).

Advisory Notes means advisory information relating to the approved development but do not form a part of this approval.

Council means City of Ryde Council

Department means the Department of Planning & Infrastructure or its successors.

Director General means the Director General of the Department or his nominee.

Environmental Assessment means the Environmental Assessment prepared by Robertson + Marks Architects and PLACE Design Group, Revision C and dated 7 January 2011.

GFA means gross floor area.

Ground Level (Finished) is as defined in the Ryde Local Environmental Plan 2010

Maximum Building Height is to be measured from AHD to the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flutes and the like.

Minister means the Minister for Planning & Infrastructure.

MP No. 09_0216 means the Major Project described in the Proponent's Preferred Project Report.

Preferred Project Report (PPR) means the Preferred Project Report and Response to Submissions prepared by Robertson + Marks Architects and PLACE Design Group, Revision 2 and dated July 2012.

Proponent means Holdmark Property Group or any party lawfully acting upon this approval.

Certifying Authority has the same meaning as Part 4A of the Act.

Regulation means the Environmental Planning and Assessment Regulation 2000 (as amended).

Subject Site has the same meaning as the land identified in this Schedule.

End of Schedule 1

SCHEDULE 2

PART A - TERMS OF APPROVAL

Development Description

A1 Concept approval is granted to the development as described below:

Use of the site for a mixed use development including residential, retail, commercial and community uses incorporating:

- building envelopes for 12 buildings incorporating basement level parking;
- infrastructure works to support the development including:
 - upgrades to the local road network;
 - stormwater infrastructure works;
 - publically accessible open space and through site links; and
 - pedestrian and cycle pathways.

Development in Accordance with the Plans and Documentation

A2 The development shall be undertaken generally in accordance with:

- the Environmental Assessment dated 7 January 2011 prepared by Robertson + Marks Architects and PLACE Design Group, except where amended by the Preferred Project Report dated July 2012, including all associated documents and reports;
- the Draft Statement of Commitments prepared by Robertson + Marks Architects updated on 5 October 2012; and
- the following drawings:

<i>Drawings Prepared by Robertson + Marks Architects</i>		
<i>Drawing No</i>	<i>Name of Plan</i>	<i>Date</i>
Figure 11 Rev 2	Preferred Concept Plan	July 2012
PPR 002-A	Preferred Project Master Plan: Indicative Concept Plan Storeys Plan	11 Feb 2013
PPR 001-A	Preferred Project Master Plan: Maximum Heights with Setbacks	11 Feb 2013
Figure 14 Rev 2	Stage 1 Building Envelope Controls	July 2012
Figure 15 Rev 2	Stage 2 Building Envelope Controls	July 2012
Figure 16 Rev 2	Stage 3 Building Envelope Controls	July 2012
Figure 17 Rev 2	Stage 4 Building Envelope Controls	July 2012
Figure 18 Rev 2	Stage 5 Building Envelope Controls	July 2012
Figure 19 Rev 2	Stage 6 Building Envelope Controls	July 2012
Figure 20 Rev 2	Stage 7 Building Envelope Controls	July 2012
Figure 21 Rev 2	Stage 8 Building Envelope Controls	July 2012
Figure 22 Rev 2	Stage 9 Building Envelope Controls	July 2012
Figure 23 Rev 2	Stage 10 Building Envelope Controls	July 2012
Figure 28 Rev 2	Indicative Building Setbacks	July 2012
Figure 29 Rev 2	Landscape Plan	July 2012
Figure 30 Rev 2	Vehicular Access and Public Transport Plan	July 2012
Figure 32 Rev 2	Pedestrian and Cycle Access Plan	July 2012
Figure 32A Rev 2	Indicative Accessible Circulation Plan	July 2012
Figure 33 Rev 2	Indicative Community, Retail & / or Commercial uses Location map	July 2012
Figure 52	Open Space Area and Deep Soil Zones	July 2012

except for as modified by the following pursuant to Section 75O(4) of the Act.

Inconsistencies Between Documentation

- A3 In the event of any inconsistency between modifications of the Concept Plan approval identified in this approval and the drawings/documents including Statement of Commitments referred to above, the modifications of the Concept Plan shall prevail.

Building Envelopes

- A4 Building footprints and setbacks are to be generally consistent with the Concept Plan building envelope parameter diagrams for each site, except where amended by the Modifications in Part B of this Approval.

Maximum Gross Floor Area (GFA)

- A5 The maximum GFA for commercial, retail or community uses shall not exceed 10,000m².

Publicly Accessible Open Space, Drainage Reserves and Through Site Links

- A6 All public open spaces, drainage reserves and through site links shall be publicly accessible and maintained in private ownership by the future body corporate unless otherwise agreed by the Council.

Lapsing of Approval

- A7 Approval of the Concept Plan shall lapse 5 years after the determination date shown on this Instrument of Approval, unless an application is submitted to carry out a project or development for which concept approval has been given.

PART B - MODIFICATIONS

Amended Concept Plan

B1 The Concept Plan shall be amended to:

- (a) comply with the modified maximum heights (as per plans in Schedule 5), setbacks etc. under this approval and the project application approval for Stage 1 (MP09_0219). The maximum building height applies to either the number of storeys or RL levels, whichever is the lower;
- (b) provide at least one contiguous open space, of a minimum of 3,000m², to accommodate both active and passive recreational needs. The open space shall include deep soil area and receive a minimum of 2 hours of sunlight to a minimum of 50% of the area on 21 June;
- (c) provide a public domain plan which illustrates the proposed public domain treatment including streets and setback areas, landscaping, lighting and public and communal open spaces and which is in accordance with Ryde City Council's Public Domain Technical Manual;
- (d) increase the width of the proposed through site links/view corridors to a minimum width of 20m;
- (e) provide an integrated water sensitive urban design (WSUD) strategy for the entire site; and
- (f) include a pedestrian and cycleways plan that demonstrates that the proposed routes are both viable and integrated with Council's plans for the surrounding area.

The amended concept plan, demonstrating compliance with these modifications shall be submitted to, and approved by, the Director General prior to the issue of the first construction certificate.

Sustainable Travel Plan

B2 Prior to issue of an Occupation Certificate for Stage 1 or prior to the submission of a Development Application for future stages (whichever occurs first), a Sustainable Travel Plan for the Concept Plan site shall be submitted to and approved by the Council. Options for provision of a Car Sharing Scheme for the site are to be explored and incorporated into the Sustainable Travel Plan as is a Parking Management Strategy.

End of Schedule 2

SCHEDULE 3

FUTURE ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Design Excellence

1. Future Development Application/s for Stage 5 (the signature building fronting Church Street) shall demonstrate design excellence in accordance with the Director General's Design Excellence Guidelines.
2. Future Development Applications shall demonstrate that the development achieves a high standard of architectural design incorporating a high level of modulation / articulation of the building and a range of high quality materials and finishes.

Built Form

3. Notwithstanding the approved maximum building heights in RL, future Development Applications shall demonstrate that:
 - (a) buildings along Constitution Road are a maximum of 5 storeys; and
 - (b) the southern building element of Stage 7 is a maximum of 5 storeys.
4. Future Development Applications shall ensure that basement parking levels do not exceed 1 metre above ground level (finished) and are located below the building footprint and do not encroach into street setback areas.
5. Future Development Applications shall demonstrate an appropriate interface with surrounding streets and public domain areas at pedestrian level, and an appropriate design treatment to provide an adequate level of privacy to ground level apartments.
6. Future Development Application/s for Stage 6 shall provide the following minimum setbacks to the south-western boundary (common boundary with 12 Rothesay Avenue):
 - (a) 6 metres up to 4 storeys; and
 - (b) 9 metres above 4 storeys.
7. Future Development Application/s for Stage 5 shall provide the following minimum setbacks to Parsonage and Wells Streets:
 - (a) Podium – 4 metres
 - (b) Tower – 5 metres
8. Future Development Application/s for Stage 6 shall provide a minimum one metre setback to the existing Council owned pedestrian access way along the north-western boundary.
9. Future Development Application/s for Stage 9 shall provide a minimum 4 metre building setback to the single storey building fronting Bowden Street. Eaves, pergolas, outdoor seating areas or other unenclosed structures are permitted to encroach into the setback providing that the design does not result in unacceptable impacts to the streetscape or view lines.
10. Future Development Applications shall provide for utility infrastructure, including substations, within the building footprint, wherever possible. If this is not possible, infrastructure shall be located outside of the public domain and appropriately screened.

Landscaping

11. Future Development Applications shall include detailed landscape plans for public and private open space areas, street setbacks areas and for the landscape treatment of all adjoining public domain areas and road reserves in accordance with the approved Public Domain Plan.

Public Domain

12. Future Development Applications shall provide the detailed design for the upgrade of all road reserves adjacent to the development to the centre line of the carriageway, including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on Constitution Road and Nancarrow Avenue, and any other necessary infrastructure in accordance with the approved Public Domain Plan. Where the detailed design necessitates an increase in the width of the road reserve, building setbacks are to be increased to retain the approved setback to the road reserve alignment. The road reserve works are to be completed by the proponent prior to occupation of each stage.

Cycle Facilities

13. Future Development Applications shall provide bicycle parking at the minimum rate of 1 space per 10 car parking spaces.
14. Future Development Applications shall demonstrate appropriate 'end of trip facilities' for cyclists within all non-residential developments in accordance with Council's requirements.

Open Space/Public Access

15. Future Development Applications shall include detailed landscape plans for the embellishment of publicly accessible open space areas. These areas shall include high quality landscaping and paved areas and a variety of recreation facilities which may include BBQs, seating, water features, grassed areas, paths, shade trees, bicycle racks and exercise equipment/games.
16. Future Development Applications shall include detailed landscape plans which demonstrate accessible paths of travel for all persons for at least two of the north-south routes between Constitution Road and the Foreshore with one of the routes including the Lower Riparian linear park and a second path either along the Central Spine or the public pathway associated with Stage 1. Landscape plans will also include the detailed design of at least 1 north-south cycle path linking Constitution Road through the site to the existing foreshore cycleway.
17. Future Development Applications shall clearly set an appropriate legal mechanism for creating rights of public access to all publicly accessible areas of open space, drainage reserves and through site links, with the relevant instrument/s to be executed prior to the issue of the occupation certificate.

Community Facilities

18. Future Development Application/s for the Stage 5 development shall include, at no cost to Council, an appropriate community space within the development on the ground floor level with street frontage, which can be used by Council or nominated community organisation(s) for community purposes.
 - a. The amount and configuration of floorspace should be designed in consultation with Council or a Council nominated community organisation(s). Any dispute in the quantum of floorspace to be provided should be referred to the Director-General, whose decision shall be final.
 - b. The designated community floor space must not be used for any other commercial, retail or residential use unless Council decides not to accept the designated floorspace.
 - c. The provision of the community floorspace is in addition to Council's Section 94 Contributions for future development.

Public Art

19. Future Development Applications shall provide the detailed design of public art in locations throughout open space areas generally in accordance with the Public Art Strategy submitted with the PPR.
20. Future Development Application/s for Stage 3 shall include a Arts and Cultural Plan developed by a professional public artist including consideration of:
 - (a) materials to be used, with particular attention to durability;
 - (b) location and dimension of artwork;
 - (c) public art themes to respond to site history and or social, cultural or natural elements;
 - (d) integration into the site and surrounds;
 - (e) budget and funding; and
 - (f) Council's Public Art Guide for Developers.

Residential Amenity

21. Future Development Applications shall demonstrate compliance with the provisions of the *State Environmental Planning Policy 65 – Design Quality of Residential Flat Development* (SEPP 65) and the accompanying *Residential Flat Design Code 2002* (RFDC).

ESD

22. Future Development Applications shall demonstrate the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010. Where no base target is provided within this report, the development must comply with the stretch target.

Car Parking

23. Future Development Applications shall provide on-site car parking in accordance with Council's relevant Development Control Plan. Provision shall also be made for adequate loading and unloading facilities for service vehicles, suitably sized and designed for the proposed use.

Road Infrastructure and Road Reserve Upgrades

24. Future Development Application/s for Stage 2 shall include the following infrastructure works:
 - (a) Nancarrow Avenue extension;
 - (b) Nancarrow Avenue Local Area Traffic Management (LATM) measures and all road reserve upgrades including associated pedestrian footpaths and cycleways;
 - (c) implementation of left-in/left-out arrangement at Belmore Street/Hamilton Crescent intersection;
 - (d) Underdale Lane Local Area Traffic Management (LATM) measures;
 - (e) installation of a pedestrian crossing facility at Bowden Street/Nancarrow Avenue; and
 - (f) installation of roundabout at Belmore Street/Rothesay Avenue.

The detailed design is to be prepared by a suitably qualified engineer in accordance with Council's requirements and to be submitted to Council for approval before the lodgement of any future development application for Stage 2. All works must be completed by the proponent prior to the issue of the occupation certificate for Stage 2.

25. Future Development Application/s for the fourth stage of development shall provide the detailed design for the implementation of left-in/left-out arrangement at Belmore Street/Yerong Street intersection. The works are to be completed prior to issue of the first occupation certificate of any building of this stage.

Roads and Maritime Services Requirements

26. Future Development Application/s for each stage of development following the first two stages shall include a traffic study which includes figures on the current number of vehicles and pedestrians at the Railway Road pedestrian crossing at Meadowbank Station and at the Constitution Road / Bowden Street intersection. The traffic study is to be carried out to the RMS's and Council's satisfaction and shall model the impact of the anticipated increase in vehicle and pedestrian traffic for that stage. Where the study reveals that RMS warrants would be met for the provision of signalisation at either of these locations, concept design of the upgrade of the intersection to Council's and RMS's satisfaction is to be included with the Development Application and the works are to be completed by the proponent prior to the issue of first occupation certificate of any building of that stage.
27. Future application/s for Stage 5 shall demonstrate that the RMS requirements have been met in relation to access to RMS infrastructure on the adjoining land, including retention of existing access, parking and turning area for maintenance vehicles.

Site Specific Sustainable Travel Plan

28. Future Development Applications for each stage shall include a site specific sustainable travel plan incorporating a workplace travel plan and/or travel access guide. The travel plan will be in accordance with the Concept Plan Sustainable Travel Plan required by Modification B2.

Heritage

29. Future Development Application/s for Stage 8 involving the demolition of the existing heritage item at 37 Nancarrow Avenue shall include:
 - (a) a detailed heritage assessment of the site which includes a professionally written history of the site;
 - (b) a full photographic record; and
 - (c) an interpretation strategy to display the heritage values of the existing building on the newly developed site.
30. Future Development Application/s for Stage 5 shall include a Statement of Heritage Impact providing an assessment of the impact of the development on the adjoining heritage listed Church Street Bridge. Applications are to demonstrate that the design of the building takes into account relevant recommendations of the heritage assessment.

Section 94 Contributions

31. Future Development Applications shall be required to pay developer contributions to the Council towards the provision or improvement of public amenities and services. The amount of the contribution shall be determined by Council in accordance with the requirements of the Contributions Plan current at the time of approval.

Noise and Vibration

32. Future Development Application/s for Stage 5 shall provide an acoustic assessment which demonstrates that the internal residential amenity of the proposed apartments is not unduly affected by the noise and vibration impacts from Church Street, to comply with the requirements of Clause 102 of State Environmental Planning Policy (Infrastructure) 2007 and the Department of Planning's 'Development Near Rail Corridors and Busy Roads – Interim Guidelines'.

Adaptable Housing

33. Future Development Applications shall provide a minimum of 10% of apartments as adaptable housing in accordance with Australian Standard 4229-1995.

Stormwater Infrastructure Upgrades

34. Future Development Applications for Stage 7, 8, 9 or 10 (whichever occurs first) shall provide the detailed design of the following infrastructure works:
- (a) the piped drainage system and overland flow path from Ann Thorn Park to Parramatta River; and
 - (b) works to eliminate the risk of embankment failure of Constitution Road.

The works will be required to be completed by the proponent prior to construction commencing for any residential buildings within these stages.

Flooding and Stormwater

35. Future Development Applications for each stage of the development shall include flood assessments to determine the minimum floor levels, any required mitigation measures and evacuation strategy required.
36. Future Development Applications for each stage of the development shall include a Stormwater Management Plan in accordance with Council's requirements.

Sydney Water Requirements

37. Future Development Applications shall address Sydney Water's requirements in relation to:
- (a) required amplification works to existing drinking water mains;
 - (b) required amplification works to the wastewater system;
 - (c) approval for discharge of trade wastewater (where necessary); and
 - (d) application for Section 73 certificates as necessary.

Contamination, Acid Sulphate Soils and Salinity

38. Future Development Applications shall include a detailed contamination assessment (involving sampling and testing of soil) including an assessment of the presence of acid sulphate soils and salinity.
39. A groundwater assessment (involving sampling and testing of groundwater) shall be undertaken across the entire Concept Plan prior to the first Development Application being lodged for Stage 2 or any other stage of the development.
40. Future Development Applications where necessary shall include a targeted groundwater assessment for the specific stage (based on the recommendations of the groundwater assessment undertaken for the entire Concept Plan).

End of Schedule 3

SCHEDULE 4

Proponent's Statement of Commitments

SHEPHERDS BAY RENEWAL CONCEPT PLAN APPLICATION MP 09_0216 - DRAFT STATEMENT OF COMMITMENTS 05/10/2012

The Draft Statement of Commitments details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be delivered will be subject to ongoing consultation.

SUBJECT	DESCRIPTION OF COMMITMENT
CONCEPT PLAN	
Staging of Development and Occupation	<p>The development is to be constructed in ten indicative stages as illustrated on Figure 63 of the Preferred Project Report</p> <p>An updated Development Staging Plan will be submitted with each subsequent Project Application.</p>
Approval Conditions	<p>The proponent will ensure that all relevant parties engaged to carry out work are aware of and will comply with relevant conditions of consent issued under Major Project No. 09_0216.</p>
Accessibility	<p>The proponent commits to providing access to and within buildings within the Concept Plan site in accordance with the Building Code of Australia. Where topography permits, publicly accessible open spaces within the Concept Plan are to be designed to provide appropriate access to people of all mobility levels as illustrated on Figure 31A of the Preferred Project Report.</p>
Landscaping	<p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site detailed documentation and specifications will be prepared for all landscape works and public space improvements.</p> <p>The landscaping is to be designed so that the view corridors identified on the Concept Plan are maintained.</p>
Community Benefits	<p>A Voluntary Planning Agreement will be entered into with the City of Ryde Council.</p>
Housing choice	<p>A mix of apartment sizes will be provided including one bedroom units. The increased housing supply in the area and proposed apartment mix will increase housing choice and ease affordable housing issues in the area. The opportunity for locals to "downsize" together with the additional availability will promote affordability.</p>
Adaptable Housing	<p>The Proponent commits to approximately 10% of apartments within the concept Plan site being designed to be accessible. Pathways from development to communal areas and car parking will also to be designed to be accessible.</p>

Publicly accessible open spaces

The proponent commits to providing a total of 19,660sqm of publicly accessible public domain with the Concept Plan site that will be owned and maintained by the various owners' corporations. These areas will include 4 new publicly accessible open spaces, landscaped pedestrian connections, landscaped overland flow paths and new sections of roadway, to be owned and maintained in community title by the relevant stage development owner groups. These will include:

NEW PUBLICLY ACCESSIBLE OPEN SPACES:

1. New Foreshore Link publicly accessible open space (Development Stage 1 and Stage 3)

This new publicly accessible open space provides a new pedestrian link between the foreshore reserve and the future Nancarrow Ave road link above and will be constructed as part of Development Stages 1 and 3 as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. This publicly accessible open space will include areas of informal seating and passive recreation. Refer Map 1.

Landscape Design Principles

- Turf and paved plazas respond directly to the architectural alignments for a seamless transition between landscape and residential building
- Structured planting and specimen shade trees frame spaces
- Open lawn platforms provide areas for relaxation
- Furniture elements will match the bold, simple lines of the design and contrast with the textures of the planting palette
- Moving water bodies provide associated relaxation and acoustic benefits
- Existing fig trees are retained to Rothesay Avenue with manicured lawn understorey
- Streetscape trees reinforce the defined Streetscape character

2. New Upper Level Public Square (Development Stage 3, 4 & 6)

This new publicly accessible open space will be delivered as part of Indicative Development Stages 3, 4 & 6, as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. Located at the southern end of the formal entry avenue, the public square will be a focus of identity and include a signature art work at the central roundabout. There will be a modern European feel to the plaza which could incorporate pop jets, signature bollards and seating elements. Views toward the river to the south are integral to the space. This Development Stage includes the construction of the new road link to connect Nancarrow Ave through to Hamilton Crescent which will involve the landscape treatment of the Rothesay Ave road verge and lower level publicly accessible open space below the Nancarrow extension link road. Also included is the construction of the other half of the new foreshore link publicly accessible open space. Refer Map 2.

Landscape Design Principles:

- Protection from Southerly & Westerly winds through tree planting
- Opportunity for interactive children's water play
- Iconic sculpture on axis
- Signage palette and interpretive boards relating to the view
- Shared zone to ensure slow speeds and pedestrian safety
- High quality European hardscape palette
- Introduction of significant evergreen specimen trees



Map 1: New Foreshore Link



Map 2: New Upper Level Public Square

3. New Central Spine (Development Stage 3 & 6)

This new publicly accessible open space will be delivered as part of Indicative Development Stages 3 & 6, as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. The central spine links the public square with the central foreshore plaza and performs a largely transitional function combined with a wide pedestrian linear grand staircase that navigates the changes in level. A narrow water rill would reinforce the pedestrian movement while also visually connecting water to the North & South. Refer Map 3.

Landscape Design Principles:

- Incorporation of water storage and movement relating directly to the river
- Raised trees in planters create shade and enforce/frame linear nature of space
- Simple design with high quality hardscape
- Integrated lighting / water feature.

4. New upper eastern pedestrian link (Stages 2 and 4)

This space includes a secondary pedestrian link between Constitution Road and Hamilton Crescent. It will be delivered as part of Indicative Development Stages 2 & 4, as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. It is to be a predominantly linear, formal space with a sequence of shaded courtyards for rest and contemplation, shade trees and communal spaces. Refer Map 4.

Landscape Design Principles

- Split level high quality landscape with raised planter beds
- Incorporate safe, open outdoor seating areas to activate the precinct
- Canopy trees and possible structures that comply with CPTED and provide shade & amenity
- Use of deciduous trees for solar access in winter

5. Gateway Building Central Plaza and pedestrian link (Development Stage 5)

This new publicly accessible plaza will be delivered as part of Indicative Development Stage 5 as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. The Signature Building precinct publicly accessible central plaza incorporates strong linear pedestrian link path and formal tree planting around the perimeter with clear sight lines. The pedestrian link is to be punctuated by formal water features that align with the linear paths. The shade trees and water features are intended to soften the built form and provide soothing acoustics to the space and the surrounding residents. Refer Map 5.

Landscape Design Principles:

- Clear linear paths with high quality central open space
- Safe, open outdoor seating areas to activate the precinct
- Canopy trees and possible structures that comply with CPTED and provide shade & amenity
- Use of deciduous trees for solar access in winter



Map 3: New Central Spine



Map 4: New upper eastern pedestrian link



Map 5: Gateway Building Central Plaza

6. New Central Foreshore Plaza (Development Stage 6)

This new publicly accessible open space will be delivered as part of Indicative Development Stage 6 as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. This publicly accessible plaza is intended to act as the main activity core and place of celebration of the new development. The central plaza is to maximise various level changes through the use of cascading water features, elevated platforms with views, terracing and multi-functional, adaptable spaces that promote social interaction and help to create a strong sense of place and community. The integration with the river and mangroves set the backdrop to what will be a high quality landscape space with a heavy pedestrian focus. Refer Map 6.

Landscape Design Principles:

- Maximise views to the river and associated vegetative communities
- Combined soft/hard landscape for varied uses
- High quality spaces to encourage interaction and community values
- Attractive, robust, sustainable and low maintenance landscape finishes
- Provide and integrate artwork
- Provide interpretive signage to reflect upon adjoining riverside vegetative Community
- Provide spaces that bring people together where they can share (views, activities, uses) and interact
- Maximise views to the river and associated vegetative communities
- Multi-functional and adaptable spaces and treatments
- Provide ample seating with a variety of outlooks through benches, incidental edges and turf
- Night time lighting and activation
- Attractive, robust, sustainable and low maintenance landscape finishes
- Provide and integrate artwork
- Provide interpretive signage to reflect upon adjoining riverside vegetative community



Map 6: New Central Foreshore Plaza

7. New Lower Riparian Foreshore Link publicly accessible open space (Development Stages 7 & 9)

This new publicly accessible open space will be delivered as part of Indicative Development Stages 7 & 9, as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. This publicly accessible open space continues to generally follow the natural overland flow path, terminating at the foreshore reserve.

This publicly accessible open space provides more water features and soft plantings interspersed with a sequence of passive recreation lawns with specimen tree planting for shade. The orange orchard reflects the past uses of this site and creates a desirable area to sit and relax away from the more urban landscapes to the east. Refer Map 7.

Landscape Design Principles:

- Heritage interpretation of past land use
- Natural creek-like water features and plantings
- Low maintenance softscape & hardscape elements
- Temporary stormwater detention ponds and ephemeral creek beds



Map 7: New Lower Riparian Foreshore Link

8. New Pedestrian Spine 1 South publicly accessible open space (Development Stages 6 & 7)

This new publicly accessible open space will be delivered as part of Indicative Development Stages 6 & 7, as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. The pedestrian link south continues the formal character of the northern portion of this publicly accessible open space, becoming more informal closer to the foreshore reserve, with swathes of low and mid height native shrub and low maintenance hybrid grass planting. Tree planting in orchard style is recommended in the lower portion of this publicly accessible open space, reflecting the previous orchards on the Concept Plan site while retaining clear sightlines from top to bottom. Refer Map 8.

Landscape Design Principles:

- Performs as formal linear open space in addition to its role as a pedestrian link
- Low maintenance, high quality hard cape surface treatments
- Formal modern alignment with informal garden bed design
- Incorporates heritage orchard tree planting - Clear sight lines through the publicly accessible open space to maximise pedestrian safety
- Formal water features

9. New Pedestrian Spine 2 publicly accessible open space (Development Stage 8)

This publicly accessible open space will be delivered as part of Indicative Development Stage 8 as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. This through site publicly accessible open space and pedestrian connection is intended to be simple in design and character allowing ease of movement through the space. The recommended main water body at the southern edge of this publicly accessible open space acts as an elevated focal point in the Concept Plan site and would assist in the creation of a sense of place, providing a distinct connection to the foreshore to the south. Refer Map 9.

Landscape Design Principles:

- Performs as formal linear open space in addition to its role as a pedestrian link
- Incorporates formal avenue tree planting as a way of screening the adjoining existing building
- Includes clear sight lines through the publicly accessible open space to maximise pedestrian safety
- Includes large reflection pond / water body

10. New Upper Riparian Foreshore Link publicly accessible open space (Development Stages 8 & 10)

This new publicly accessible open space will be delivered as part of Indicative Development Stages 8 & 10, as illustrated in the Landscape Plan Report in Annexure 10 of this Preferred Project Report. This new publicly accessible open space is located between Constitution Rd and Nancarrow Ave in a natural overland flow path and includes part of Council's main stormwater easement for the area. The intent of this publicly accessible open space is to create a natural landscape with meandering 'riparian' gardens and water features. Natural water features will be designed to account for seasonal fluctuations in water volumes. Swathes of native grass and shrubs will provide interest along the pedestrian pathways which traverse this open space. It is intended that water features abutt some of the buildings to accentuate the architecture within a riparian environment. Open lawns and shade trees provide space for residents and visitors to stay and enjoy the peaceful surrounds. Refer Map 10.

Landscape Design Principles:

- The provision of an easy, safe and enjoyable pedestrian connection with peaceful places to stop and relax
- Optimise ecological functionality through planting of endemic species
- Incorporate overland flow paths into water features within the publicly accessible open space
- Combined active and passive recreation spaces
- Provision of contemplative lawns with shade

The following are to accompany all Project or Development Applications within the Concept Plan site:

- A detailed Landscape Plan demonstrating the proposed landscape scheme is consistent with the Landscape Concept and Report prepared by PLACE Design Group, dated October 2011.



Map 8: New Pedestrian Spine 1 South



Map 9: New Pedestrian Spine 2 North



Map 10: Upper Riparian Foreshore Link

Road works	The proponent commits to providing the following new road infrastructure and up-gradings which are illustrated on Map 11 below.	
	Road works	Timing of delivery
	<p>1. Pedestrian signals replacing the zebra crossing on Railway Road at the Station.</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Installation of traffic signals ▪ Advance warning signs ▪ Lighting adjustments ▪ Pavement re-sheet – 20mm AC10 	To be completed prior to the issue of an Occupation Certificate for Stage 3 of the Development.
	<p>2. Signalling Bowden Street/Constitution Road.</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Removal of existing roundabout ▪ Kerb realignment ▪ Pavement construction and revitalisation ▪ Utility adjustments incl. lighting ▪ Installation of traffic signals ▪ Pavement markings ▪ Signposting ▪ Footway modification 	To be completed prior to the issue of an Occupation Certificate for Stage 6 of the Development.
	<p>3. Roundabout at Rothesay Ave/Belmore Street.</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Removal of existing signposting ▪ Central island dowelled to existing pavement – Inscribed radius min. 8m (dependent upon the turning path of a 12.5m service vehicle) ▪ Single lane circulating ▪ Splitter island in each approach (painted or raised kerb) ▪ Significant kerb realignment ▪ Drainage adjustments ▪ Utility modification ▪ Signage ▪ Pavement markings ▪ Intersection pavement re-sheet – 20mm AC 10 	To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development.
	<p>4. Yerong/Belmore left in/out</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Removal of southern most splitter island in Belmore Street, south of Yerong Street ▪ Removal of existing signposting ▪ Installation of a painted or raised splitter island in Yerong Street (dowelled to existing pavement if raised) ▪ Installation of signposting ▪ Preparation and pavement re-sheet 20mm AC10 ▪ Pavement markings 	To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development.

	<p>5. Hamilton "Lane" and Nancarrow "Lane" LATM and two-way construction between Belmore and Bowden</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Installation of raised 'Watts' profile speed humps or raised thresholds ▪ Single lane circulating roundabout ▪ Inscribed radius capable of accommodating the swept path movement of a 12.5m service vehicle ▪ Painted splitter island in each approach ▪ Kerb realignment ▪ Drainage adjustments ▪ Utility modification ▪ Signage ▪ Pavement markings 	To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development.
	<p>6. Underdale Lane LATM scheme</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Installation of two (2) raised 'Watts' profile speed humps ▪ Kerb realignment ▪ Drainage adjustments ▪ Signage ▪ Pavement markings 	To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development.
	<p>7. Hamilton Lane/Belmore Street left in/left out</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Installation of a painted or raised splitter island in Hamilton Crescent (dowelled to existing pavement if raised) ▪ Installation of signposting ▪ Pavement markings 	To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development.
	<p>8. Introduction of a pedestrian facility on Bowden Street at Underdale Lane</p> <p>Works:</p> <ul style="list-style-type: none"> ▪ Raised threshold and marked foot crossing 	To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development.
	<p>9. Lowering of Constitution Road</p> <p>Works in accordance with:</p> <ul style="list-style-type: none"> ▪ Constitution Road, Road & Drainage Reconstruction, Plan (Option 1), Sheet 1 of 3, dated June 2008. ▪ Constitution Road, Road & Drainage Reconstruction, Cross Sections (Option 1), Sheet 2 of 3, dated June 2008. ▪ Constitution Road, Road & Drainage Reconstruction, Cross Sections (Option 1), Sheet 3 of 3, dated June 2008. 	To be completed prior to the issue of an occupation certificate for Stage 8 of the Development.
	<p>10. Re-grading works associated with the construction of the new Nancarrow Avenue Link Road.</p> <p>Works in accordance with:</p> <ul style="list-style-type: none"> ▪ Civil Layout, General Arrangement Plan, Drawing No.C100, Rev.A, prepared by BG&E. ▪ Road Plan, Longsection, Pavement Details and Typical Section, Drawing No.C101, Rev.A, prepared by BG&E. ▪ Road Cross Sections, Drawing No.C102, Rev.A, prepared by BG&E. 	To be completed prior to the issue of an Occupation Certificate for Stage 3 of the Development.
Land to be dedicated	Land comprising the two-way road link to be constructed between Belmore and Bowden Streets, being the connection of Nancarrow Ave to Hamilton Crescent. This requires the dedication by the Proponent an area of land of approximately 325sqm to the Council.	To be dedicated to Council prior to the issue of an occupation certificate for Stage 2 of the Development.

MEA TRAFFIC NEEDS ASSESSMENT - ROAD INFRASTRUCTURE WORKS PLAN:



Tree Management	Tree protection measures will be implemented for trees to be retained as recommended in the Arborist Report at Annexure 23 to the submitted EA.
Crime Prevention Through Environmental Design	The design of the public domain, landscaping and building design facilitates the achievement of CPTED principles. Prior to commencement of construction of any subsequent Project Applications CPTED Assessments will be provided. Planting near footpaths will need to be maintained on a regular basis to avoid concealment opportunities for criminals who may hide in dense shrubbery.
Environmentally Sustainable Development	All Residential development within the Concept Plan site will meet the following Sustainability targets: <ul style="list-style-type: none"> • The BASIX water consumption benchmark • The BASIX energy consumption benchmark <p>In addition, the proponent commits to further investigate the opportunity for including the following ESD principles:</p> <ul style="list-style-type: none"> • Design internal apartment layouts to maximise natural ventilation and to capture prevailing winds; • Utilise roof forms to capture natural light and ventilation; • Use of high thermal mass materials within apartments; • Ensure natural light and ventilation is provided to common areas to minimise energy consumption; • Divide the layout of the apartments into zones to reduce heat and cooling energy consumption; • Utilise low water flow fixtures and tap ware; • Harvesting of stormwater where feasible; and • Recycling of water where feasible
Stormwater Management	The Proponent is committed to providing the necessary stormwater upgrades, the details of which will be included in the final VPA when negotiated with Council. Prior to commencement of construction of all Project or Development Applications within the Concept Plan site the Proponent commits to preparation of an Integrated Stormwater Management Plan for the relevant development stage.
Noise	All Project or Development Applications within the Concept Plan site for all development Stages are to comply with the relevant acoustic standards and controls contained in the BCA.
Site Contamination	All Project or Development Applications within the Concept Plan site for all development stages will be required to comply with the requirements of SEPP 55 <i>Remediation of Land</i> .
Construction Management	Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Construction Management Plan will be prepared by the proponent for each development stage and will be submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site. All construction materials, vehicles, waste and the like will be stored within the site. All demolition and all construction and associated work will be restricted to between the hours of 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No work is to be carried out on Sunday or public holidays. Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Traffic Management Plan (TMP) for the relevant development stage, which addresses construction access and egress to the site, including vehicle routes and parking for workers, staging and timing of construction of internal road network and other relevant issues, will be prepared and submitted to the satisfaction of Principal Certifying Authority. The TMP will be prepared in accordance with the RTA's guidance on TMP's.
Utilities	A Section 73 Certificate from Sydney Water will be obtained as required. All existing aerial services (including low voltage Energy Australia electricity and subscriber television services) along the frontage of the Concept Plan Site are to be relocated underground prior to the occupation of the development stages. The cost of this work is to be borne by the developer. Documentary evidence will be obtained from Energy Australia to confirm that they have been consulted and that their requirements have been met by the Concept Plan and all subsequent Project or Development Applications within the Concept Plan site.
Arborist Report	All subsequent development stages will be required to comply with the requirements of the Arborist Report (Annexure 23 to the submitted Environmental Assessment).
Environmental Management	Prior to commencement of construction of Project or Development Applications within the Concept Plan site, a development Stage-specific Environmental Management Plan (EMP) will be prepared and submitted to and approved by the Principal Certifying Authority. The EMP will comprise:

Plan	<ul style="list-style-type: none"> a. Hours of construction work b. Sediment and Erosion Control; c. Waste Management; d. Noise and Vibration Management; e. Air Quality and dust control; f. Use of cranes, plant and machinery g. Use of ladders, tapes, scaffolding and plant /machinery of conductive material h. Excavation and boring i. Plant and vehicle movements including - ingress and egress of vehicles to the site, loading and unloading, including construction zones, transportation of material, including contaminated material, predicted traffic volumes, types and routes j. TMP; k. Piling, sheet piling, batter and anchors
Flooding	<p>All Development or Project Applications for individual development stages within the Concept Plan site are to be accompanied by a detailed Flood Impact Assessment Report using the Concept Plan Flood Study Report findings. These studies are to include such safety management measures as safe flood evacuation routes and refuge areas.</p>
Waste Management	<p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site, a Waste Management Plan will be prepared for the relevant development stage which includes demonstration of the fact that the road network is capable of being serviced by Council's Waste vehicles</p>
Sustainable Travel Plan	<p>Prior to issue of Occupation Certificates for any habitable areas in any development within the Concept Plan site a Sustainable Travel Plan for the Concept Plan site will be submitted to and approved by the Department of Planning. Individual Project or Development Applications will be accompanied by Development stage- specific Sustainable Travel Plans that are consistent with the Concept Plan Sustainable Travel Plan.</p>
Ground water	<p>As required by the NSW Office of Water:</p> <p>Groundwater:</p> <p>Licences under Part V of the Water Act 1912 are required for the works for the purposes of temporary dewatering as part of the proposed construction.</p> <p><i>General and Administrative Issues</i></p> <ol style="list-style-type: none"> 1. Groundwater shall not be pumped or extracted for any purpose other than temporary construction watering. 2. Pumped water (tailwater) shall not be allowed to discharge off-site (eg. adjoining roads, stormwater system, sewerage system etc) without the controlling authorities approval and/or owners consent. 3. The licensee shall allow (subject to Occupational Health and Safety Provisions) the NSW Office of Water or any person authorised by it, full and free access to the works (excavation or bore/bore field), either during or after construction, for the purpose of carrying out inspection or test of the works and its fittings and shall carry out any work or alterations deemed necessary by the NSW Office of Water for the protection and property maintenance of the works, or the control of the water extracted to prevent wastage and for the protection of the quality and prevention from pollution or contamination of the groundwater. 4. If a work is abandoned at any time the licensee shall notify the NSW Office of Water that the work has been abandoned and seal off the aquifer by such methods as agreed to or directed by the NSW Office of Water. 5. Suitable documents are to be supplied to the NSW Office of Water of the following: <ol style="list-style-type: none"> a) a report of prediction of the impacts of pumping on any licensed groundwater users or groundwater dependent ecosystems in the vicinity of the site. Any adverse impacts will not be allowed and the project will need to be modified. b) A report of assessment of the potential for salt water intrusion to occur as a result of the dewatering. This report is only required for sites within 250m of any marine or estuarine foreshore area. The generation of conditions leading to salt water intrusion will not be allowed, and the proposal will need to be modified. c) Descriptions of the methods used and actual volume of groundwater to be pumped (kilolitres/megalitres) from the dewatering works, the works locations, the discharge rate (litres per second), duration of pumping (number of days/weeks), the amount of lowering of the water table and the anticipated quality of the pumped water. d) Descriptions of the actual volume of pumped water (tailwater) to be reinjected (kilolitres/megalitres), the reinjection locations, the disposal rate (litres per second), duration of operation (number of days/weeks) and anticipated quality of treated water to be reinjected. e) Monitoring of groundwater levels (minimum of 3 weekly measurements of depth to water at a minimum of 3 locations broadly distributed across the site) beneath the proposed development site prior to construction. This requirement is only for sites where the proposed structure shall extend greater than one floor level into the existing ground level.

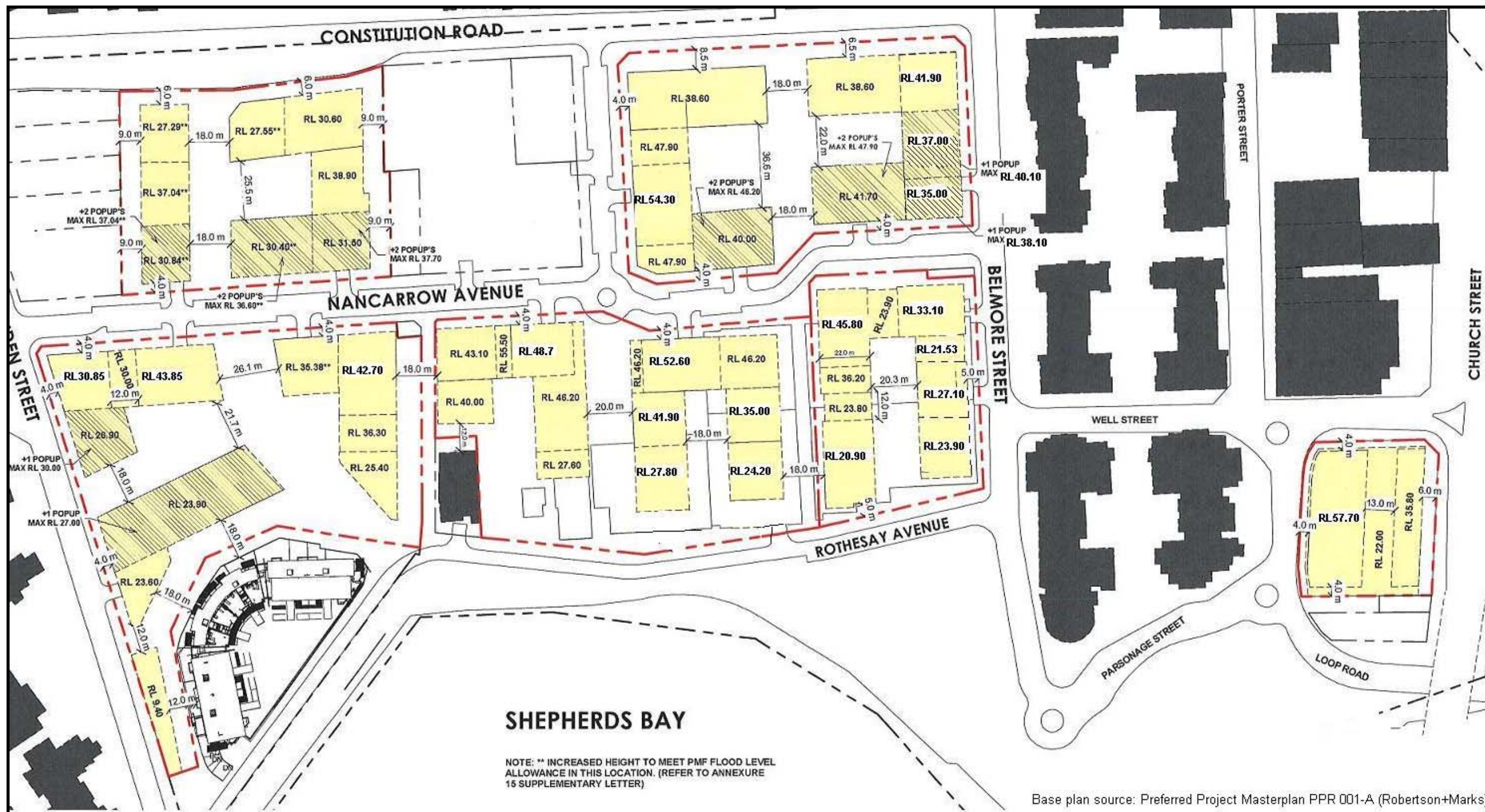
	<p><i>Specific Conditions</i></p> <ol style="list-style-type: none"> 1. The design and construction of the structure must preclude the need for permanent dewatering. 2. The design and construction of the structure that may be impacted by any watertable must include a water proof retention system (ie a fully tanked structure) with adequate provision for future fluctuations of water table levels. (It is recommended that a minimum allowance for a water table variation of at least +/-1.0 metre beyond any expected fluctuation be provided). The actual water table fluctuation and fluctuation safety margin must be determined by a suitable qualified professional. 3. Construction methods and material used in and for construction are not to cause pollution of the groundwater. 4. Monitoring of groundwater levels is to be continued at least weekly during the construction stage and at least weekly over a period of at least 2 months following cessation of dewatering, with all records being provided to the NSW Office of Water on expiration of the licence. This requirement is only for sites where the proposed structure shall extend greater than one floor level into the existing ground level. 5. Groundwater quality testing must be conducted (and report supplied to the NSW Office of Water). Samples must be taken prior to the commencement of dewatering, (and ongoing to the satisfaction of the NSW Office of Water for any extraction and reinjection activities). Collection and testing and interpretation of results must be done by suitably qualified persons and NATA certified laboratory identifying the presence of any contaminants and comparison of the data against accepted water quality objectives or criteria. 6. Discharge of any contaminated pumped water (tailwater) that is not to be reinjected must comply with the provisions of the Protection of the Environment Operations Act 1997 and any requirements of the relevant controlling authority. The methods of disposal of pumped water (ie street drainage to the stormwater system or discharge to sewer) and written permission from the relevant controlling authority must be presented to the NSW Office of Water in support of the licence application. 7. Discharge of any contaminated pumped water (tailwater) that is to be reinjected, must comply with the provisions of the Protection of the Environment Operations Act 1997. The quality of any pumped water (tailwater) that is to be reinjected must be compatible with, or improve the intrinsic or ambient groundwater in the vicinity of the reinjection site. Contaminated groundwater is not to be reinjected into any aquifer. The following must be demonstrated in writing: <ol style="list-style-type: none"> a) The treatment to be applied to the pumped water (tailwater) to remove any contamination. b) The measures to be adopted to prevent redistribution of any contamination in the groundwater system. Any reinjection proposal that is likely to further spread contamination within the groundwater system will not be allowed and the project will need to be modified. 8. Written advice be provided from the Certifying Authority to the NSW Office of Water to certify that the following ground settlement issues have been addressed in reports submitted by the proponent: <ol style="list-style-type: none"> a) Assessment by a suitably qualified geotechnical professional that the proposed dewatering activity does not pose an unacceptable risk of off-site impacts such as damage to surrounding buildings or infrastructure as a result of differential sediment compaction and surface settlement during and following pumping of groundwater. b) Settlement monitoring activities to be undertaken prior to, during and for the required period of time following the dewatering pumping to confirm the impact predictions. c) Locations of settlement monitoring points, and schedules of measurement. <p><i>Formal Application Issues</i></p> <ol style="list-style-type: none"> 9. An application must be completed on the prescribed form for the specific purpose of temporary construction dewatering and a licence obtained from the NSW Office of Water prior to the installation of the groundwater extraction works. A plan drawn to scale will be required with the application clearly identifying the location of the dewatering installations. 10. Upon receipt of a Consent from the Department of Planning and prior to commencement of work, a fully completed licence application form is to be formally lodged with the Office of Water (accompanied by documentation clearly explaining the means by which the below-ground areas of the development will be designed and constructed to prevent any groundwater seepage inflows; and therefore preclude any need for permanent or semi-permanent pumping). Based on the licence application assessment meeting the Office of Waters statutory requirements, the NSW Office of Water will then be in a position to issue a Water Licence under Part 5 of the Water Act 1912.
<p>Voluntary Planning Agreement</p>	<p>The Proponent commits to entering into a Voluntary Planning Agreement with the City of Ryde Council, under Part 4 Division 6, Subdivision 2 of the Environmental Planning & Assessment Act 1979 and the City of Ryde Planning Agreements Policy for the provision of area wide road works, stormwater and other public domain works and affordable housing which will be of benefit to the wider community of Shepherds Bay and Meadowbank.</p>

SCHEDULE 5

Maximum Building Height Control Plans



PLAN 1 MAXIMUM NUMBER OF STOREYS ABOVE GROUND LEVEL (FINISHED) AS APPROVED BY THE PLANNING ASSESSMENT COMMISSION (March 2013)



PLAN 2 MAXIMUM RL HEIGHT CONTROLS AS APPROVED BY THE PLANNING ASSESSMENT COMMISSION (March 2013)

Appendix 3.5.1(b) Development Applications for the Development

Appendix 3.5.1(c) LWC Statement of Environmental Effects



Statement of Environmental Effects

Water Recycling Facility at Shepherds Bay Urban Renewal Project

Rothesay Avenue and Nancarrow Street, Meadowbank

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Name	Signature	Date
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1.0 Introduction

This Statement of Environmental Effects (SEE) has been prepared for Flow Systems Operations (A wholly owned subsidiary of Flow Systems Pty Ltd) to accompany a licence application to the Independent Pricing and Regulatory Tribunal (IPART) and a Development Application (DA) to Ryde Council for a water recycling facility. The licence application relates to all of the Shepherds Bay development approved as part of Concept Plan MP09_0216 (as modified) except Stage 1. The DA relates to Stages 2 and 3 of the Shepherds Bay development and the more recent LDA 2015/0018. This DA relates to 9-11 Rothesay Avenue and 12-16 and 18 Nancarrow Avenue, Meadowbank (“the site”).

The licence application and DA seeks approval for the installation of a water recycling facility, as defined under the *Ryde Local Environmental Plan 2014*, and will be located within the basement of Buildings 2 and 3 as identified in LDA 2015/0018. All other aspects of the existing approvals will remain essentially the same.

The water recycling facility will be known as the Shepherds Bay Local Water Centre (Shepherds Bay LWC) and will be constructed, operated and maintained by Flow Systems Operations.

This SEE is based on the detailed drawings contained in **Appendix 1**, and other supporting technical information including an Odour Impact Assessment contained in **Appendix 2** and an Acoustic Assessment contained in **Appendix 3**. The proposed development is essentially a mechanical and electrical fit out of the basement of the building in which it will be housed as well as the operation of the resultant Shepherds Bay LWC. Accordingly this DA does not include the concrete structure where the Shepherds Bay LWC will reside.

This SEE has been prepared in accordance with the requirements of Section 78A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Schedule 2 of the EP&A Regulation and describes the proposed development and its context, assesses the proposed development against applicable planning guidelines and assesses the environment impacts and mitigation measures.

It is noted that IPART has the authority to recommend to the Minister for Lands and Water to approve the licence application under the *Water Industry Competition Act 2006* (WICA). WICA is part of the NSW Government strategy for a sustainable water future and enables private sector innovation and investment in the water and wastewater industries. WICA enables new entrants to the industry and ensures the continued protection of public health, consumers and the environment.

This SEE has also been prepared with due regard for the licensing criteria, principles and environmental clauses in the *Water Industry Competition Act 2006* (WICA) and the *Water Industry Competition (General) Regulation 2008*.”

1.1 Site Description

The site comprises 9-11 Rothesay Avenue, 12-16 and 18 Nancarrow Avenue, Meadowbank, as illustrated in **Figure 1**. The site is located approximately 14 kilometres north-west of the Sydney CBD and on the Shepherds Bay foreshore between Ryde and Meadowbank.

1.2 Background

The NSW Government introduced the WICA as part of its strategy for a sustainable water future to harness the innovation and investment potential of the private sector in the water and wastewater industries. WICA established a licensing regime for new entrants to the industry to ensure the continued protection of public

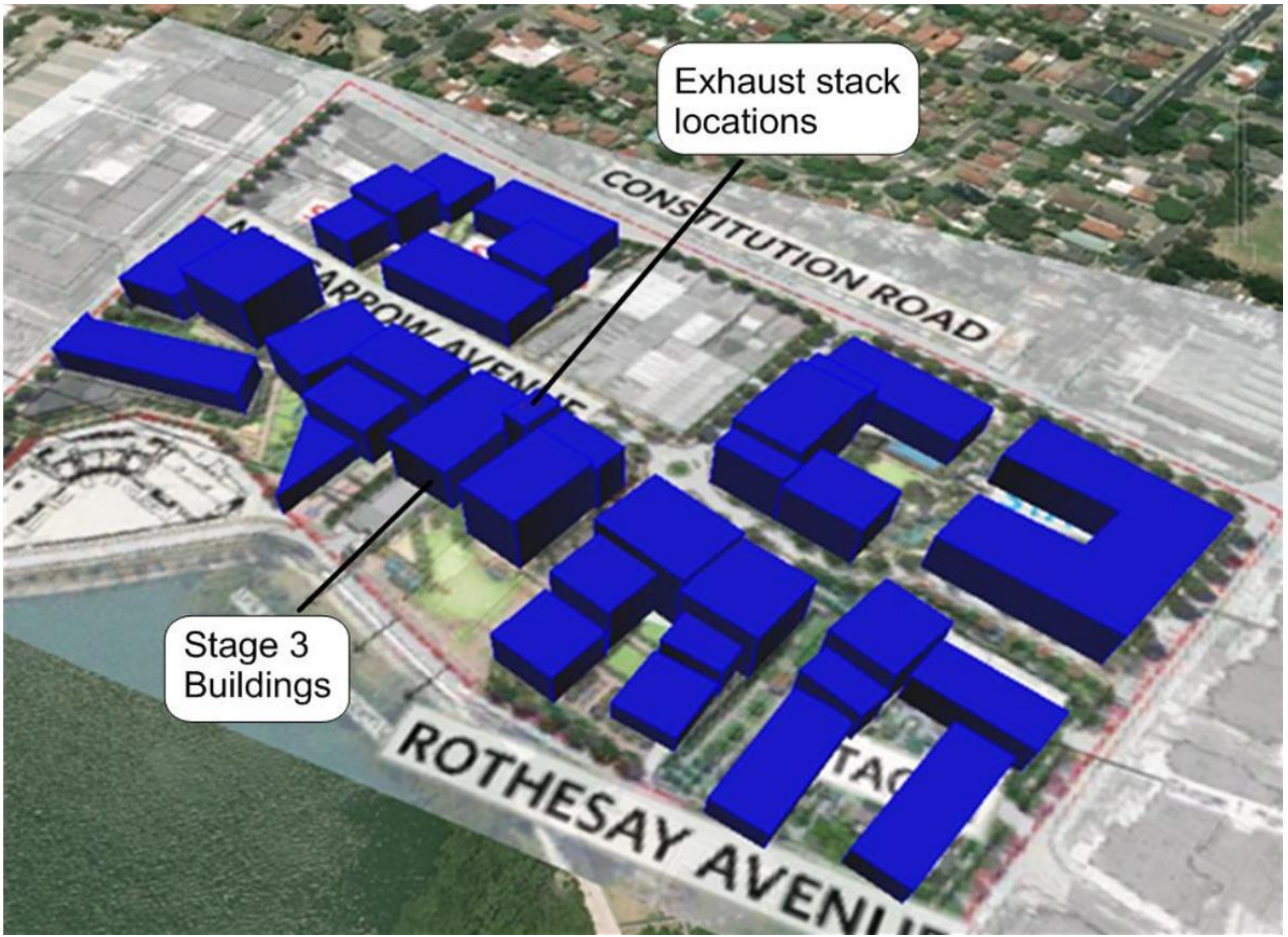
health, consumers and the environment. The private sector is now encouraged to develop and operate water management schemes and the licensing system is governed by IPART.

New residential development requires the co-ordinated provision of reticulated water and sewerage services. The proposal is seen as the best alternative type of facility because the off-site impacts are limited; and because it is scalable it allows supply to increase in line with the anticipated residential development and the volume of waste to be treated. The Shepherds Bay LWC will make a significant contribution to sustainability through the provision of recycled water back to the residents of the Shepherds Bay Urban Renewal Project.

The alternative to the proposed Shepherds Bay LWC is to pipe sewage from the Renewal Project Area to an existing sewage treatment plant for treatment and disposal. This may require an amplification/upgrade of the relevant pipe work and receiving treatment plant. This alternative would be more expensive, have greater potential environmental impacts, and fail to achieve sustainability initiatives for water re-use.

The Shepherds Bay LWC will process wastewater through its sustainable, state-of-the-art recycled water system, providing apartments and retail businesses within the Urban Renewal Project with a secure and environmentally friendly source of recycled water for household and business use, and to sustain landscaping, gardens and public spaces within. The system proposed is closed in so far as rainwater, groundwater and stormwater cannot flow into the system and there are no wet weather overflow events discharging into the environment. Significantly, this minimisation and predictability of flow allows for technically advanced treatment technology (membrane bioreactor) to be utilised. Hence the Shepherds Bay LWC footprint is compact and the application of "traditional" buffers and distances between the LWC and other uses are not relevant having regard for the advanced technology within the LWC.

Figure 1 Site Location Plan



2.0 Proposed Development

2.1 Overview

The DA seeks consent from Ryde Council for the construction and operation of a water recycling facility, known as the Shepherds Bay LWC and will be built over three basement levels. The Shepherds Bay LWC reuses wastewater through its sustainable, state-of-the-art recycled water system, providing apartments and retail businesses within the Urban Renewal Project with a secure and environmentally friendly source of water for household and business recycled water use, and to sustain landscaping, gardens and public spaces within. It uses Membrane Bioreactor (MBR) and Reverse Osmosis technologies, designed to simplify operational management and minimise maintenance.

Importantly the technology can be completely controlled remotely, it requires minimal space and does not smell or make any disturbing noise. Flow Systems Operations will bill customers directly and is subject to licensing requirements like Sydney Water. IPART and the Minister for Lands and Water oversee the administration and operation of private water licences.

The recycled water network proposed will harness multiple water sources with varying qualities and create multiple water supplies, covering all the water requirements of the community.

The eight processes for treatment of the waste water are listed below:

- Wastewater Screening - Plastics and rubbish are taken out of the wastewater
- Anaerobic Processing - After the wastewater is screened it enters the biological processing tank for anaerobic processing. Natural bugs break down the wastewater.
- Aerobic Air - Air is added to the wastewater, creating new bugs which continue the break down process.
- Chemicals Added - Four chemicals namely: Sodium Hydroxide, Sodium Hypochlorite, Aluminium Sulphate and Acetic Acid - are added at different stages if required during processing.
- Membrane Fibres - Purified water is sucked through microscopic membranes that block out bugs - removing bacteria, pathogens and all other impurities. The holes in the fibres are so tiny, bacteria and viruses are unable to penetrate and are forced out, further cleaning the recycled water.
- Reverse Osmosis - Water then moves through another membrane filtration technology known as Reverse Osmosis and removes small molecules, ions and salts from the water, improving quality.
- Ultraviolet - Water goes through an Ultraviolet purification process neutralising any remaining impurities.
- Chlorine - Chlorine is added to the water for the final purification process.

The wastewater treatment process meets strict Australian Guidelines for Water Recycling set out by Federal and State Governments. The wastewater is cleaned to the highest Australian standards.

The end product is recycled water plumbed into apartments within the Shepherds Bay Urban Renewal Project. The recycled water will be used for non-potable purposes including flushing toilets, washing clothes and irrigation. Using drinking water for these purposes is considered wasteful, especially when we live in a climate of constant droughts and dry periods. By using recycled water instead, each apartment household can save up to 50 per cent of drinking water.

2.2 Detailed description

The proposed development will be located on three basement levels of the buildings within Stage 2 and 3 and will collect sewage from Shepherds Bay Urban Renewal Project (Stages 2 to 9) and will provide recycled water back to Stages 2 to 9. The layout of the LWC is illustrated in **Appendix 1** and will occupy approximately 1,200m² over the three nominated basement levels.

The plant and equipment used in the facility will include:

- Screens;
- Pumps;
- Blowers;
- Mixers;
- Compressors;
- Chemical dosing systems;
- Tanks;
- Electrical cabinets;
- Instrumentation;
- Valves and pipe work; and
- Back-up generator.

Specifically the lower level will comprise of the following:

- Two 52 kL Anoxic Tanks two levels high ;
- Two 149 kL Aerobic Tanks two levels high two levels high;
- One 255 kL Balance Tanks two levels high ;
- Four aeration blowers;
- Four Blower units
- Two Air compressors;
- Two Bio Feed pumps;
- Supporting pumps; and
- One 800 kL treated water tank, two levels high.

The mid level will comprise of the following:

- Upper level of the two 52 kL Anoxic Tanks;
- Upper level of the two 149 kL Aerobic Tanks;
- Upper level of the 255 kL Balance Tank
- Upper level of the 800 kL treated water tank;
- Control room;
- Ultra violet unit;
- Reverse osmosis unit;

- Two MOS cells two levels high
- Transfer pumps
- Vehicle access and parking for a passenger vehicle;
- Electrical cabinets; and
- Instrumentation and chemical dosing systems/

The upper level will comprise of

- Upper level of the two MOS cells;
- Two fine screens; and
- Bio-action odour scrubber (if needed).

2.3 Outline of Construction Works

Allowance of the LWC space will commence in concert with the detailed excavation of Buildings 2 and 3 as identified in LDA 2015/0018. Construction of the residential building will include installation of under slab pipe work and conduits followed by traditional form, reinforcement and pouring of concrete floors and walls. The concrete tanks will be hydraulically tested.

Once the building is complete and sufficient sewage is being collected for the residential development the remaining area of the LWC will be equipped with mechanical, electrical and control equipment including pumps, mixers, inlet screens, odour control unit, membranes, UV disinfection and chemical dosing tanks. This SEE applies only to the latter mechanical and electrical fit out.

2.4 Construction plant and equipment

The following plant and equipment would be required to undertake the proposed works:

- Rigid and articulated delivery trucks;
- Portable generators;
- Scaffold;
- Elevated work platforms; and
- General construction / building tools.

2.5 Construction Workforce

It is anticipated that the construction works would be undertaken by a work crew of 5 – 6 people over a six month period. All contractors and machine operators will be inducted on the environmental sensitivities of the work and relevant safeguards.

2.6 Construction Hours

The Shepherds Bay LWC will be constructed during the following hours:

- Monday to Friday 7am to 6pm; and
- Saturday 8am to 1pm.

No construction work is proposed to be undertaken on Sundays or Public Holidays.

2.7 Construction Program

Construction works for the Shepherds Bay LWC are expected to take approximately 6 months. Works are anticipated to begin in mid 2019.

2.8 Environmental Management Plan – Construction Phase Activities

During construction environmental safeguards referred to in this SEE shall be implemented. Shepherds Bay Water will prepare a Construction Environmental Management Plan (CEMP) covering the construction phase prior to the commencement of construction.

2.9 Outline of Operation Works

The operation of the Shepherds Bay LWC will be undertaken by Flow Systems Operations on the following basis:

- The facility will operate 24 hours a day, 7 days per week;
- The goods to be stored are recycled water and drinking water, which are transported by pipe system to the customers;
- Chemicals used for treatment and dosing will also be stored on site; and
- Any waste water screenings will be collected and disposed by way of an authorised waste disposal contractor.

In relation to management of recycled water it is noted that Flow Systems Operations will address each of the twelve (12) elements associated with recycled water in the *Australian Guideline for Water Recycling 2006* (AGWR) and the 12 elements are identified below.

- Commitment to responsible use and management of recycled water
- Assessment of the recycled water system
- Preventive measures for recycled water management
- Operational procedures and process control
- Verification of recycled water quality and environmental performance
- Management of incidents and emergencies
- Operator, contractor and end user awareness and training
- Community involvement
- Validation, research and development
- Documentation and reporting
- Evaluation and audit
- Review and continual improvement

Flow Systems Operations parent company, Flow Systems Pty Ltd and its various subsidiaries (e.g. Central Park Water), have demonstrated previously that it has the capacity to implement and maintain the 12 element approach. Central Park is located at Broadway in inner Sydney is an example of an existing facility currently in operation.

Recycled water will be managed in accordance with Flow Systems Operations network operator's licence, issued under WICA, its recycled water quality management plan and the associated regular compliance audits by independent auditors under the WICA licensing regime.

3.0 Statutory Considerations

This section identifies the relevant statutory planning provisions that apply to the site.

3.1 Environmental Planning and Assessment Act 1979

The proposed development is being assessed under the provisions of the EP&A Act. The proposal will be determined under Part 4 of the EP&A Act with Ryde Council being the consent authority. Section 79C (1) of the EP&A Act outlines the matters for consideration for development applications prepared under Part 4.

3.2 State Environmental Planning Policies

3.2.1 Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (SREP SHC), a deemed SEPP, aims to establish a balance between promoting a prosperous working harbour, protecting and maintaining a healthy and sustainable waterway environment and promoting recreational access to the foreshore and waterways.

The SREP SHC land use map identifies that land along the foreshore adjacent to the site is zoned W2 - Environmental Protection. This zone provides for the protection, rehabilitation and long-term management of the natural and cultural values of the waterways adjoining the foreshores. Land along the foreshore adjacent to site is also zoned W8 – Scenic Waters Passive Use Fringe. This zone aims to give effect to inter-tidal public access zones and gives priority to protecting the environment and scenic values of predominately natural shores and waters. The Passive Use Fringe Zone may adjoin residential land or public open space.

Stages 2 and 3 of the “Shepherds Bay” development, approved as part of Concept Plan MP09_0216 (as modified) and the more recent LDA 2015/0018 correctly identified that the sites re-development is consistent with the Concept Plan for the area. Given the substantial positive outcomes being delivered as a result of the establishment of the Shepherds Bay LWC, the proposal is considered to be clearly in the public good.

3.2.2 State Environmental Planning Policy No. 32 – Urban Consolidation (Redevelopment of Urban Land)

Some of the key objectives of the policy, which apply to the site, are to promote urban consolidation; ensure that suitable urban land for multi-unit housing is made available and to provide a greater diversity of housing to meet demand generated by changing demographics and housing needs.

The proposal supports this policy as it will not impinge on the existing approvals over the site (Concept Plan MP09_0216 (as modified) and the more recent LDA 2015/0018) which will encourage higher-density residential development in an existing urban area with good access to transport and services.

3.2.3 State Environmental Planning Policy No. 55 – Remediation of Land

The objective of SEPP 55 – Remediation of Land is to promote the remediation of contaminated land for the purpose of reducing risk of harm to human health or any other aspect of the environment. Clause 7 of the SEPP relates to development applications. That is, a consent authority must firstly consider whether a site is contaminated. If the land is contaminated, the consent authority must be satisfied that the land is suitable in its contaminated state, or it will be suitable after remediation, for the proposed development.

A Remediation Action Plan (RAP) has been prepared as part of LDA 2015/0018 and considers that the site the subject of this DA can be made suitable for the approved residential and open space development following the implementation of the RAP, as endorsed by the Site Auditors Advice.

3.2.4 State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development

SEPP 65 sets out 10 design principles for residential flat development, which include context, scale, built form, density, landscape, amenity, resource energy and water efficiency, safety and security, social dimensions and aesthetics. SEPP 65 and the supporting Residential Flat Code are considered to be the key guiding planning documents informing the assessment of Stages 2 and 3 LDA 2015/0018. Therefore SEPP 65 is not applicable to the proposed development as all other aspects of the existing approvals for Stage 2 and 3 (Concept Plan MP09_0216 (as modified) and the more recent LDA 2015/0018) remain essentially the same.

3.2.5 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

The Building Sustainability Index (BASIX) was introduced by the NSW Government to deliver equitable water and greenhouse gas reductions across the state. It sets water and energy reduction targets (as a percentage) for new houses and units, ensuring that dwellings are designed to use less potable water and emit less greenhouse gases. Previous BASIX Assessments for Concept Plan MP09_0216 (as modified) and the more recent LDA 2015/0018 confirm that Stages 2 and 3 will meet, if not exceed all relevant BASIX requirements.

3.3 Ryde Local Environmental Plan 2014

Flow Systems Operations is applying to Ryde Council to amend the land use table for the current B4 Mixed Use zone contained within *Ryde Local Environmental Plan 2014* and which covers the subject site. The amendment via the lodgement of a formal Planning Proposal will seek to remove the definition of “water recycling facility” from the list of prohibited uses within the zone and allow it be a use that will be permitted with development consent.

4.0 Non-statutory considerations and other legislation

This section identifies the relevant strategic and non-statutory planning provisions that apply to the site. It also considers

4.1 Ryde Development Control Plan

Part 4.2 of the Ryde Development Control Plan is a non-statutory guide to the future development of the Shepherd's Bay precinct. The provisions within Part 4.2 will see the employment area progressively transformed into a transit-orientated, mixed use environment.

There are no specific development controls within Part 4.2 of the Ryde Development Control Plan that relate to the proposal however it is noted that Section 2.2.2 states the following:

“Development is to create a safe and comfortable environment for residents and workers in both private and public open spaces, through best practice design that ensures buildings and spaces achieve maximum environmental performance and minimum resource use.”

Establishment of the Shepherds Bay LWC will achieve maximum environmental performance by recycling sewage and by reducing potable water consumption. The proposal will contribute to water conservation and re-use, use of recycled materials and contribute to waste reduction.

4.2 Other Legislative Requirements

Other state legislation relevant to the assessment of environmental impacts on the LWC have been considered and are outlined below.

Water Management Act 2000

The *Water Management Act 2000* is administered by the NSW Office of Water (NOW). The objective of this Act is to protect watercourses from any deleterious effects as a result of works within or near such watercourses. Part 3A of the Act requires any persons undertaking works within 40 metres of a watercourse to obtain a permit. The proposal does not require a “Controlled Activity Approval” under the *Water Management Act 2000* due to the works being located more than 40 metres from a watercourse.

The proposal does not require ‘Water Management Work Approval’ nor ‘Aquifer Interference Approval’ under the *Water Management Act 2000*.

Water Industry Competition Act 2006 and Water Industry Competition (General) Regulation 2008

WICA, as part of its strategy for a sustainable water future aims to harness the innovation and investment potential of the private sector in the water and wastewater industries. WICA established a licensing regime for new entrants to the industry to ensure the continued protection of public health, consumers and the environment. The private sector is now encouraged to develop and operate water management schemes and the licensing system is governed by IPART and the Minister for Lands and Water.

It is noted that the activities covered by this proposal are contingent on the lodgement and approval of a development application by Ryde Council under Part 4 of the EP&A Act, and therefore cannot commence until that further approval is granted.

IPART assesses WICA licence applications based on licensing criteria and principles in WICA, including the following environmental sections/ clauses within WICA and the Water Industry Competition (General) Regulation 2008.

Water Industry Competition Act 2006

“7 Licensing principles

(1) In considering whether or not a licence is to be granted under this Part and what conditions are to be imposed on such a licence, regard is to be had to the following principles:

(a) the protection of public health, the environment, public safety and consumers generally.”

Water Industry Competition (General) Regulation 2008

“7 Matters as to which Minister must be satisfied in relation to licence applications: section 10 (4) (e)

Before granting a network operator’s licence, the Minister must be satisfied that the applicant has the capacity to carry out the activities that the licence (if granted) would authorise in a manner that does not present a significant risk of harm to the environment.”

In considering licence applications the Minister administering the WICA must be satisfied of such other matters that he/she considers relevant, having regard to the public interest.

Protection of the Environment Operations Act 1997

One of the aims of the *Protection of Environment Operations Act 1997* (POEO Act) is to reduce risks to human health and prevent the degradation of the environment by the use of mechanisms that promote the following:

- Pollution prevention and cleaner production,
- The reduction to harmless levels of the discharge of substances likely to cause harm to the environment,
- The elimination of harmful wastes,
- The reduction in the use of materials and the re-use, recovery or recycling of materials,
- The making of progressive environmental improvements, including the reduction of pollution at source, and
- The monitoring and reporting of environmental quality on a regular basis.

Although the proposal is not a scheduled activity for the purposes of the POEO Act, Clause 120 (Prohibition of pollution of waters) identifies that a person who pollutes any waters is guilty of an offence. Clause 148 (Pollution incidents causing or threatening material harm to be notified) identifies the kinds of pollution incidents that must be notified to the EPA and the duties that persons, employees, employers and agents must take in respect of a pollution incident.

Flow Systems Operations will ensure that in the unlikely event of a pollution incident all remedial actions are in accordance with the POEO Act.

4.3 Sustainability Living

Ryde Council has a number of initiatives for helping residents to live more sustainably at home and in the community including a free advisory service. The proposed development of the Shepherds Bay LWC will

contribute to sustainability by decreasing the need for the use of potable water for uses for household uses and is therefore seen as valuable addition to the existing initiatives created by Council.

5.0 Likely Impacts

This section of the SEE provides a detailed description of the potential environmental impacts associated with the proposal during both construction and operation. All aspects of the environment potentially impacted upon by the proposal are considered.

5.1 Odour and Air Quality

Pacific Environment was engaged to prepare an Odour Impact Assessment for the proposed development and for inclusion within this SEE. Findings and recommendations from the Assessment are summarised below and the Assessment is contained in **Appendix 3**.

5.1.1 Existing Environment

The Assessment provides a discussion of air quality issues with respect to odour and reviews the dispersion meteorology in the area. The Assessment then evaluates potential odour impacts for two operational scenarios.

To characterise the potential odour impacts of the proposed development, odour sampling was done at an existing facility in a similar development at Central Park, Sydney. The purpose of the monitoring was to characterise the odour from the existing facility and use the data to derive odour emission rates (OERs) for use in odour impact assessments for the proposed facility.

The overall approach to the assessment follows the *Approved Methods and Guidance for the Modelling and Assessments of Air Pollutants in NSW* (NSW EPA Approved Methods) using the Level 2 assessment methodology. The NSW EPA Approved Methods specify how assessments based on the use of air dispersion models should be completed. They include guidelines for the preparation of meteorological data to be used in dispersion models and the relevant air quality criteria for assessing the significance of predicted concentration and deposition rates from the project. The approach taken in this assessment follows as closely as possible the approaches suggested by the NSW EPA Approved Methods.

The air dispersion modelling conducted for this assessment is based on an advanced modelling system using the AERMET/AERMOD model. AERMOD was chosen as the most suitable model due to the source types, location of nearest receptors and nature of local topography.

5.1.2 Potential Impacts

The AERMOD model was run for ground level concentrations and also at various elevated receivers.

The predicted odour concentrations at ground level are shown in **Figure 2**. Peak-to-mean factors have been applied in the modelling and are included in the predictions. **Figure 3** shows the predictions at a height of 30 m above ground level which is the height of the roof of the adjacent building.

It can be seen from both plots within **Figure 2** and **Figure 3**, that concentrations at the nearest receivers are very low, well below 1 OU (99th percentile) which is the theoretical level of detection (that is, the level at which an odour can be detected but not be distinguishable from other odours). The proposal is therefore predicted to comply with the NSW EPA odour assessment criterion of 2 OU.

Figure 2 Predicted 99th percentile odour concentration at ground level



Figure 3 Predicted 99th percentile odour concentration at a 30m elevation



5.1.3 Conclusion

The Odour Impact Assessment Report assessed the air quality impacts of the proposed Local Water Centre at the site. The Odour Impact Assessment was based on odour emission rates derived from measurements at a similar facility at Central Park, Sydney. This information was combined with local meteorological data and computer-based dispersion modelling to determine air quality impacts on the proposed residential areas in the vicinity of the plant. Concentrations were also predicted at various elevated receivers in the modelling terrain.

Results from the dispersion modelling indicated that predicted odour concentrations from the proposed facility would comply with the most stringent assessment criterion of 2 OU (99th percentile) at all sensitive receivers. The predicted odour concentrations are at or below 1 OU, the theoretical level at which odour becomes detectable but not necessarily distinguishable, at all receivers.

5.2 Noise

Wilkinson Murray Pty Ltd was engaged to prepare an Acoustic Assessment of the proposal and for inclusion within this SEE. Findings and recommendations from the Acoustic Assessment are summarized below and the Acoustic Assessment is contained in **Appendix 7**.

5.2.1 Existing Environment

The LWC is to be located in the north-western corner of the basement of Stage 3 of the “Shepherds Bay” redevelopment, on Nancarrow Ave in the centre of the redevelopment as shown in **Figure 1**. It should be noted that the LWC will be fully enclosed within the building and access would be gained via the underground car park. The Acoustic Assessment evaluates potential noise impacts associated with the operation of the LWC in accordance with the Environmental Protection Authority (EPA) *Noise Guideline for Local Government* and the *Industrial Noise Policy (INP)*.

Attended monitoring was conducted on Monday 22 June 2015 to determine existing background noise levels at the end of the ‘evening’ and beginning of the ‘night’ periods, as defined by the INP. **Figure 4** shows the location where measurements were taken. Background noise levels were measured and determined by the Acoustic Assessment as detailed in **Table 1**.

Table 1 Measured Rating Background Noise Levels (dBA)

Location	Evening (6pm – 10 pm)	Night (10 pm – 7 am)
Nancarrow Avenue	44	43

5.2.2 Potential Impact

Equipment may be turned on and off at the LWC to cope with fluctuations in demand. At a similar facility, the Central Park LWC in Sydney, the louder plant switches off at approximately 11pm and restarts at around 6am. The time when the noise criteria would be most stringent is expected to be around 10-11pm, as this is the beginning of the ‘night’ period as defined in the INP.

The INP’s intrusive noise goal is the noise level 5dBA above the background noise level for each time period (daytime, evening or night time) of interest. The background noise level is derived from the measured LA90 noise levels. Based on the attended measurement, the most stringent criteria would be 48 dBA (43 + 5 dBA) during the night.

Figure 4 Noise measurement locations



Predicted noise levels from the plant inside the LWC are given in Appendix A of the Acoustic Assessment and are also provided below:

- Aeration blower – 72 dBA;
- Bio feed pump – 56 dBA;
- MOS Blowers – 72 dBA;
- Air compressors – 60 dBA;
- MOS feed pumps – 52 dBA;
- RAS pumps – 52 dBA;
- MOS Cell – less than 70 dBA;
- Transfer pumps – 73 dBA;
- RO Feed and CI loop pumps – less than 70 dBA;
- RO Unit – 73 dBA; and
- Fine screens – less than 70 dBA.

The Acoustic Assessment states that as the LWC is to be located within the basement of the building comprising Stage 3 of the development, it is expected that there will be sufficient barriers between the plant and the nearest residential receivers. Therefore, the facility will be inaudible to surrounding residences.

It is possible that ventilation systems may allow for some noise egress. The Acoustic Assessment suggests that care should be taken when designing the ventilation system to ensure nearby residential receivers are not exposed to noise levels that would breach INP guidelines.

5.2.3 Conclusion

Operational noise associated with the proposed LWC has been assessed against noise criteria set out in the INP and noise from the facility is not expected to significantly affect the nearest existing or future residences.

5.3 Stormwater Management

The LWC will be located within the basement of Buildings 2 and 3 as identified in LDA 2015/0018 and there will be no changes to the stormwater management regime over the site. Existing drainage conditions, proposed design and relevant impacts associated with development are contained in the previously submitted Stormwater Concept Plans submitted with LDA 2015/0018.

5.4 Traffic, Access and parking

The LWC will be located within the basement of Buildings 2 and 3 as identified in LDA 2015/0018. The detailed drawings contained in **Appendix 1** illustrate the provision of one car parking space suitable for temporary parking for a single unit truck (chemical delivery 1 -3 times per month) and for the parking of Flow Systems Operations utility / passenger vehicle during routine visits two to three times per week. Based upon the traffic expected to be generated by the proposal the provision of one car parking space, with security access via the basement car park of Buildings 2 and 3, is considered appropriate.

5.5 Flooding and Groundwater

The LWC will be located within the basement of Buildings 2 and 3 as identified in LDA 2015/0018 and there will be no changes to the impacts of the proposal with respect to flooding and groundwater as already

documented for the overall Shepherds Bay re-development. Existing flooding and groundwater conditions and impacts drainage proposed design and relevant impacts associated with development are contained in the previously submitted Flooding Assessment and Groundwater Investigation report with LDA 2015/0018.

5.6 Erosion and Sediment Control

Erosion and sediment control conditions will not be altered as a result of the proposal. Existing conditions, proposed design and relevant impacts associated with development are contained in the previously submitted Erosion and Sediment Plan submitted with LDA 2015/0018.

5.7 Waste Management

This proposal relates only to the fitting out of what will be an existing building.

Waste materials likely to be generated by the construction of the LWC itself will include:

- Off-cuts of piping from construction works;
- Timber and other material off-cuts from construction of internals; and
- Domestic waste such as paper, aluminium cans and material generated by workers.

During operation of the LWC grit and screening debris will be collected in a bin and disposed to authorised landfill. The disposal of grit and screen debris will be carried out in accordance with the *Waste Classification Guidelines Part 1: Classifying Waste* (DECCW 2009) and the EPA *Environmental Guidelines: Use and Disposal of Biosolids Products (2000)*.

The extent of the potential waste impacts is low due to the relatively small amounts of waste to be generated and the short time-frame for construction. There will be no onsite maintenance of vehicles and machinery.

In conclusion, the potential waste impact from the operation of the proposal will be low.

5.8 Risks and Hazards

5.8.1 Potential Impacts

During construction of the Shepherds Bay LWC there is a possibility that fuels, oils and greases may be discharged to the storm water system if they are inappropriately stored. Storage and handling of hazardous materials will be in accordance with the state and national regulations and guidelines and best practice for the storage and removal of these materials.

During the operation of the Shepherds Bay LWC a number of chemicals will be used. The chemical types and predicted volumes are provided in **Table 2**.

Table 2 Chemical types and predicted volumes during Shepherds Bay LWC operation

Chemical	Function	Approx. Consumption (L/year)	Total Storage (L)
Alum	Phosphorous removal	10,000	1x3,000 and 1x4,500
Sulphuric Acid	Lower pH of Reverse Osmosis (RO) feed water	Nil	265
Antiscalant	Reduce fouling of RO membranes	800	265
Sodium Hypochlorite	Water disinfection and mbr membrane cleaning	8,000	1x3,000 and 1x4,500
Sodium Hydroxide	pH correction of mbr feed water and final water	20,000	1x3,000 and 1x4,500
Citric Acid	Mbr membrane cleaning	600	3,500
Sodium Metabisulphate (SMBS)	Dechlorination of RO feed water	1,000	265
RO cleaning chemicals	Cleaning	300	265

These chemicals and potentially hazardous substances will be used and stored according to manufacturers' directions and regulatory requirements including the *Work Health and Safety Act 2011, AS 3780 The storage and handling of corrosive substances* and relevant guidelines.

In regards to public health, relatively few restrictions need to be placed on non-drinking water uses of tertiary treated and disinfected recycled water due to the high quality and low risk for direct human contact. End use controls and onsite constraints can also be used to minimise both human exposure to hazards and the impact on receiving environments; such as signage and control of plumbing and distribution systems.

Provided that the mitigation measures documented below are implemented the potential for the occurrence of environmental hazards and risks is considered to be a low risk and low hazard activity.

- Chemicals and potentially hazardous substances will be used and stored according to regulatory requirements including the *Work Health and Safety Act 2011, AS 3780 The storage and handling of corrosive substances* and relevant guidelines.
- The management of waste, including its transport will comply with the POEO Act and POEO (Waste) Regulation.
- The use of low-throw sprinklers, 180 degree inward-throwing sprinklers and/or tree or shrub screens will be considered to prevent off-lot discharge.
- Waste materials will be separated, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (DECCW 2009).
- All staff and contractors will be made aware of waste management procedures.
- Chemical, fuel and oil containers will be managed according to manufacturers' directions to avoid potential impacts to the environment or human health.
- Flow Systems Operations will ensure that in the unlikely event of a pollution incident all remedial actions are in accordance with the POEO Act.
- Flow Systems Operations will submit to IPART an Infrastructure Operating Plan and a Water Quality Plan which is consistent with the AGWR and address the *Framework for Management of Recycled Water Quality and Use*.
- Signage will be employed at recycled water reuse areas as appropriate to the relevant end use.

5.9 Socio economics

5.9.1 Existing Environment

The proposal is located within the Ryde LGA and will be contained in the basement of Buildings 2 and 3 as identified in LDA 2015/0018.

The proposal will service the approved development within the “Shepherds Bay” redevelopment area. It is considered that there will be minor short term constructional impacts on existing local residents including the presence of machinery and associated traffic movements, and the minor visual impacts of these. These impacts will be for a short period of time and will not create any long term socio-economic issues.

The proposal will contribute positively to the community by reducing the demand on potable water resources through the use of recycled water for approved uses. The recycled water is treated to a high quality in accordance with the AGWR and its intended end uses of landscape and planter box irrigation, toilet flushing and in washing machines. The AGWR was developed by representatives of state health authorities and scientists from state and federal authorities and its adherence ensures the health of people who live in areas using recycled water. It is likely that Flow Systems Operations network operator’s licence will stipulate that it adheres with AGWR and continues to produce recycled water to the required standard. The NSW regulator, IPART, will make sure that Flow Systems Operations complies with these standards through regular compliance auditing.

The proposal makes a significant contribution to sustainability of the re-development through the provision of recycled water back to the planned apartments reducing the demand on potable water sources.

Overall, the socio- economic impacts of the proposal are considered to be positive. The proposal will facilitate the development of the redevelopment area and provide a viable long term scheme for water re-use and thus make a significant contribution to sustainability and the conserving of resources.

It is considered that no significant socio-economic impacts other than the positive impact of enabling the redevelopment area to be adequately serviced by the necessary sewer and recycled water reticulation infrastructure.

5.10 Ecological Sustainable Development

5.10.1 Description of ESD

Ecologically Sustainable Development involves the conservation and enhancement of a community’s resources, so that the overall quality of life can be increased now and in the future. The aim is to meet the needs of a community and to conserve surrounding ecosystems for the benefit of future generations.

Ecologically Sustainable Development means changes to the use of resources, and includes improvements in the quality of air, land and water, and in the development of environmentally friendly products and processes.

The construction of the proposal will not pose any significant ecological impacts, and will provide benefits for current and proposed residents by the provision of reticulated recycled water to meet daily water demands. The provision of recycled water will dramatically decrease the need for the use of potable water for uses such as toilet flushing, cold water clothes washing and irrigation around the development area.

5.10.2 The Proposal and Principles of ESD

The proposal involves the installation and operation of a water recycling facility. The proposal's construction will benefit the current and future community in providing ready access to a sewage disposal and recycled water scheme that makes a significant contribution to sustainability.

Ecologically Sustainable Development involves the conservation of resources and providing benefits for local communities. This proposal complies with all principles of ESD including conserving the community's resources by reducing the demand on potable water. This proposal will enhance both current and future residents within the area.

The proposal meets the four principles of ESD through:

- The precautionary principle – The nature of the proposal is such that the potential for serious or irreversible environmental damage is limited. Mitigation measures to be incorporated into the Operational Management Plan for the LWC will be developed to prevent environmental degradation. Operating procedures will be developed in accordance with current best management practices with a view to achieving a sustainable option for wastewater treatment and the provision of reticulated recycled water to meet daily water demands. The provision of recycled water will dramatically decrease the need for the use of potable water for uses such as toilet flushing, cold water clothes washing and irrigation around the home.
- Inter-generational equity –The proposal provides a modern alternative to traditional gravity sewage systems and a sustainable source of recycled water to the Shepherds Bay redevelopment area. The potential impacts of the proposals are unlikely to result in long term degradation of the environment..
- Conservation of biological diversity and ecological integrity – The proposal is able to be conducted without any significant impact on the biological diversity and ecological integrity of the locality.
- Improved valuation and pricing of environmental resources – This proposal will benefit the current and future community in providing ready access to a sewage disposal and recycled water scheme that makes a significant contribution to sustainability.

6.0 Suitability of the Site

The site is contained within the basement of Buildings 2 and 3 of the Shepherds Bay development. The proposal is based upon a similar project located in Sydney CBD, known as Central Park. Further details of Central Park can be found at <http://flowsystems.com.au/communities/central-park-water/>

Similar to Central Park the proposal is located within the basement and will be owned and operated by a wholly-owned subsidiary of Flow Systems. Importantly the technology used in the operation of the proposal can be completely controlled remotely, requires minimal space and does not smell or make any disturbing noise.

The basement location for the proposal is considered to be appropriate.

7.0 Public Interest

It is within the public interest to provide an alternative and more sustainable solution to the treatment of sewage. Equally it is within the public interest to provide solutions that involve the reticulation of high quality recycled water back to the community saving up to 50 per cent of drinking water that would otherwise have been used, thus saving money and precious drinking water supplies. The proposal is therefore considered to be in the public interest.

8.0 Conclusion

This SEE has been prepared for the establishment of water recycling facility within Stages 2 and 3 of the Shepherds Bay redevelopment area. The development will be located in the basement of these buildings and will not be visible to the public.

The development is consistent with the relevant State and local environmental planning instruments and is unlikely to have a significant impact on the existing character of the surrounding properties within the area or the natural systems surrounding the development site.

Results from odour modelling of the development indicate that predicted odour concentrations from the proposed facility will comply with the most stringent assessment criterion of 2 OU (99th percentile) at all sensitive receivers. The predicted odour concentrations are well below 1 OU, the theoretical level at which odour becomes detectable but not necessarily distinguishable, at all receivers.

In relation to operational noise, the development has been assessed against noise criteria set out in the EPA's INP and noise from the facility is not expected to affect the nearest existing or future residences.

The development's construction will benefit the current and future community in providing ready access to a sewage disposal and recycled water scheme that makes a significant contribution to sustainability.

It is within the public interest to approve the development with the benefits to the community far outweighing the losses. It is in the interest of the greater good for the community if the development is approved.

It is requested that the City of Ryde Council approve the development application.



Appendix I

Concept Plans



Local Water Centre

Future Stage

Kingston Quarter

Kingston Quarter

Kingston Quarter

Future Stage

Crewman

The Row

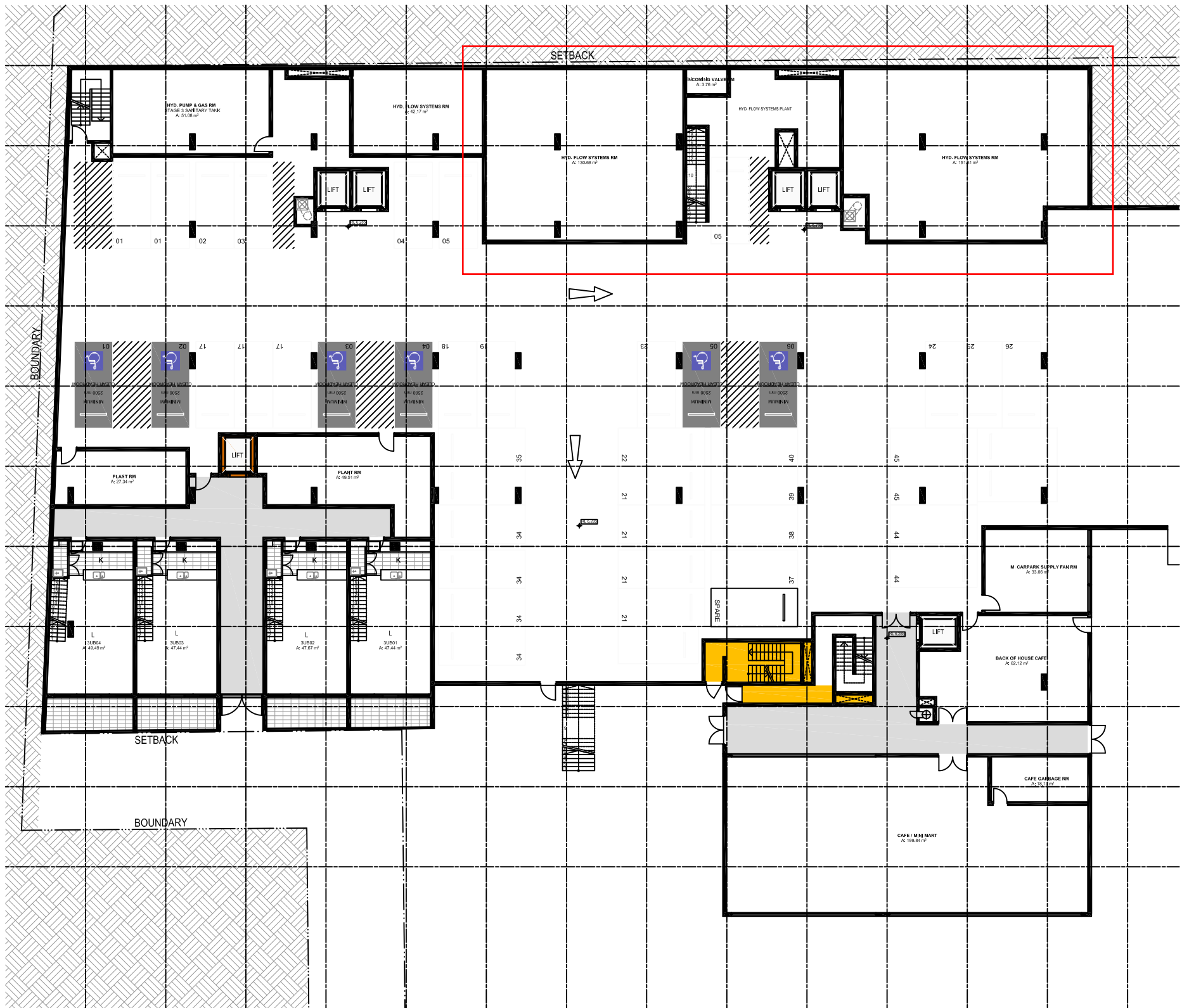
Harvard

Oxford

Future Stage

HURON AVENUE

HURON AVENUE



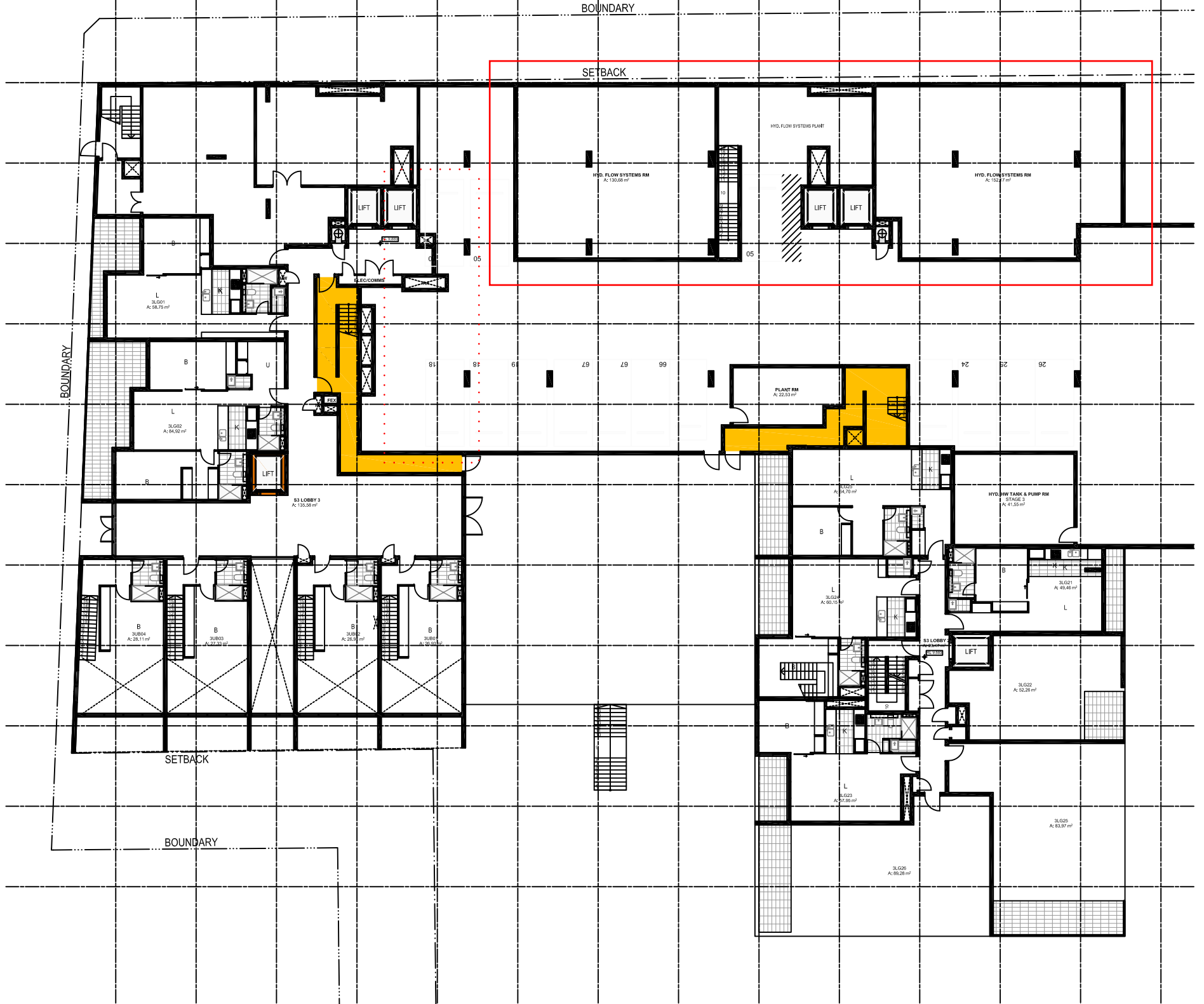
BOUNDARY

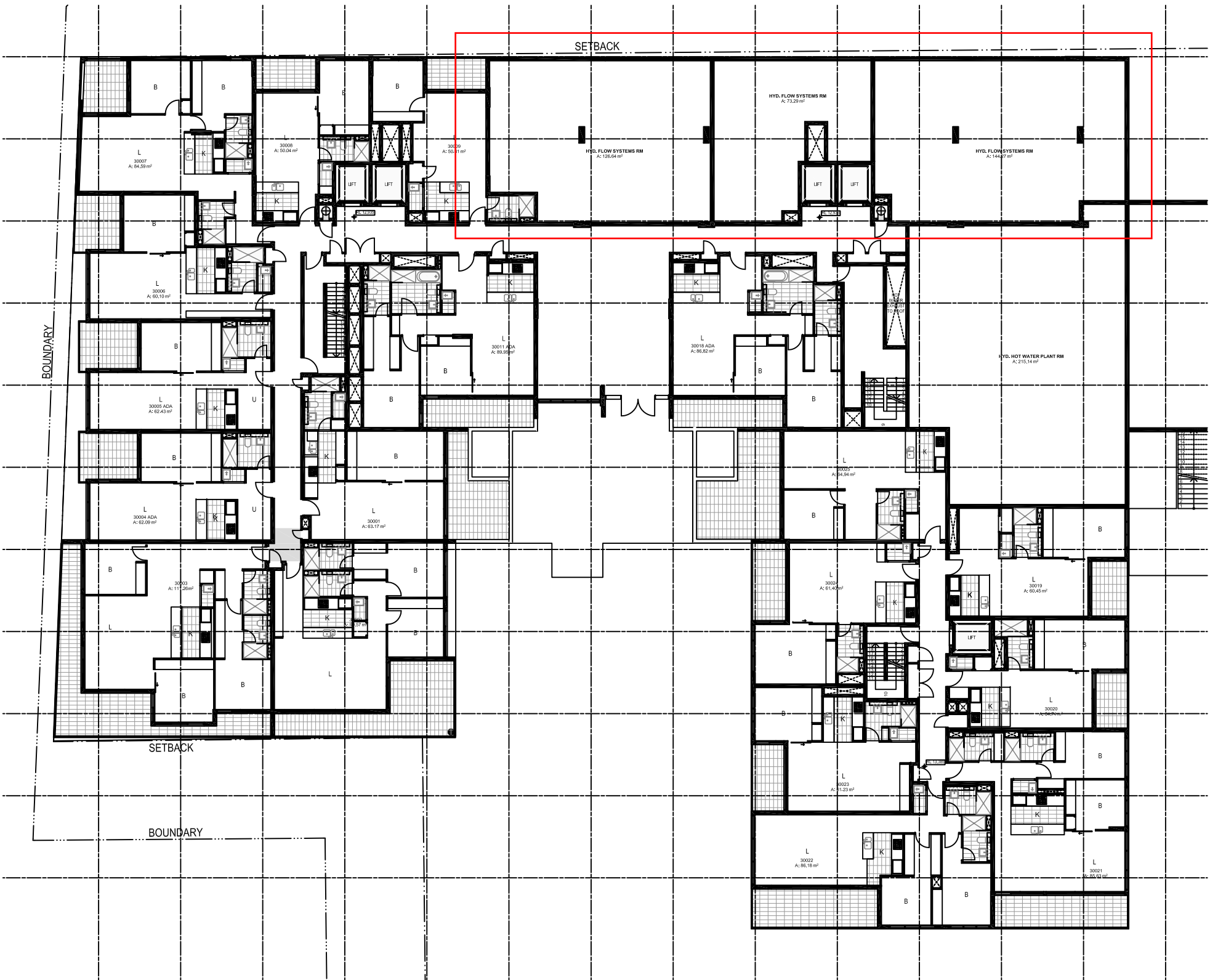
SETBACK

BOUNDARY

SETBACK

BOUNDARY







Appendix 2

Odour Impact Assessment



Report

Shepherds Bay Local Water Centre

Flow Systems

Job ID. 20378

25 June 2015

PROJECT NAME: Shepherds Bay Local Water Centre

JOB ID: 20378

DOCUMENT CONTROL NUMBER AQU-NW-001-20378

PREPARED FOR: Flow Systems

APPROVED FOR RELEASE BY: J. Barnett

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1 INTRODUCTION

This report has been prepared by Pacific Environment on behalf of Flow Systems for the Shepherds Bay Urban Renewal Development in Meadowbank. The proposed development involves construction, operation and maintenance of a water recycling facility known as Shepherds Bay Local Water Centre (LWC) and will provide all properties within the development with sewerage and recycled water services. The facility will be constructed and operated by a private licensed operator, Flow Systems Operations, trading as Shepherds Bay Services, a wholly owned subsidiary of Flow Systems Pty Ltd.

The study seeks to determine the odour concentrations at nearby sensitive receivers using atmospheric dispersion modelling. Odour sampling data representative of the two rooftop outlets were collected at an existing Flow Systems facility in a similar development at Central Park, Sydney. These data are used as inputs into the Shepherds Bay model and include treated ventilated air from the carbon filter and untreated air from the bioreactor. The odours are generated in the waste water treatment facility in the basement of the high rise and vented via pipes to the roof of the building where they are released to the atmosphere.

Modelling has been completed using the US-EPA regulatory AERMOD model, that has been used for many similar applications in NSW for the assessment of projects of this nature.

The report comprises the following components:

- A description of the project
- A discussion of air quality issues with respect to odour
- A review of the dispersion meteorology in the area
- An assessment of potential odour impacts for four operational scenarios.

2 SITE DESCRIPTION

The Shepherds Bay site (shown on **Figure 2.1**), is part of a proposed residential urban renewal project located on the northern banks of the Parramatta River in Meadowbank, Sydney. **Figure 2.1** shows the location of the site and its immediate surrounds and a pseudo three-dimensional representation of the proposed buildings on the site.

The Shepherds Bay LWC will utilise sewage from the development to produce high quality recycled water plumbed into the development's apartments and retail precinct for non-potable uses such as toilet flushing, washing machines, irrigation and car washing, thus reducing potable water demand.

The facility is proposed to be situated in the basement level of the Stage 3 building and is intended to operate 24 hours, 7 days per week with a biological treatment capacity of approximately 600kL per day. It will be equipped with an odour control system, consisting of a bioscrubber and a carbon filter. Treated air from the carbon filter and untreated air from the bioreactor tanks will be drawn through pipes to the roof of the building and vented to the atmosphere. The two exhaust locations are also shown in **Figure 2.1**.

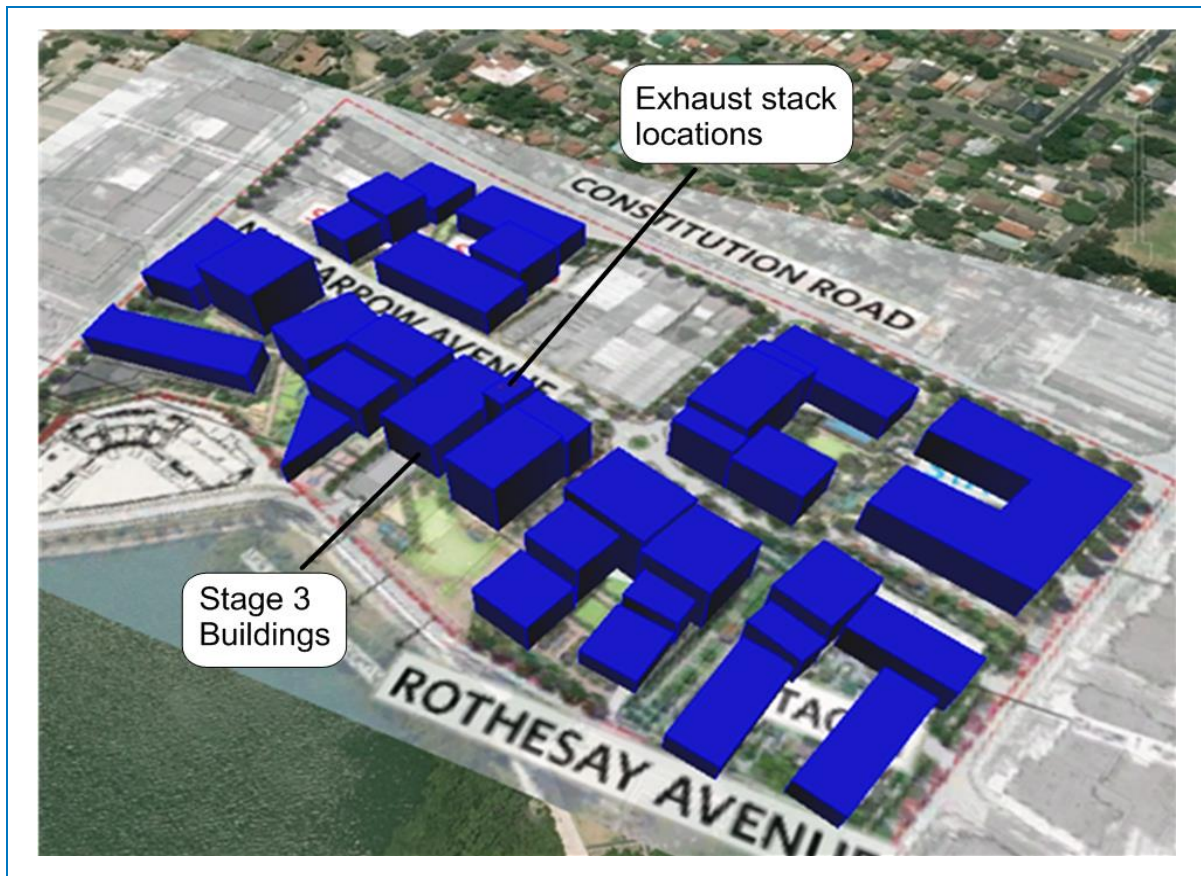


Figure 2.1: Proposed project site location

3 DISCUSSION OF AIR QUALITY ISSUES

3.1 Odour Performance Criteria

3.1.1 Introduction

The determination of air quality goals for odour and their use in the assessment of odour impacts is recognised as a difficult topic in air pollution science. The topic has received considerable attention in recent years and the procedures for assessing odour impacts using dispersion models have been refined considerably. There is still considerable debate in the scientific community about appropriate odour goals as determined by dispersion modelling.

The NSW Environment Protection Authority (NSW EPA) has developed odour goals and the way in which they should be applied with dispersion models to assess the likelihood of nuisance impact arising from the emission of odour.

There are two factors that need to be considered:

1. What "level of exposure" to odour is considered acceptable to meet current community standards in NSW and
2. How can dispersion models be used to determine if a source of odour meets the goals which are based on this acceptable level of exposure

The term "level of exposure" has been used to reflect the fact that odour impacts are determined by several factors the most important of which are (the so-called **FIDOL** factors):

- the **F**requency of the exposure
- the **I**ntensity of the odour
- the **D**uration of the odour episodes
- the **O**ffensiveness of the odour
- the **L**ocation of the source

In determining the offensiveness of an odour it needs to be recognised that for most odours the context in which an odour is perceived is also relevant. Some odours, for example the smell of sewage, hydrogen sulfide, butyric acid, landfill gas etc., are likely to be judged offensive regardless of the context in which they occur. Other odours such as the smell of jet fuel may be acceptable at an airport, but not in a house, and diesel exhaust may be acceptable near a busy road, but not in a restaurant.

In summary, whether or not an individual considers an odour to be a nuisance will depend on the FIDOL factors outlined above and although it is possible to derive formulae for assessing odour annoyance in a community, the response of any individual to an odour is still unpredictable. Odour goals need to take account of these factors.

3.1.2 Complex Mixture of Odorous Air Pollutants

The Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (**EPA, 2005**) include ground-level concentration (glc) criterion for complex mixtures of odorous air pollutants. They have been refined by the NSW EPA to take account of population density in the area. **Table 3.1** lists the odour glc criterion to be exceeded not more than 1% of the time, for different population densities.

The difference between odour goals is based on considerations of risk of odour impact rather than differences in odour acceptability between urban and rural areas. For a given odour level there will be a wide range of responses in the population exposed to the odour. In a densely populated area there will therefore be a greater risk that some individuals within the community will find the odour unacceptable than in a sparsely populated area.

The most stringent of the impact assessment criterion of 2 ou (at the 99th percentile; EPA, 2005) has been applied for this assessment.

Table 3.1: Odour Performance Criteria for the Assessment of Odour

Population of affected community	Criteria for complex mixtures of odour (OU)
≤ ~2	7
~10	6
~30	5
~125	4
~500	3
Urban (>2000) and/or schools and hospitals	2

3.2 Peak-to-mean ratios

It is common practice to use dispersion models to determine compliance with odour goals. This introduces a complication because Gaussian dispersion models directly predict concentrations over an averaging period of 3-minutes or greater. The human nose, however, responds to odours over periods of the order of a second or so. During a 3-minute period, odour levels can fluctuate significantly above and below the mean depending on the nature of the source.

To determine more rigorously the ratio between the one-second peak concentrations and 3-minute and longer period average concentrations (referred to as the peak-to-mean ratio) that might be predicted by a Gaussian dispersion model, the EPA commissioned a study by **Katestone Scientific Pty Ltd (1995, 1998)**. This study recommended peak-to-mean ratios for a range of variables, such as source type, receptor distance, stability class and stack height (for point sources).

It is important to note that those peak-to-mean factors determined are based on the Pasquill-Gifford stability classes. Since AERMOD replaces the Pasquill-Gifford stability based dispersion with a turbulence-based approach that uses the Monin-Obukhov length scale to account for the effects of atmospheric turbulence based dispersion, a conservative approach has been taken for area sources and a value of 2.5 has been applied. A value of 2.3 has been applied for wake-affected point and volume sources. A summary of the factors is provided in **Appendix A**.

The Approved Methods take account of this peaking factor and the goals shown in **Table 3.1** are based on nose-response time.

4 LOCAL METEOROLOGY

This section described the dispersion meteorology in the study area. Information on prevailing wind patterns and climatic conditions are presented.

4.1 Wind speed and direction

Meteorological data are collected by the Bureau of Meteorology from Sydney Olympic Park (Archery Centre), just across the Parramatta River from Shepherds Bay, approximately 4 km south southwest of the site. Wind roses of the data collected from Sydney Olympic Park are shown in **Figure 4.1**. Some guidance on the interpretation of wind roses is presented in **Appendix B**. The wind roses show that on an annual basis winds are predominantly from the northwest quadrant and also the southeast to a lesser extent. Winds from the northwest quadrant are also dominant in winter and autumn with very few winds from the other quadrants at those times. In summer, the dominant winds are from the southeast quadrant.

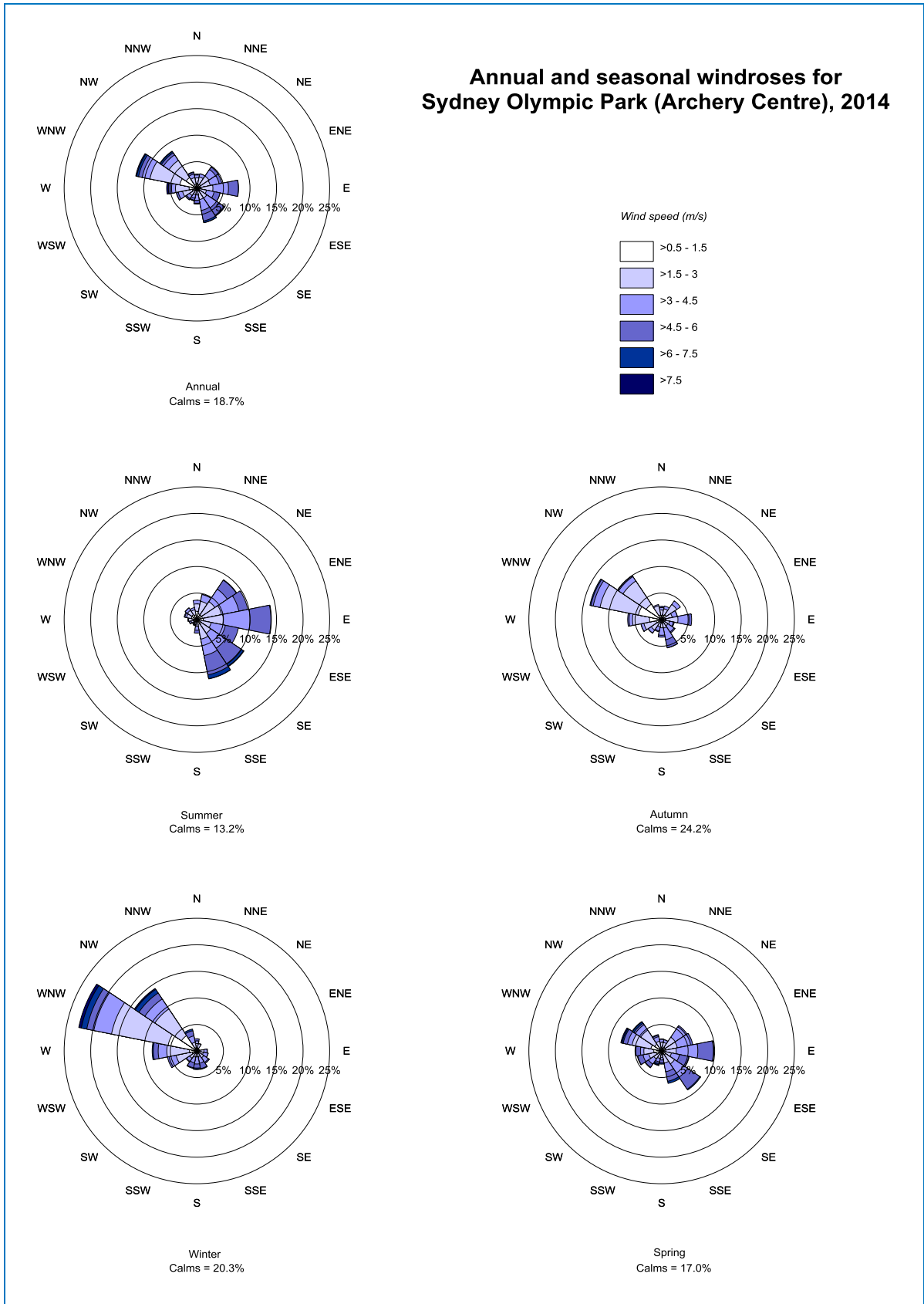


Figure 4.1: Annual and seasonal wind roses for Sydney Olympic Park (Archery Centre) BoM Station

4.2 Local Climatic Conditions

Table 4.1 presents the temperature and rainfall data for the closest Bureau of Meteorology (BoM) site which is located at Marsfield (Willandra Village) (Site number 066156), approximately 5 km northeast of the site. Monthly averages of maximum and minimum temperatures are presented as well as rainfall data consisting of mean monthly rainfall and the average number of rain days per month.

The annual average maximum and minimum temperatures recorded at the Marsfield station are 22.8°C and 11.2 °C, respectively. On average, January is the hottest month, with an average maximum temperature of 27.7°C. July is the coldest month, with average minimum temperature of 4.9°C.

Rainfall data collected at the Marsfield station shows that February is the wettest month, with an average rainfall of 142 mm over an average of 8 rain days. The average annual rainfall is 1,148 mm over an average of 80 rain days per year.

Table 4.1: Climate Averages for Marsfield (Willandra Village)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Daily Maximum Temperature (°C)													
Mean	27.7	27.4	25.9	23.4	20.3	17.4	17.1	18.5	21.1	23.3	24.8	27.1	22.8
Daily Minimum Temperature (°C)													
Mean	16.9	16.9	15.2	12.0	9.2	6.5	4.9	5.7	7.8	10.8	12.0	15.6	11.2
Rainfall (mm)													
Mean	119	142	130	116	85	116	55	59	60	95	85	92	88
Rain days (Number)													
Mean	9	8	9	8	7	8	5	5	5	7	9	7	88

Source: BOM (2015) Climate averages for Station: 066156; Commenced: 1970 – last record 2015; Latitude: 33.78°S; Longitude: 151.11 °E

5 ODOUR EMISSIONS

To characterise the potential odour impacts of the proposed development, odour sampling was completed at an existing facility at Central Park, Sydney. This odour sampling was conducted on 28 May 2015 and following collection, all odour samples were analysed that same day at a NATA accredited laboratory using dynamic olfactometry^a (in accordance with AS/NZS 4323.3:2001 "Determination of Odour Concentration by Dynamic Olfactometry" (**AS/NZS, 2001**)). Duplicates for both odour streams were taken.

The results of the odour monitoring, including the duplicates, are presented as odour concentrations measured in odour units (OU) in **Table 5.1**. The laboratory report from the odour monitoring is presented in **Appendix C**. The highest value for each source was used in the dispersion modelling and is shaded in **Table 5.1**.

Table 5.1: Odour Monitoring Results

Sample	Sample Time	Analysis Time	Odour Concentration (OU)
Aerobic Tank outlet (untreated air)	10:32	15:22	558
Aerobic Tank outlet (untreated air) – duplicate	11:32	16:20	332
Activated Carbon Filter outlet (treated air)	10:32	15:53	332
Activated Carbon Filter outlet (treated air) – duplicate	11:32	16:49	304

6 APPROACH TO ASSESSMENT

The overall approach to the assessment follows the Approved Methods using the Level 2 assessment methodology. The Approved Methods specify how assessments based on the use of air dispersion models should be completed. They include guidelines for the preparation of meteorological data to be used in dispersion models and the relevant air quality criteria for assessing the significance of predicted concentration and deposition rates from the project. The approach taken in this assessment follows as closely as possible the approaches suggested by the guidelines.

6.1 Dispersion model

The air dispersion modelling conducted for this assessment is based on an advanced modelling system using the AERMET/AERMOD model. AERMOD was chosen as the most suitable model due to the source types, location of nearest receptors and nature of local topography. AERMOD is the US-EPA's recommended steady-state plume dispersion model for regulatory purposes. AERMOD replaced the Industrial Source Complex (ISC) model for regulatory purposes in the US in December 2006 as it incorporates more recent, and potentially more accurate, algorithms to represent both meteorological interactions and air quality dispersion. AUSPLUME, a steady state Gaussian plume dispersion model developed by the Victorian EPA and frequently used in Australia for simple near-field applications is based on ISC, which has now been replaced by AERMOD.

^a There are no instrument-based methods that can measure an odour response in the same way as the human nose and "dynamic olfactometry" is therefore the preferred method for odour analysis. Dynamic olfactometry is the measurement of odour by presenting a sample of odorous air to a panel of people with decreasing quantities of clean odour-free air. The panellists then note when the smell becomes detectable. The correlations between the known dilution ratios and the panellists' responses are then used to calculate the number of dilutions of the original sample required to achieve the odour detection threshold. The units for odour measurement using dynamic olfactometry are "odour units" (OU) which are dimensionless and are effectively "dilutions to threshold".

A significant feature of AERMOD is the Pasquill-Gifford stability based dispersion is replaced with a turbulence-based approach that uses the Monin-Obukhov length scale to account for the effects of atmospheric turbulence based dispersion.

The AERMOD system includes AERMET, used for the preparation of meteorological input files and AERMAP, used for the preparation of terrain data. Terrain data were sourced from NASA's Shuttle Radar Topography Mission (SRTM) Data (3 arc-second (~90m) resolution) and processed within AERMAP to create the necessary input files.

AERMET requires surface and upper air meteorological data as inputs. Surface data were sourced from the BoM meteorological station at Sydney Olympic Park located approximately 4 km south southwest of the project. Cloud cover data are required for AERMET and these were sourced from Sydney Airport.

Appropriate values for three surface characteristics are required for AERMET as follows:

- Surface roughness, which is the height at which the mean horizontal wind speed approaches zero, based on a logarithmic profile.
- Albedo, which is an indicator of reflectivity of the surface.
- Bowen ratio, which is an indicator of surface moisture.

Values of surface roughness, albedo and Bowen ratio were determined based on a review of aerial photography for a radius of 3 km centred on the Project site. Default values for urban land were chosen for a single sector to represent the land use type in the surrounding area.

Building wake effects were included in the modelling simulations to represent the rest of the development and the associated high-rise residential blocks. The ventilation stacks were represented as point sources on the roof of the Stage 3 building at 1.3 m above roof level.

6.1.1 Atmospheric Stability

An important aspect of pollutant dispersion is the level of turbulence in the lowest 1 km or so of the atmosphere, known as the planetary boundary layer (PBL). Turbulence controls how effectively a plume is diffused into the surrounding air and hence diluted. It acts by increasing the cross-sectional area of the plume due to random motions. With stronger turbulence, the rate of plume diffusion increases. Weak turbulence limits diffusion and contributes to high plume concentrations downwind of a source.

Turbulence is generated by both thermal and mechanical effects to varying degrees. Thermally driven turbulence occurs when the surface is being heated, in turn transferring heat to the air above by convection. Mechanical turbulence is caused by the frictional effects of wind moving over the earth's surface, and depends on the roughness of the surface as well as the flow characteristics.

Turbulence in the boundary layer is influenced by the vertical temperature gradient, which is one of several indicators of stability. Plume models use indicators of atmospheric stability in conjunction with other meteorological data to estimate the dispersion conditions in the atmosphere.

Stability can be described across a spectrum ranging from highly unstable through neutral to highly stable. A highly unstable boundary layer is characterised by strong surface heating and relatively light winds, leading to intense convective turbulence and enhanced plume diffusion. At the other extreme, very stable conditions are often associated with strong temperature inversions and light winds, which commonly occur under clear skies at night and in the early morning. Under these conditions plumes can remain relatively undiluted for considerable distances downwind. Neutral conditions are linked to windy and/or cloudy weather, and short periods around sunset and sunrise, when surface rates of heating or cooling are very low.

The stability of the atmosphere plays a large role in determining the dispersion of a plume and it is important to have it correctly represented in dispersion models. Current air quality dispersion models

(such as AERMOD and CALPUFF) use the Monin-Obukhov Similarity Theory (MOST) to characterise turbulence and other processes in the PBL. One of the measures of the PBL is the Monin-Obukhov length (L), which approximates the height at which turbulence is generated equally by thermal and mechanical effects (Seinfeld and Pandis 2006). It is a measure of the relative importance of mechanical and thermal forcing on atmospheric turbulence. Because values of L diverge to + and - infinity as stability approaches neutral from the stable and unstable sides, respectively, it is often more convenient to use the inverse of L (i.e., 1/L) when describing stability.

Figure 6.1 shows the hourly averaged 1/L for the site computed from all data in the AERMET surface file. Based on Table 6.1 this plot indicates that the PBL is stable overnight and becomes unstable as radiation from the sun heats the surface layer of the atmosphere and drives convection. The changes from positive to negative occur at the shifts between day and night. This indicates that the diurnal patterns of stability are realistic.

Table 6.1: Inverse of the Monin-Obukhov length L with respect to atmospheric stability

1/L	Atmospheric Stability
Negative	Unstable
Zero	Neutral
Positive	Stable

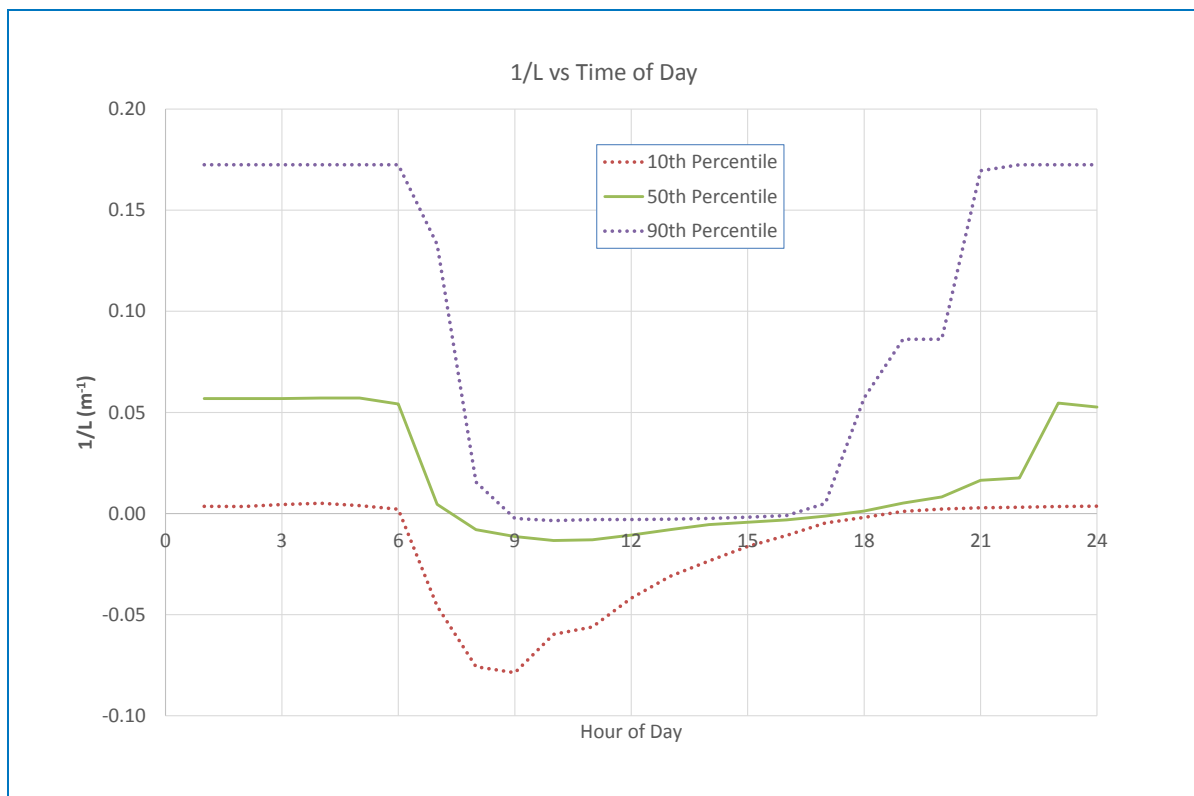


Figure 6.1: Annual statistics of 1/L by hour of the day

Figure 6.2 shows the variations in stability over the year by hour of the day, with reference to the widely known Pasquill-Gifford classes of stability. The relationship between L and stability classes is based on values derived by Golder (1972) set out in EPA 2005. Note that the reference to stability categories here is only for convenience in describing stability. The model uses calculated values of L across a continuum.

Figure 6.2 shows that neutral to very stable conditions occur for about 65% of the time. Atmospheric instability increases during the day and reaches a peak around 11am-12pm as solar-driven convective

energy peaks. A stable atmosphere is prevalent during the night. These profiles indicate that pollutant dispersion is most effective during the daytime and least effective at night.

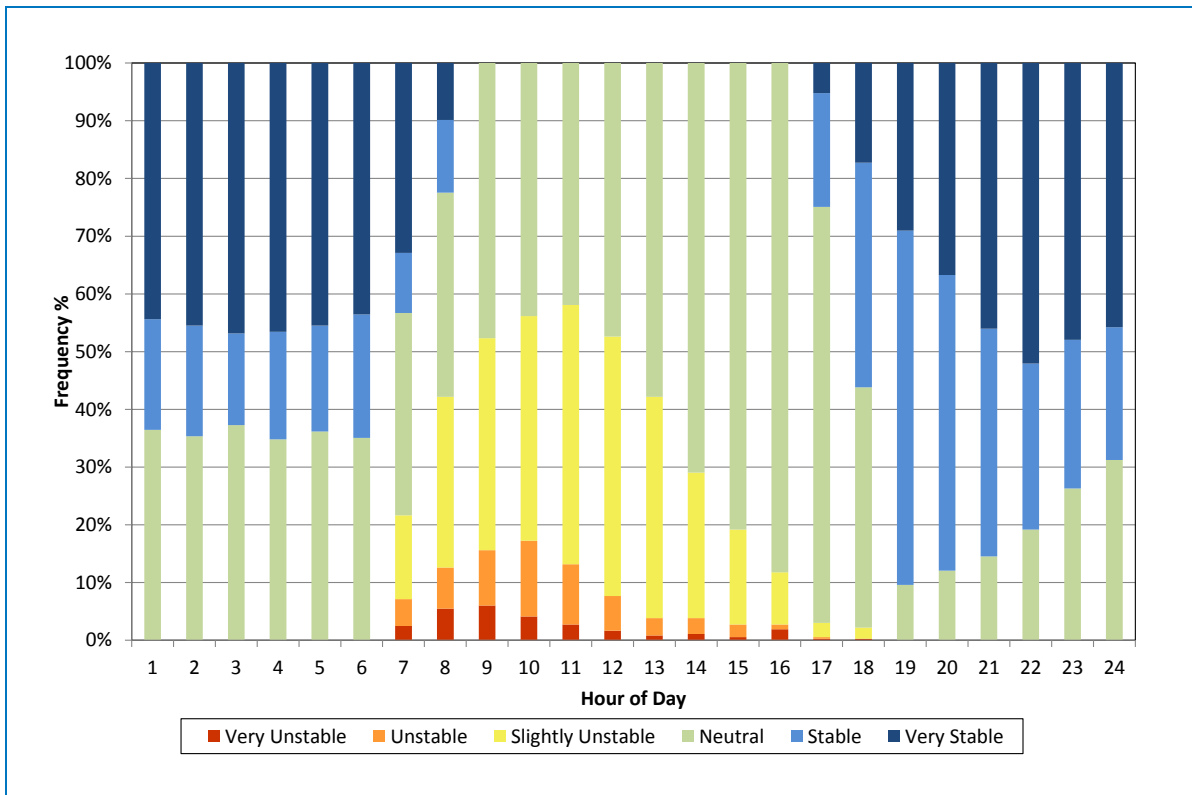


Figure 6.2: Annual distribution of stability type by hour of the day

6.2 Odour emission rates

Odour emission rates (OER) and other input parameters are shown in **Table 6.2** for the two point sources. The OERs from the measured data and the OERs used in the modelling are both presented. The modelled OERs include a peak-to-mean of 2.3 for wake affected point sources, as described in **Section 3.2**.

Table 6.2: Modelling parameters used for point sources

Model Parameter	Treated air vent	Untreated air vent
Stack locations (MGA co-ordinates) (m)	323595, 6256259	323600, 6256261
Release height (above building) (m)	1.3	1.3
Release height (above ground) (m)	37.5	37.5
Temperature (°C)	24.1	24.8
Stack diameter (m)	0.3	0.3
Exit velocity (m/s)	9.2	9.2
Flow rate (m³/s)	0.65	0.65
In-stack odour concentration (OU)	332	558
Odour emission rate (OU.m³/s)	215.8	362.7
Peak to mean factor	2.3	2.3
OER incorporating peak to mean (OU.m³/s)	496.3	834.2

For the purposes of presenting the results, all predicted odour levels at each receptor have been retained by the model and a contour plot has been prepared showing the distribution of the 99th percentile 1-hour levels at ground-level. The 99th percentile levels are plotted as the impact assessment criteria are set to ensure that the predicted odour level is not exceeded more than 1 percent of the year. Predicted odour levels are shown in **Section 7**.

7 ASSESSMENT OF IMPACTS

The model was run for ground level concentrations and also at various elevated receivers.

The predicted odour concentrations at ground level are shown in **Figure 7.1**. Peak-to-mean factors have been applied in the modelling and are included in the predictions. **Figure 7.2** shows the predictions at a height of 30 m above ground level which is the height of the roof of the adjacent building.

It can be seen from both plots that concentrations at the nearest receivers are very low, well below 1 OU (99th percentile) which is the theoretical level of detection (that is, the level at which an odour can be detected but not be distinguishable from other odours). The proposal is therefore predicted to comply with the NSW EPA odour assessment criterion.

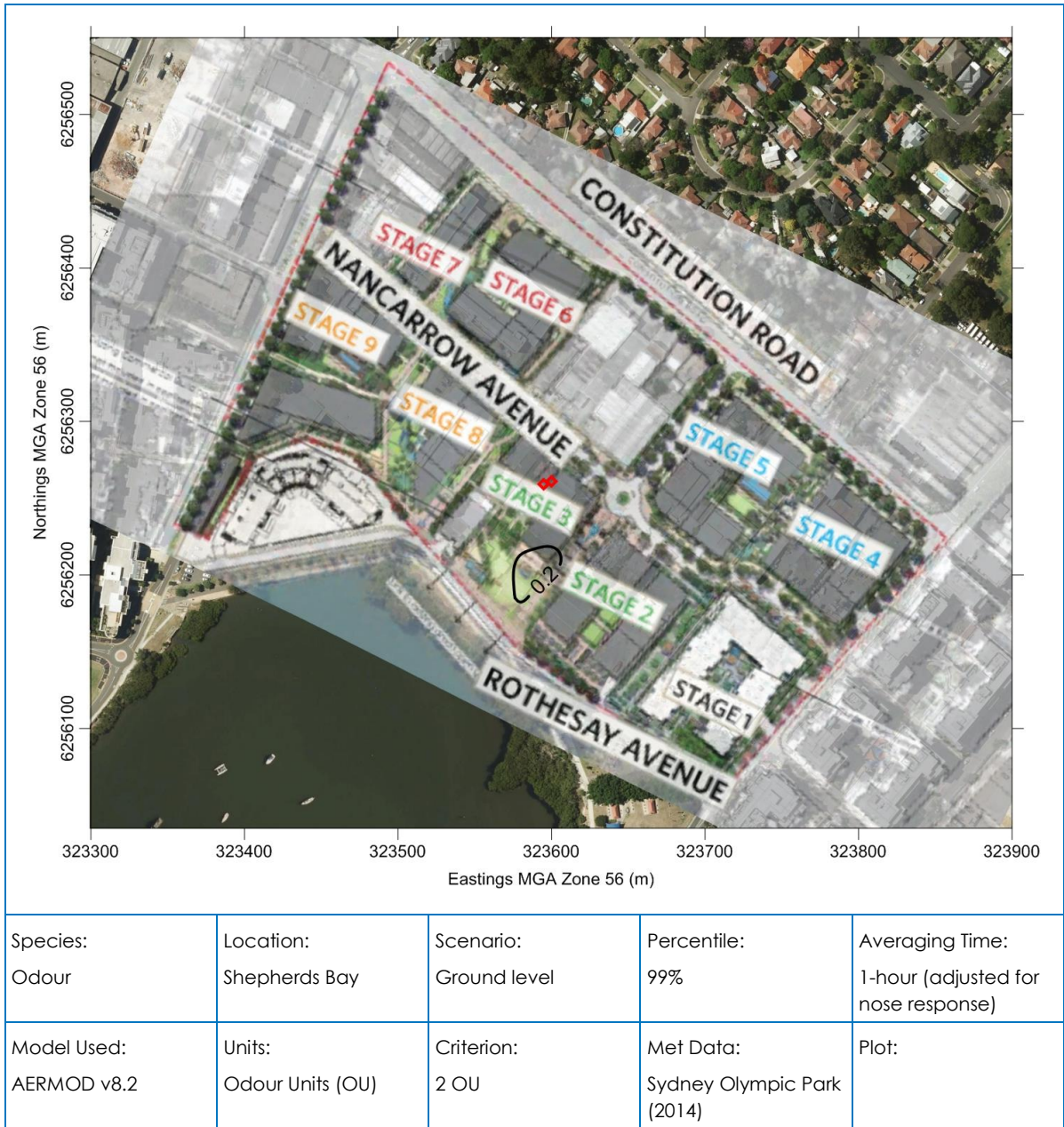


Figure 7.1: Predicted 99th percentile odour concentration (OU) at ground level

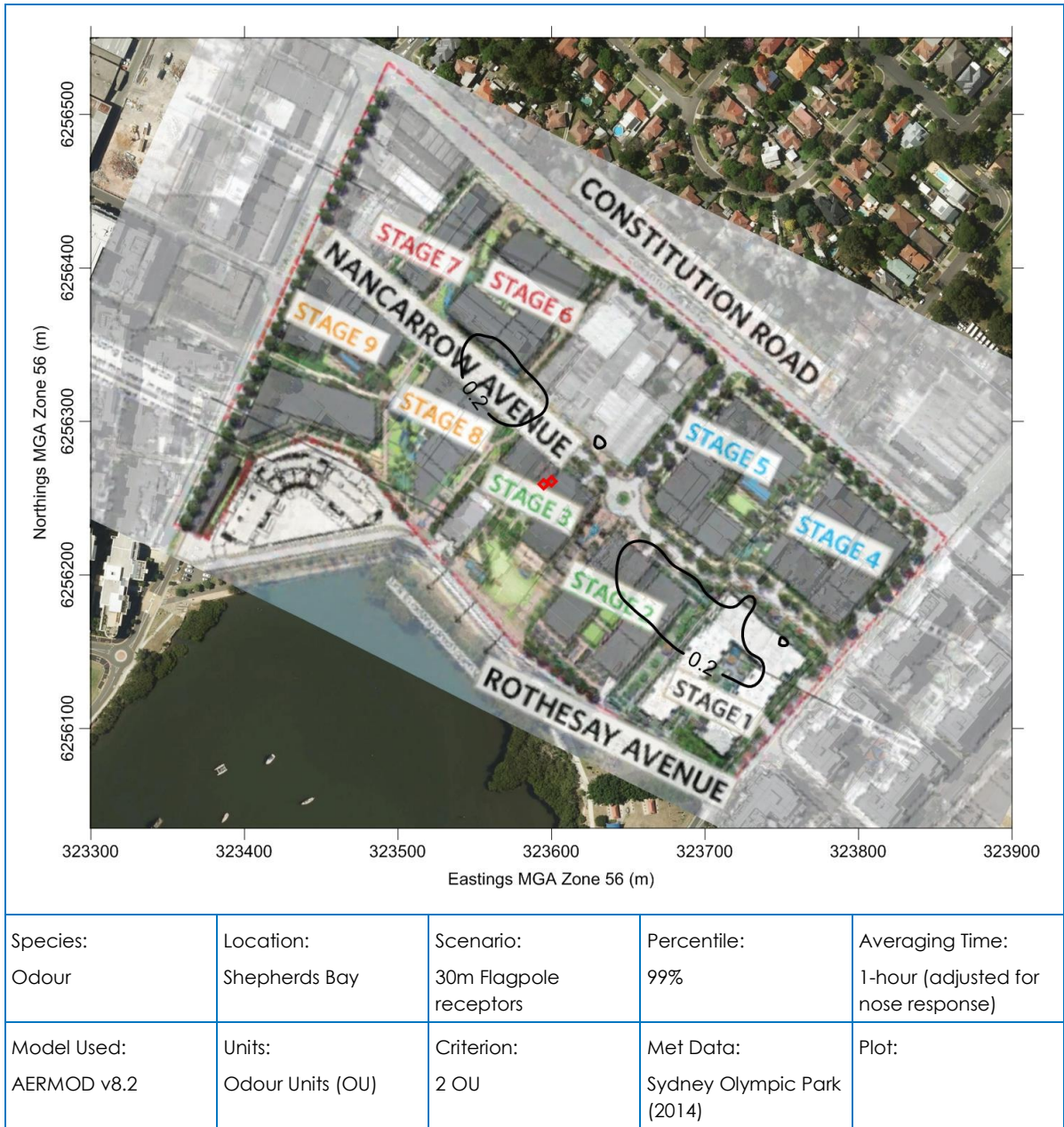


Figure 7.2: Predicted 99th percentile odour concentration (OU) at a 30m elevation

8 CONCLUSIONS

This study assessed the air quality impacts of the proposed water recycling facility at the Shepherds Bay urban renewal precinct. The odour assessment was based on odour emission rates derived from measurements at a similar facility at Central Park, Sydney. This information was combined with representative meteorological data and computer-based dispersion modelling to predict the ground level odour concentrations in the vicinity of the plant. Concentrations were also predicted at various elevated receivers in the modelling domain.

Results from the dispersion modelling indicated that predicted odour concentrations from the proposed facility would comply with the most stringent assessment criterion of 2 OU (99th percentile) at all sensitive receivers.

The predicted odour concentrations are at or below 1 OU, the theoretical level at which odour becomes detectable but not necessarily distinguishable, at all receivers.

9 REFERENCES

AS/NZS (2001), "Determination of Odour Concentration by Dynamic Olfactometry" AS/NZS 4323.3:2001.

Katestone Scientific Pty Ltd (1995), "The evaluation of peak-to-mean ratios for odour assessments"
Volume 1 - Main Report, May 1995

Katestone Scientific Pty Ltd (1998), "Peak-to-Mean Concentration Ratios for Odour Assessments".

EPA (2005), "Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW", August 2005

Appendix A PEAK TO MEAN RATIOS

Table A.1: Factors for Estimating Peak Concentration

Source Type	Pasquill-Gifford stability class	Near field P/M60*	Far field P/M60
Area	A, B, C, D	2.5	2.3
	E, F	2.3	1.9
Line	A – F	6	6
Surface point	A, B, C	12	4
	D, E, F	25	7
Tall wake-free point	A, B, C	17	3
	D, E, F	35	6
Wake-affected point	A – F	2.3	2.3
Volume	A – F	2.3	2.3

*Ratio of peak 1-second average concentrations to mean 1-hour average concentrations

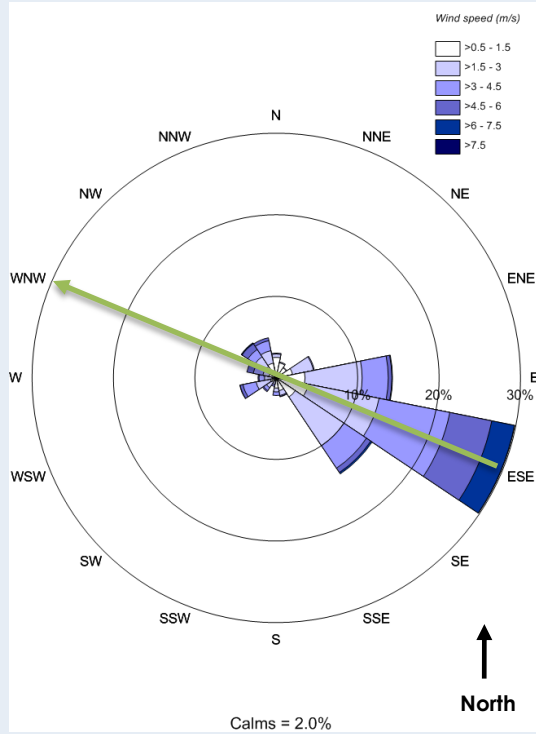
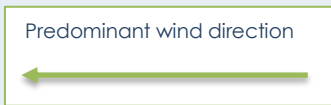
Appendix B INTERPRETATION OF A WIND ROSE

How to read a wind rose

A wind rose shows the frequency of occurrence of winds by direction and strength, presented as 16 bars that correspond to the compass points (N, NNE, NE, etc.). The length of each bar represents the frequency of occurrence of winds from that direction, and the colours of the bar sections correspond to wind speed categories, the darker colours representing stronger winds.

In this example, 30% of winds are from the ESE direction, and the winds from this direction have the following speed distribution:

- 10% between 1.5 m/s and 3 m/s
- 10% between 3 m/s and 4.5 m/s
- 7% between 4.5 m/s and 6 m/s
- 3% between 6 m/s and 7.5 m/s



Appendix C ODOUR MEASUREMENTS FROM CENTRAL PARK



THE ODOUR UNIT PTY LTD



Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20150528_042

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate (ou.m ³ /m ² /s)
#1 – Aerobic Tank S1 Z1 & S2 Z2	SC 15303	28.05.2015 1032 hrs	28.05.2015 1522 hrs	4	8	--	--	558	558	--
#2 – Activated Carbon Unit Outlet	SC 15304	28.05.2015 1032 hrs	28.05.2015 1553 hrs	4	8	--	--	332	332	--
#3 – Aerobic Tank S1 Z1 & S2 Z2	SC 15305	28.05.2015 1132 hrs	28.05.2015 1620 hrs	4	8	--	--	332	332	--
#4 – Activated Carbon Unit Outlet	SC 15306	28.05.2015 1132 hrs	28.05.2015 1649 hrs	4	8	--	--	304	304	--

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Appendix 3

Acoustic Assessment



SHEPHERDS BAY LWC
ACOUSTIC ASSESSMENT

REPORT NO. 15171
VERSION A

JUNE 2015

PREPARED FOR

FLOW SYSTEMS
LEVEL 2, ONE ALFRED STREET
SYDNEY NSW 2000

ACOUSTICS AND AIR

DOCUMENT CONTROL

Version	Status	Date	Prepared By	Reviewed By
A	Final	10 July 2015	Adrian Morris	John Wassermann

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AAAC

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Celebrating 50 Years in 2012

Wilkinson Murray is an independent firm established in 1962, originally as Carr & Wilkinson. In 1976 Barry Murray joined founding partner Roger Wilkinson and the firm adopted the name which remains today. From a successful operation in Australia, Wilkinson Murray expanded its reach into Asia by opening a Hong Kong office early in 2006. 2010 saw the introduction of our Queensland office and 2011 the introduction of our Orange office to service a growing client base in these regions. From these offices, Wilkinson Murray services the entire Asia-Pacific region.



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GLOSSARY OF ACOUSTIC TERMS

Most environments are affected by environmental noise which continuously varies, largely as a result of road traffic. To describe the overall noise environment, a number of noise descriptors have been developed and these involve statistical and other analysis of the varying noise over sampling periods, typically taken as 15 minutes. These descriptors, which are demonstrated in the graph below, are here defined.

Maximum Noise Level (L_{Amax}) – The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period.

L_{A1} – The L_{A1} level is the noise level which is exceeded for 1% of the sample period. During the sample period, the noise level is below the L_{A1} level for 99% of the time.

L_{A10} – The L_{A10} level is the noise level which is exceeded for 10% of the sample period. During the sample period, the noise level is below the L_{A10} level for 90% of the time. The L_{A10} is a common noise descriptor for environmental noise and road traffic noise.

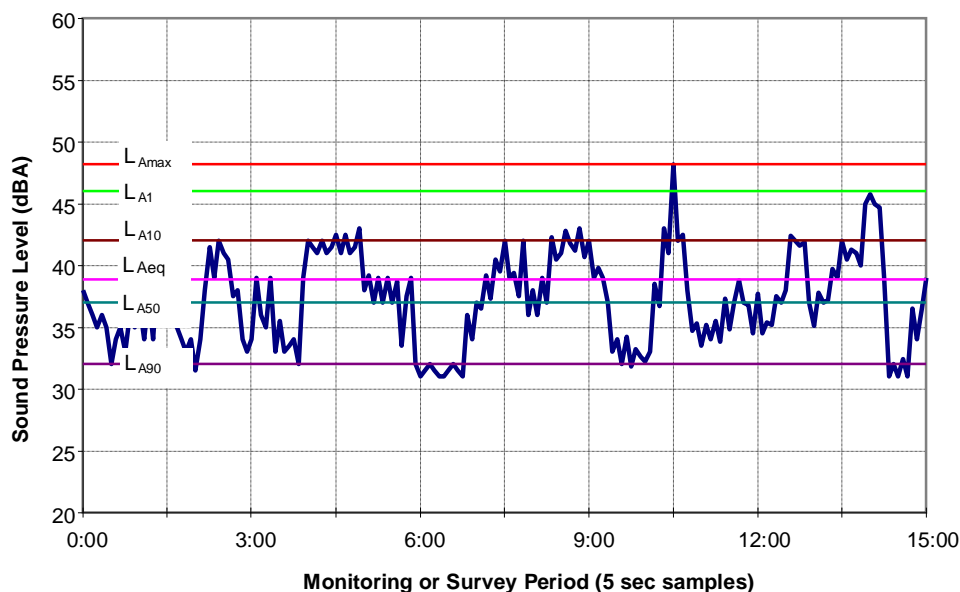
L_{A90} – The L_{A90} level is the noise level which is exceeded for 90% of the sample period. During the sample period, the noise level is below the L_{A90} level for 10% of the time. This measure is commonly referred to as the background noise level.

L_{Aeq} – The equivalent continuous sound level (L_{Aeq}) is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise which contains the same energy as the varying noise environment. This measure is also a common measure of environmental noise and road traffic noise.

ABL – The Assessment Background Level is the single figure background level representing each assessment period (daytime, evening and night time) for each day. It is determined by calculating the 10th percentile (lowest 10th percent) background level (L_{A90}) for each period.

RBL – The Rating Background Level for each period is the median value of the ABL values for the period over all of the days measured. There is therefore an RBL value for each period – daytime, evening and night time.

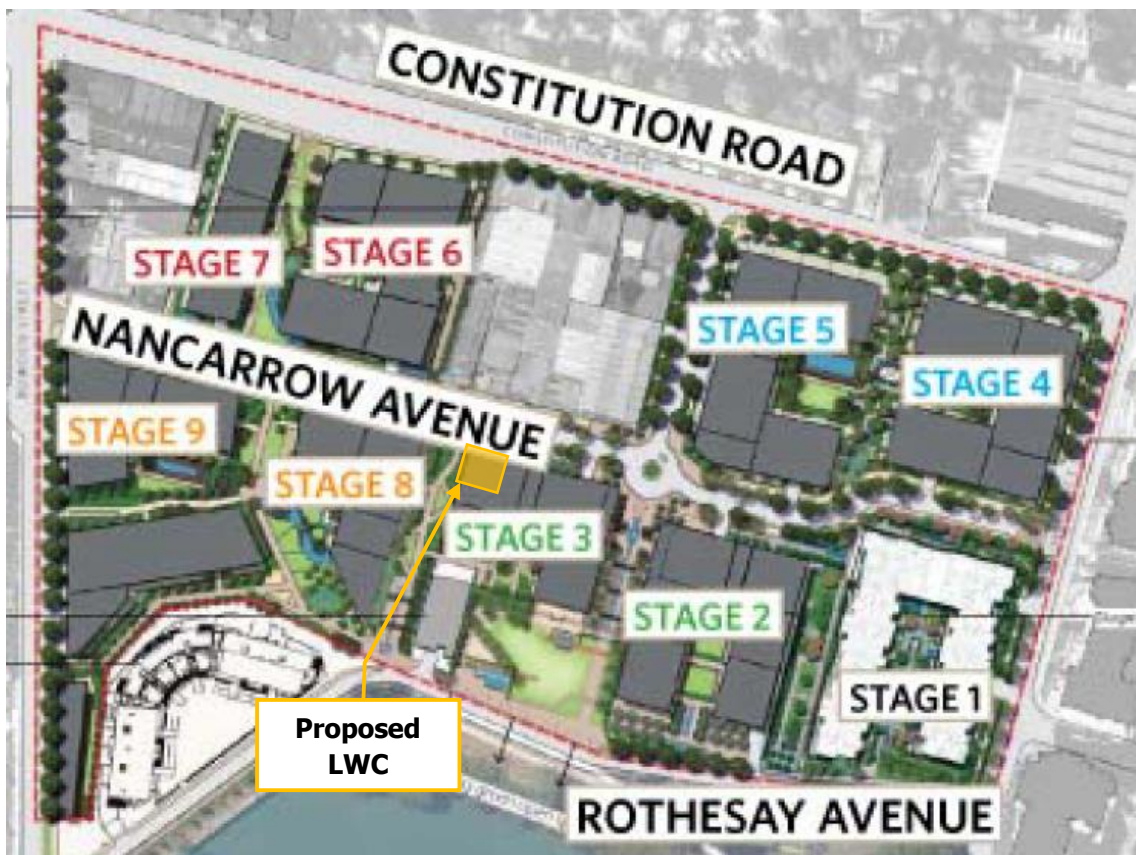
Typical Graph of Sound Pressure Level vs Time



1 INTRODUCTION

Wilkinson Murray Pty Ltd has been engaged by Flow Systems Pty Ltd to provide an operational noise assessment of the proposed Local Water Centre (LWC) located within Shepherds Bay development. The LWC is to be located in the northwestern corner of the basement of Stage 3, on Nancarrow Ave in the centre of the redevelopment as shown in Figure 1-1. It should be noted the facility will be fully enclosed within the building and access would be gained via the underground carpark. The noise assessment evaluates potential noise impacts associated with the operation of the facility in accordance with the Environmental Protection Authority (EPA) *Noise Guideline for Local Government* and the *Industrial Noise Policy (INP)*.

Figure 1-1 Overview of Development Stages



2 BACKGROUND

New residential development requires the co-ordinated provision of reticulated water and sewerage services. The provision of a LWC is the best alternative type of water treatment facility because the off-site impacts are limited; and because it is scalable and allows supply to increase in line with the anticipated residential development and the volume of waste to be treated. The Shepherds Bay LWC also makes a significant contribution to sustainability through the provision of recycled water back to the residential area.

The alternative(s) to the proposed Shepherds Bay LWC is to build a traditional local sewage treatment plant with potential discharge to the local waterway, or more expensively to pipe the sewage to an existing sewage treatment plant for treatment and disposal, which would also require an amplification/upgrade of the existing receiving treatment plant. Either alternative would be more expensive, take longer to implement, have greater potential environmental impacts, and fail to achieve sustainability initiatives for water re-use.

3 EXISTING NOISE ENVIRONMENT

Attended monitoring was conducted on Monday 22 June 2015 to determine existing background noise levels at the end of the 'evening' and beginning of the 'night' periods, as defined by the *NSW Industrial Noise Policy (INP)*. Figure 3-1 shows the location of the measurement.

Figure 3-1 Measurement Location



The result of the measurements are given in Table 3-1.

Table 3-1 Results of Attended Measurement

Time	Background Level L_{A90} (dBA)
2145-2200	44
2200-2215	43

No traffic on Nancarrow Ave was present during the measurement. Trains and aircraft were audible above general urban background noise, as well as birds and insects on occasion.

4 OPERATIONAL NOISE

4.1 Operation Times

Equipment may be turned on and off to cope with fluctuations in demand. At a similar facility, Central Park LWC in Sydney, the louder plant would switch off at approximately 11pm and would restart at around 6am. The time when the noise criteria would be most stringent is expected to be around 10-11pm, as this is the beginning of the 'night' period as defined in the NSW EPA *Industrial Noise Policy (INP)*.

4.2 Relevant Operational Noise Criteria

This section of the report discusses noise guidelines and criteria for the assessment of operational noise. The *INP* is cited by the *Noise Guideline for Local Government* as the policy concerning industrial noise and contains criteria for determining intrusive noise goals.

4.2.1 Industrial Noise Policy

The *INP's* intrusive noise goal is the noise level 5dBA above the background noise level for each time period (daytime, evening or night time) of interest. The background noise level is derived from the measured L_{A90} noise levels.

Based on the attended measurement, the most stringent criteria would be 48 dBA (43 + 5 dBA) during the night.

4.3 Noise within Facility

An overview of the predicted noise levels from the plant inside the facility is given in Appendix A.

As the plant is to be located within the basement of the building comprising Stage 3 of the development, it is expected that there will be sufficient barriers between the plant and the nearest residential receivers. Therefore, the facility will be inaudible to surrounding residences.

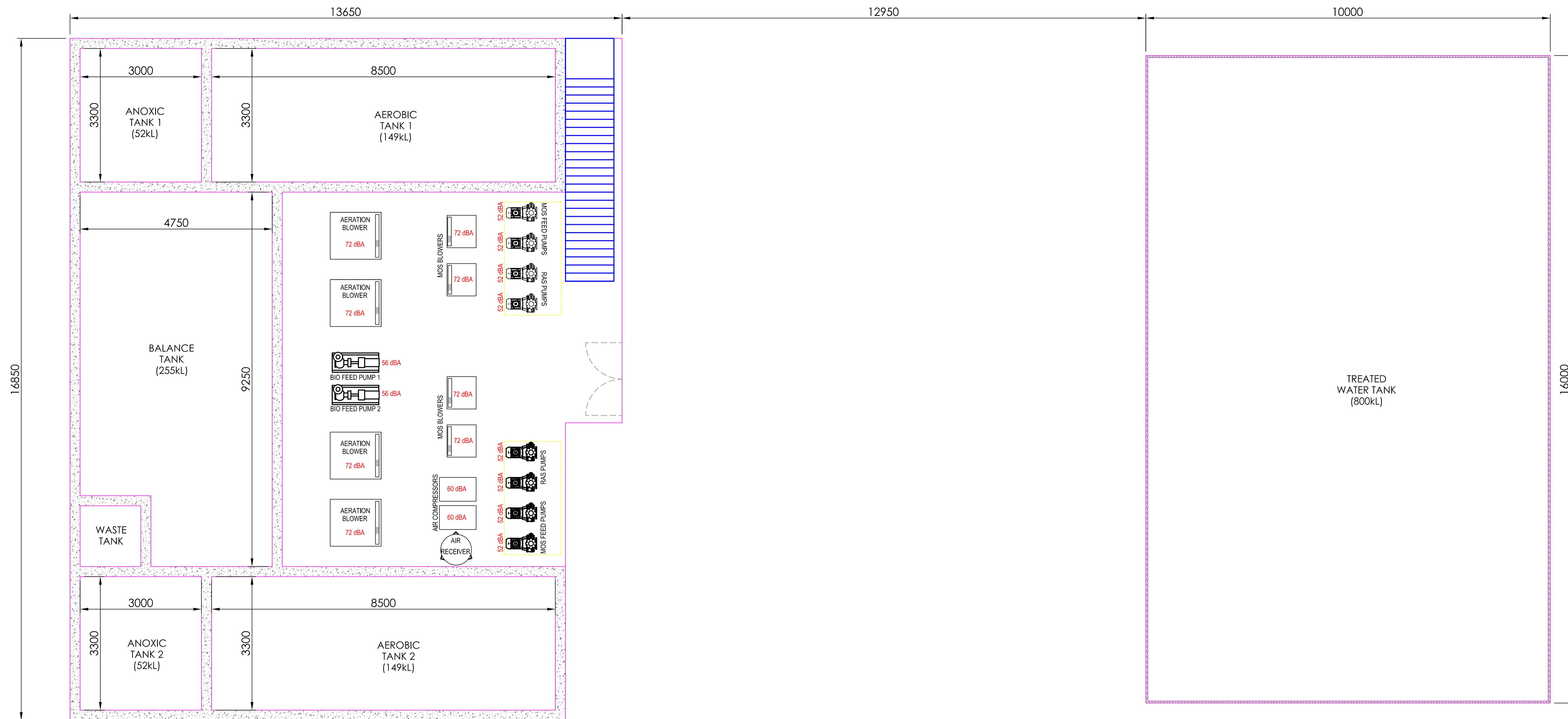
It is possible that ventilation systems may allow for some noise egress. Care should be taken when designing the ventilation system to ensure nearby residential receivers are not exposed to noise levels that would breach *INP* guidelines.

5 CONCLUSION

Operational noise associated with the proposed Shepherds Bay LWC has been assessed against noise criteria set out in the EPA's *Industrial Noise Policy*. Noise from the facility is not expected to significantly affect the nearest residences.

APPENDIX A

NOISE LEVELS FROM PLANT WITHIN THE LWC



GENERAL ARRANGEMENT - LOWER LEVEL

DATE	REV	AMENDMENT	BY	CHKD
20/5/2015	0	FOR NOISE ASSESSMENT	GSM	JA

WJP SOLUTIONS
proven - safe - reliable water

E: office@wjpsolutions.com.au W: wjpsolutions.com.au

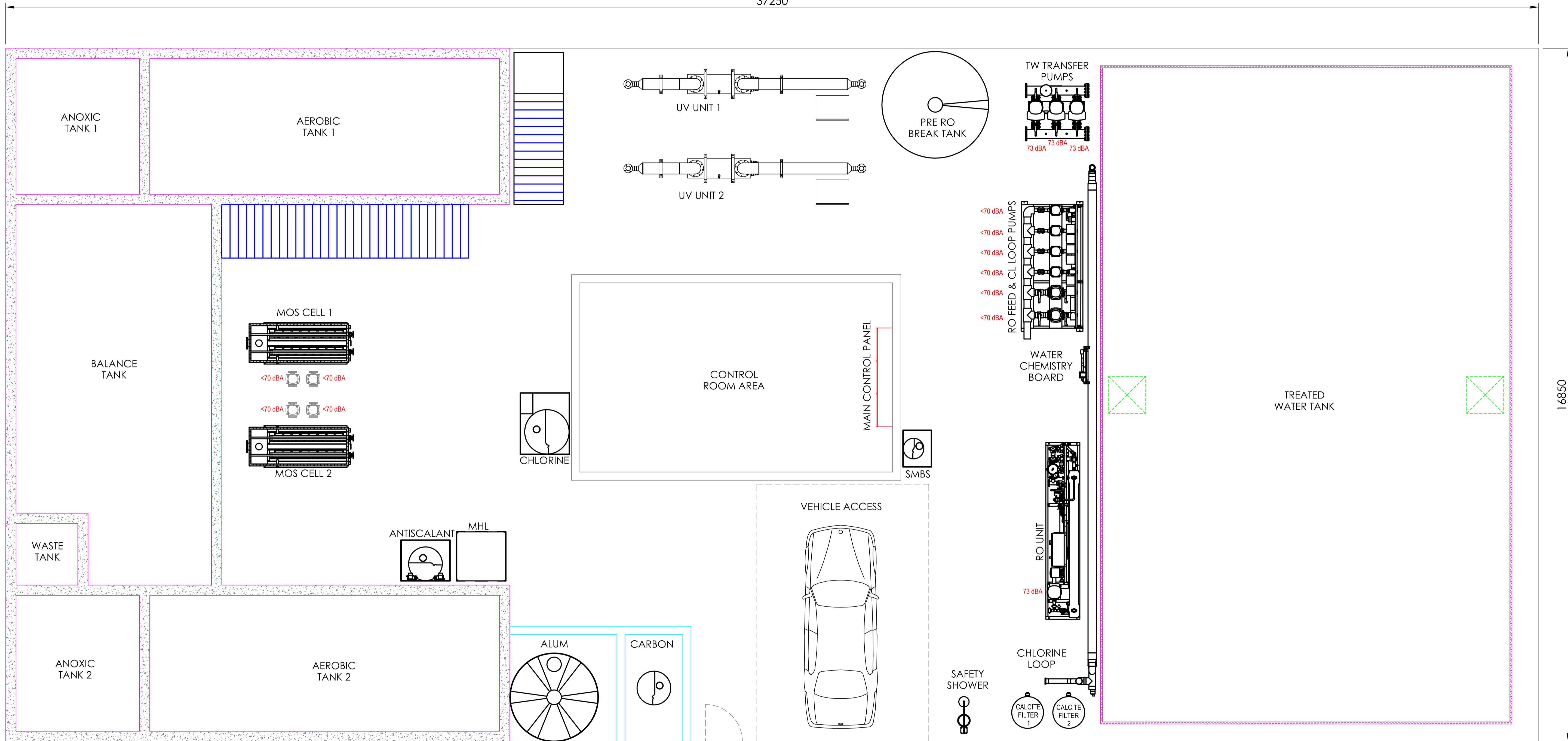
PROJECT: SHEPHERDS BAY LOCAL WATER PLANT
 CLIENT: flow systems

TITLE: GENERAL ARRANGEMENT FOR NOISE ASSESSMENT LOWER LEVEL

DATE	20/5/2015	DRAWN	GSM
SCALE	1:50	CHECKED	JA
SHEET SIZE	A1	APPROVED	GSM
CAD FILE	9266 - GENERAL ARRANGEMENT LAYOUT_1.dwg		
PROJECT NO	9266	DRAWING NO	301
		REVISION	0

37250

16850



GENERAL ARRANGEMENT - MID LEVEL

DATE	REV	FOR NOISE ASSESSMENT	AMENDMENT	GSM	JA	BY	CHKD
20/5/2015	0	FOR NOISE ASSESSMENT		GSM	JA		



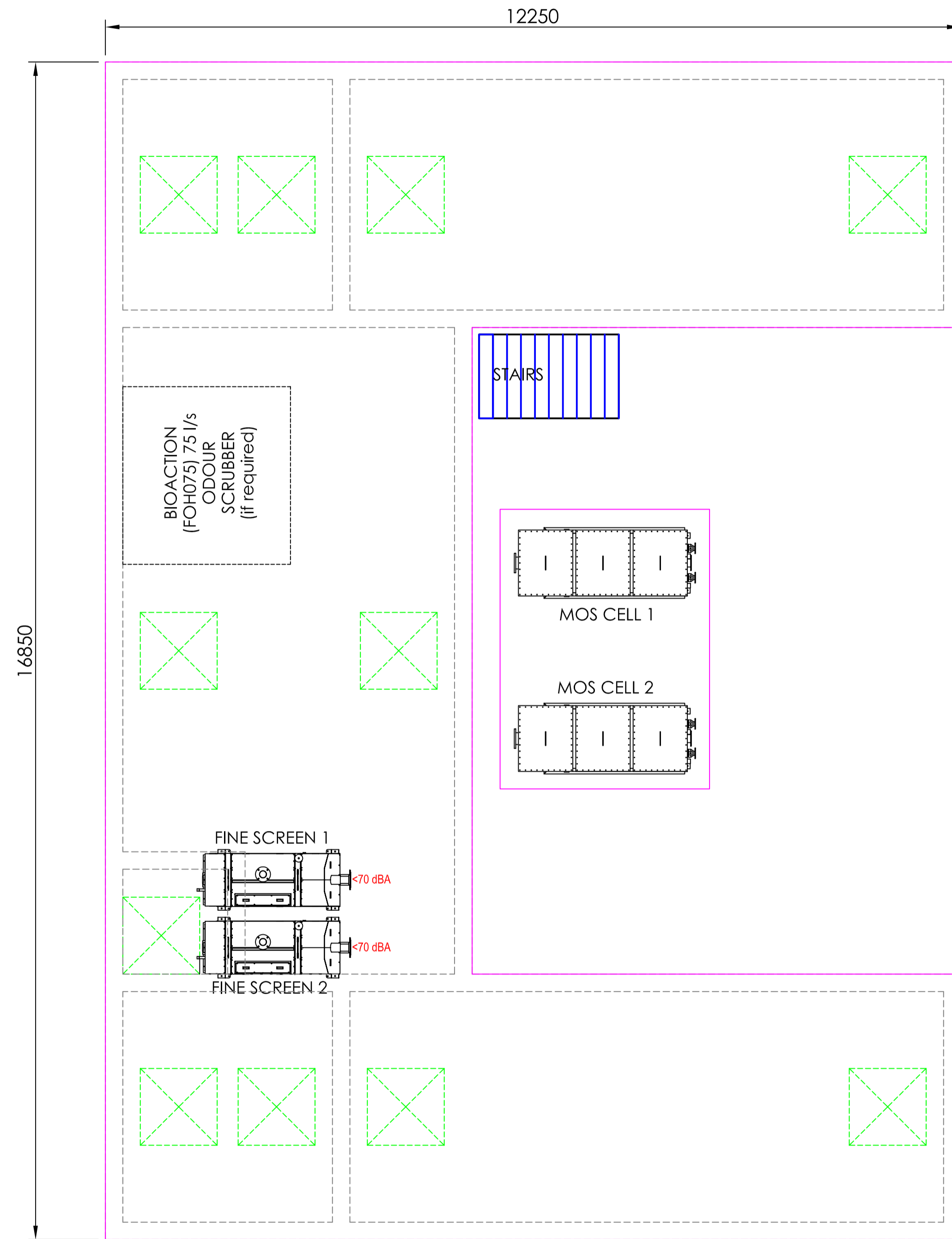
E: office@wjpsolutions.com.au W: wjpsolutions.com.au

PROJECT
SHEPHERDS BAY
LOCAL WATER PLANT

CLIENT
flow systems

TITLE
GENERAL ARRANGEMENT
FOR NOISE ASSESSMENT
MID LEVEL

DATE	20/5/2015	DRAWN	GSM
SCALE	1:50	CHECKED	JA
SHEET SIZE	A1	APPROVED	GSM
CAD FILE	9266 - GENERAL ARRANGEMENT LAYOUT_1.dwg		
PROJECT NO	9266	DRAWING NO	302
		REVISION	0



GENERAL ARRANGMENT - UPPER LEVEL

DATE	REV	AMENDMENT	BY	CHKD
20/5/2015	0	FOR NOISE ASSESSMENT	GSM	JA



E: office@wjpsolutions.com.au W: wjpsolutions.com.au

PROJECT SHEPHERDS BAY LOCAL WATER PLANT
CLIENT flow systems

TITLE GENERAL ARRANGEMENT FOR NOISE ASSESSMENT UPPER LEVEL

DATE	SCALE	SHEET SIZE	CAD FILE	PROJECT NO	DRAWING NO	REVISION
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DRAWN	CHECKED	APPROVED
GSM	JA	GSM

Appendix 3.5.1(d) REF for the Reticulation Network



REF for Proposed Sewage and Recycled Water Reticulation Systems

Shepherds Bay New South Wales

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Document Status

Version	Purpose of Document	Orig	Review	Review Date
Ver. 1	For client review	SS and JP	RD	19-05-16
Ver. 2	For submission	SS and JP	RD	03-06-16

Approval for Issue

Name	Signature	Date
Rob Dwyer		03-06-16

Terms and Abbreviations

Abbreviation	Meaning
AGWR	<i>Australian Guideline for Water Recycling 2006</i>
AHIMS	Aboriginal Heritage Information System
AHIP	Aboriginal Heritage Impact Permit
BCA	<i>Building Code of Australia</i>
CEMP	Construction Environmental Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
DCP	Development Control Plan
EEC	Endangered Ecological Community
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
Flow Systems	Flow Systems Pty Ltd, the parent company of Flow Systems Operations.
Shepherds Bay LWC	Shepherds Bay Local Water Centre
HDPE	High density polyethylene
ISST	Interim sewage storage tanks
SWC	Sydney Water Corporation
HDPE	High density polyethylene
IPART	Independent Pricing and Regulatory Tribunal
ISEPP	SEPP (Infrastructure) 2007
LEP	Local Environment Plan
LGA	Local Government Area
LWC	Local Water Centre
NES	National Environmental Significance
NOW	NSW Office of Water
NPW Act	<i>National Parks and Wildlife Act 1977</i>

OEH	Office of Environment and Heritage
POEO Act	<i>Protection of Environment Operations Act 1997</i>
PBP	<i>Planning for Bushfire Protection 2006</i>
PVC	Polyvinylchloride
REF	Review of Environmental Factors
RMS	Roads and Maritime Services
SEPP	State Environmental Planning Policy
TSC Act	<i>NSW Threatened Species Conservation Act, 1995</i>
WRF	Water recycling facility
WICA	<i>Water Industry Competition Act 2006</i>
WWTP	Waste Water Treatment Plant

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Appendix 2	Sewerage Reticulation and Recycled Master Plans
Appendix 3	Construction, ownership and O&M schematics
Appendix 4	Relevant Statement of Environmental Effects

1.0 Introduction

This Review of Environmental Factors (REF) has been prepared for the construction and operation of a pressure sewage reticulation system and a recycled water reticulation system (the proposed activity) at Shepherds Bay. The reticulation systems will be operated by Flow Systems Operations Pty Ltd (Flow Systems Operations), a wholly owned subsidiary of Flow Systems to facilitate residential development at the Shepherds Bay Urban Renewal Project located in the Ryde local government area.

The proposed activity will be operated and maintained by Flow Systems Operations in conjunction with the Shepherds Bay Local Water Centre (Shepherds Bay LWC) which will be located on land within 9-11 Rothesay Avenue and 12-16 and 18 Nancarrow Avenue, Meadowbank. The operation of the Shepherds Bay LWC is the subject of a separate development application and is not the subject of this REF.

A plan showing the location of the Shepherds Bay Urban Renewal Project area, the site of the proposed Shepherds Bay LWC and the extent of works subject of this REF is provided in **Figure 1**.

This REF (pressure sewage and recycled water reticulation systems) has been prepared with due regard for the licensing criteria, principles and environmental clauses in the *Water Industry Competition Act 2006* (WICA), particularly section 7(1)(a) and the *Water Industry Competition (General) Regulation 2008*, particularly section 7. This assessment under WICA is determined by the Minister for Lands and Water and is a high level threshold to determine that the licensee has the capacity to protect the environment and not to cause significant risk of environmental harm. This can be determined through this assessment in conjunction with the licensee's operational environmental management plan and certified environmental management systems.

This REF has also been prepared for the construction and operation of a *sewage reticulation system* as defined in clause 105 of *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP), and environmental planning instrument under *Environmental Planning and Assessment Act 1979* (EP&A Act) for the purposes of Clause 106(3):

'*sewage reticulation system*' means a facility for the collection and transfer of sewage to a sewage treatment plant or water recycling facility for treatment, or transfer of the treated water for use or disposal, including associated:

- (a) pipelines and tunnels, and
- (b) pumping stations, and
- (c) dosing facilities, and
- (d) odour control works, and
- (e) sewage overflow structures, and
- (f) vent stacks.


By virtue of the reference to "transfer of the treated water for use or disposal" this also includes the recycled water reticulation system.


Flow Systems Operations, as a licensed network operator under the *Water Industry Competition Act 2006* (WICA) may therefore, pursuant to ISEPP, develop sewage reticulation systems within its licensed area of operations without consent being required under Part 4 of the EP&A Act. As no further approval is required for Flow Systems Operations to undertake its activities, section 110 of the EP&A Act does not identify a determining authority for the REF.




Figure 1 Location map and extent of works
(Source: Google Maps 2015)

Legend

-  Shepherds Bay Urban Renewal Project Area

-  Extent of proposed activity (Sewer Rising Main)

-  Extent of proposed activity (Recycled Water Main)

The development of the sewage and recycled water reticulation systems is an activity under Part 5 of the EP&A Act. This obliges Flow Systems Operations to assess to the fullest extent possible of all matters affecting, or likely to affect, the environment by the installation and construction of the proposed activity. Sections 111 and 112 of the EP&A Act and Clause 228 of the EP&A Regulations identify the factors required to be taken into account by a determining authority when assessing the environmental impact of an activity. This obligation of the proponent survives in legislation regardless of the status of WICA licence approvals and environmental assessments carried out under WICA. Section 6 and **Appendix 1** of this REF provides an assessment of the environmental issues associated with the proposed activity, in line with those requirements and also those matters of National Environmental Significance under Commonwealth legislation.

1.2 Background

The NSW Government introduced WICA as part of its strategy for a sustainable water future to harness the innovation and investment potential of the private sector in the water and wastewater industries. WICA established a licensing regime for new entrants to the industry to ensure the continued protection of public health, consumers and the environment. The private sector is now encouraged to develop and operate water management schemes and the licensing system is governed by IPART.

The proposed activity supports this policy as it will not impinge on the existing approvals over the Shepherds Bay Urban Renewal Project area (Concept Plan MP09_0216 - as modified) and more recent local development applications which will encourage higher-density residential development in an existing urban area with good access to transport and services. The Shepherds Bay Urban Renewal Project area is discussed further in Section 1.4 of this REF.

New residential development requires the co-ordinated provision of reticulated water and sewerage services. A development application for the construction and operation of a wastewater recycling facility (to be known as the Shepherds Bay LWC) within the basement of the building of Stages 2 and 3 of the Shepherds Bay Urban Renewal Project area has been prepared and submitted to Ryde Council.

The Shepherds Bay LWC will process wastewater through its sustainable, state-of-the-art recycled water system, providing apartments and retail businesses within the Urban Renewal Project area with a secure and environmentally friendly source of recycled water for household and business use, and to sustain landscaping, gardens and public spaces within. The system proposed is closed in so far as rainwater, groundwater and stormwater cannot flow into the system and there are no wet weather overflow events discharging into the environment. Significantly, this minimisation and predictability of flow allows for technically advanced treatment technology (membrane bioreactor) to be utilised. Hence the Shepherds Bay LWC footprint is compact and the application of “traditional” buffers and distances between the LWC and other uses are not relevant having regard for the advanced technology within the LWC.

The proposed activity subject of this REF will enable the delivery of reticulated pressure sewer and reticulated recycled water to residents and other users within Stage 2 to 9 of the Shepherds Bay Urban Renewal Project area.

1.3 Location

A plan showing the location of the Shepherds Bay Urban Renewal Project area, the site of the proposed Shepherds Bay LWC and the extent of works subject of this REF is provided in **Figure 1**.

The site comprises part of 9-11 Rothesay Avenue, 12-16 and 18 Nancarrow Avenue, Meadowbank and where necessary includes road reserves of each of the above-mentioned streets. The site is located approximately 14 kilometres north-west of the Sydney CBD and on the Shepherds Bay foreshore between Ryde and Meadowbank.

1.4 Description of Existing Environment

The site is currently located within a largely industrial context although the area has been undergoing recent urban renewal. Many of the sites within the Shepherds Bay Urban Renewal Project area have had existing buildings demolished and construction of new buildings are underway.

The proposed activity area is surrounded by a mixture of residential apartments, townhouses, light industrial or commercial development and detached housing.

1.5 Shepherds Bay Urban Renewal Project Area

The Shepherds Bay Urban Renewal Project Areas benefits from a Concept Plan Approval (MP09_0216) (as modified) for a mixed use development comprising up to twelve (12) buildings. This was originally approved by the Planning Assessment Commission (PAC) on 6 March 2013 and subsequently modified on 16 October 2014. A number of development applications for various stages within the Concept Approval area have been lodged.

The Shepherds Bay Urban Renewal Project Area, which covers approximately 35 hectares, is undergoing a fundamental change from an industrial area to a high density residential area. As well residential areas the Project Area will contain some commercial and retail areas. **Figure 2** shows the general layout of the Shepherds Bay Urban Renewal Project Area as approved by MP09_0216.

1.6 Documentation

The following documentation has been provided as part of this REF to support the proposed activity and ensure the REF has taken into account to the fullest extent possible of all matters affecting or likely to affect the environment by reason of the activity.

- Appendix 1 – Consideration of the Clause 228 Factors and Matters of National Environmental Significance.
- Appendix 2 – Pressure Sewerage and Recycled Water Reticulation Master Plans.
- Appendix 3 – Construction, ownership, operation and maintenance schematics.
- Appendix 4 – Relevant Statements of Environmental Effects.



Figure 2 General layout of Shepherds Bay Urban Renewal Project Area – Approved Concept Plan MP09_0216

2.0 Needs and Options considered

2.1 Strategic Need for the Proposal

To address the challenge of meeting the demands of population growth, climate change and community expectations for more liveable, green connected communities, urban populations are transitioning to a low carbon future. They are looking to create resilient communities, “future-proof” facilities and infrastructure, reduce redundancy, remove costs and embed sustainable innovations such as district heating and cooling systems, electric vehicles, micro grids, recycled water and solar. This new infrastructure approach is creating sustainable self-sufficient precincts that use locally produced water and energy, reducing development costs and keeping the benefits within the community. As an example using recycled water is 50 - 70% more efficient than existing centralised utility service models.

Acknowledgement by the Australian Government of the need to create resilient communities is within the *Australian Guidelines for Water Recycling (2006)* (AGWR). It provides a generic framework for management of recycled water quality and use that applies to all combinations of recycled water and end users. It also provides specific guidance on the use of treated sewage and grey water for purposes other than drinking and environmental flows.

The NSW Government introduced WICA in 2006 as part of its strategy for a sustainable water future to harness the innovation and investment potential of the private sector in the water and wastewater industries. WICA established a licensing regime for new entrants to the industry to ensure the continued protection of public health, consumers and the environment.

As with all new communities wastewater capacity and solutions for disposal are essential. As this area has been identified as an important urban renewal area wastewater servicing is essential and furthermore expected by the community. A solution was required to service Stages 2 to 9 of Shepherds Bay Urban Renewal Project area and the proposed activity along with the Shepherds Bay LWC will provide that solution.

2.2 Proposal Objectives

The objective of the proposed activity is to provide sewage reticulation and recycled water reticulation systems that will:

- Contribute to the efficient provision of essential infrastructure required to service a new residential community;
- Provide financially viable and financially sustainable wastewater treatment services;
- Provide best practice wastewater treatment solutions;
- Be undertaken without an adverse impact on the environment and at the same time contribute to sustainability;
- Minimise risk to public health; and
- Be provided in accordance with existing Government Policy.

2.3 Alternatives and Options Considered

New urban renewal projects require the co-ordinated provision of sewage and recycled water supply reticulation systems. The proposed activity and the development of the Shepherds Bay LWC (under separate development assessment) are seen as the best system because the off-site impacts are limited.

Developer-funded water supply and wastewater servicing strategies were investigated with Sydney Water Corporation (SWC) for the Shepherds Bay Urban Renewal Project area. This would likely require the developer to build new sewage pump stations and trunk sewer mains within and external to the site.

Flow Systems was able to offer an alternative solution to sewer servicing whereby the use of a pressure sewage reticulation system significantly reduced inflow and infiltration from stormwater and groundwater and therefore significantly reduced the footprint required for a wastewater treatment facility. That combined with the use of the latest treatment technology enabled the implementation of a decentralised, local sewage treatment system with production and distribution of recycled water back to the community.

In general the gravity sewer solution is more expensive, requires greater capital input earlier in the development, will take longer to implement, will have greater potential environmental impacts, will have greater energy use and will fail to achieve sustainability initiatives for water re-use. Also the construction footprint of a gravity sewer solution is likely to be over a wider area in order to construct the trunk sewer infrastructure and to construct gravity sewer which by its nature must be laid to grade and therefore can become very deep in sections.

The alternative to the proposed activity is to pipe sewage from the Renewal Project Area to an existing sewage treatment plant for treatment and disposal. This may require an amplification/upgrade of the relevant pipe work and receiving treatment plant. This alternative would be more expensive, have greater potential environmental impacts, and fail to achieve sustainability initiatives for water re-use.

The Shepherds Bay LWC will process wastewater through its sustainable, state-of-the-art recycled water system, providing apartments and retail businesses within the Urban Renewal Project with a secure and environmentally friendly source of recycled water for household and business use, and to sustain landscaping, gardens and public spaces within. The system proposed is closed in so far as rainwater, groundwater and stormwater cannot flow into the system and there are no wet weather overflow events discharging into the environment. Significantly, this minimisation and predictability of flow allows for technically advanced treatment technology (membrane bioreactor) to be utilised. Hence the Shepherds Bay LWC footprint is compact and the application of "traditional" buffers and distances between the LWC and other uses are not relevant having regard for the advanced technology within the LWC.

The proposed activity of reticulated pressure sewer and reticulated recycled water linked to the Shepherds Bay LWC is seen as the best alternative because the off-site impacts are limited. The proposed activity linked to the Shepherds Bay LWC will make a significant contribution to sustainability through the provision of recycled water back to the residents of the Shepherds Bay Urban Renewal Project.

2.4 Preferred Option

The pressure sewage and recycled water reticulation system as well as the establishment of the Shepherds Bay LWC, all delivered, operated and maintained by Flow Systems Operations, was adopted by the developer of the Shepherds Bay Urban Renewal Project area as the preferred option due to economic viability and limited off-site impacts. It also makes a significant contribution to sustainability through the provision of recycled water back to new development. The construction of a decentralised sewage reticulation system means that there are no construction impacts outside of the area and as the proposed sewage reticulation network is under pressure it does not need to be laid to grade and can be installed at minimum depth throughout the development. Both of these measures result in a lower environmental impact.

Given the essential need for this infrastructure, the type and location of the proposed activity, it is assessed as providing the community with the best outcome in terms of type, operation and location.

3.0 Description of Proposed Activity

3.1 Introduction

The proposed activity involves the installation and operation of a pressure sewage reticulation system and the installation and operation of a recycled water reticulation system throughout the Shepherds Bay Urban Renewal Project area delivering high quality recycled water (non-potable uses such as toilet flushing, washing machines, garden irrigation, and car washing) back to the new development.

A plan showing the extent of the proposed activity subject of this REF is shown in **Figure 1**.

The Shepherds Bay LWC (under separate development approval) will utilise sewage from residences and businesses within the Shepherds Bay Urban Renewal Project area to produce high quality water that will be reticulated by the proposed activity. The sewage will be treated through a multi-stage process. The processes that the LWC will use will meet the strict AGWR. Wastewater is cleaned to the highest Australian standards, undergoing seven filtration and purification processes including Membrane Bioreactor (MBR) and Ultraviolet (UV) treatment.

3.2 Proposed Pressure Sewage Reticulation System

A concept master plan for the pressure sewage reticulation system is contained in **Appendix 2**. The master plan and **Figure 1** show the installation of pressure sewage reticulation mains (Sewer spine main and sewer mains) predominately within the road reserve of Nancarrow Street (southern side), two crossings of Nancarrow Street and connections of the Nancarrow Street sewer main to points within private land to service buildings that form part of Stages 2 to 9.

Specifically, each building within each stage will be serviced by the pressure sewage reticulation system via pipe work of diameter of 75mm. Sewer mains from each stage then run within the private land adjacent to the southern side of Nancarrow Street. Sewer from each building gravitates to a low point within each building and is then pressure feed to the Shepherds Bay LWC which is located in the basement of the building of Stage 3 of the Shepherds Bay Urban Renewal Project area. Directional drilling / under-boring will occur at the eastern and western end of Nancarrow Street to facilitate connection of Stages 4 and 5 buildings with the sewer spine main and Stages 6 and 7 with the sewer spine main respectively. Directional drilling / under-boring in these locations will eliminate potential clashes with existing services located within the road reserve. The sewer spine main in private land adjacent to the southern side of Nancarrow Street will be laid via traditional trenching.

Traditional sewer infrastructure in Australia transports sewage by gravity. Pressure sewer networks require much smaller infrastructure than traditional gravity sewers. Access chambers and pump stations that typically make up part of the gravity sewer network are not required. Pressure sewage reticulation systems are suited to difficult ground conditions, such as rock and high water tables. Construction is faster and has less impact. Smaller infrastructure also means it is more easily repaired in the instance of a fault or emergency.

Figure 3 shows a schematic example of the sewage and recycled water system that will be installed within the buildings of Stages 2 to 9 of the Shepherds Bay Urban Renewal Project area.

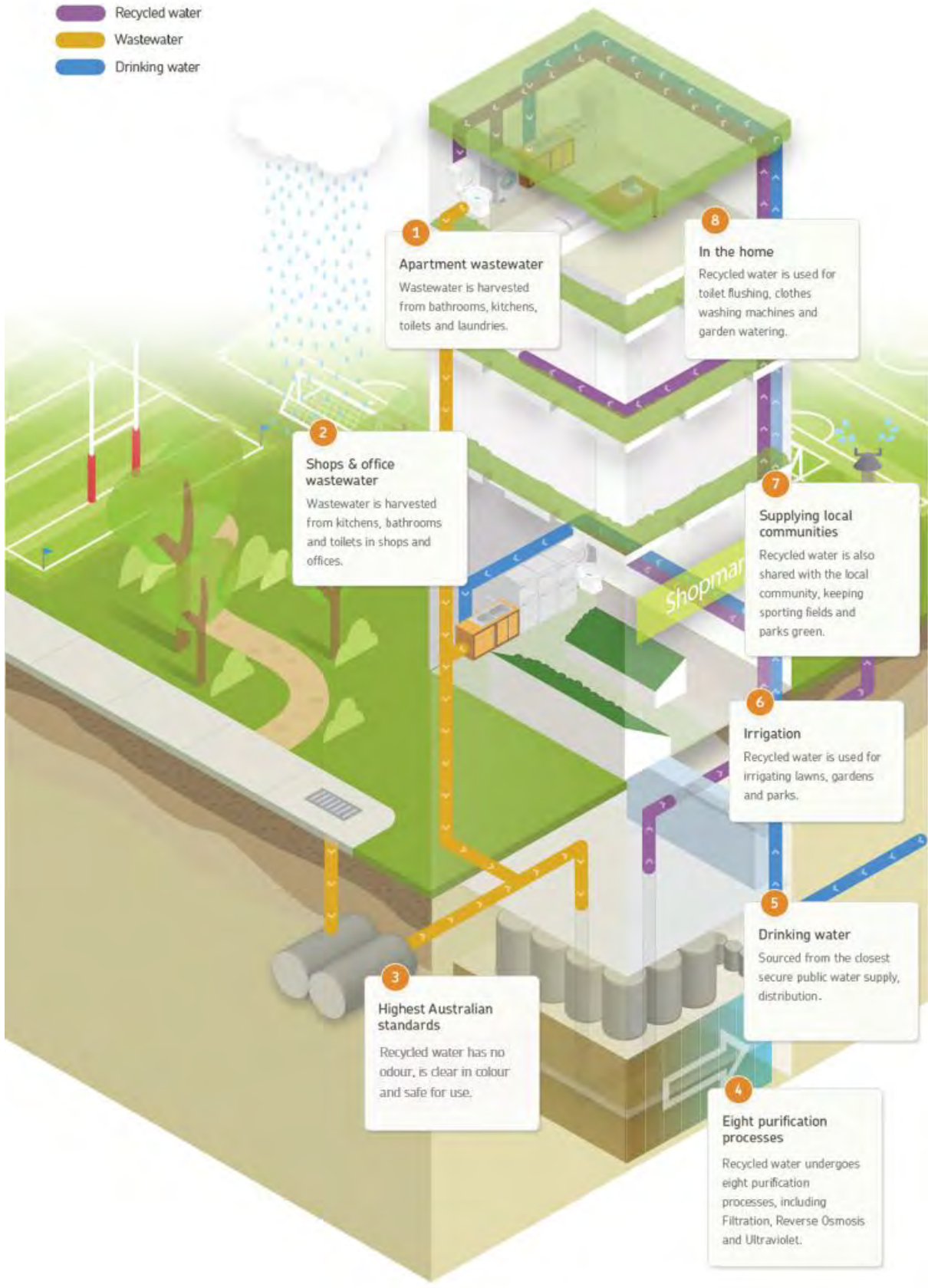


Figure 3 Indicative sewage and recycled water systems within vertical buildings

Pipe sizes for the pressure sewage collection system will be industry standard thick-walled high density polyethylene (HDPE) pipes with fusion welded joints. This pipe material, jointing method and the pressurised nature of the system means that leaks are less likely than in traditional gravity sewer systems which are typically joined with rubber seals, which can deteriorate over time and attract tree roots. The HDPE pressure sewage reticulation system pipes are designed to have the same life expectancy as a typical domestic building, which is 50 years.

As the pressure sewage reticulation system does not attract inflow and infiltration from stormwater and groundwater (as gravity sewer does), sewage overflow points in the system are not required. In addition, collection and treatment works can be reduced in capacity and footprint, thereby reducing their impact.

The reticulation system will be monitored by pressure monitoring points that send regular updates to the scheme's telemetry system and operators and alarms at times of low pressure. This helps to identify major main breaks. The pressure sewage reticulation system will be monitored by telemetry connected to each pump's control panel. This telemetry system will send alarms to the operator when the sewage is at a higher than normal operating level. As per the Water Supply Association of Australia Pressure Sewer Code (WSA-07), a red light on the control panel also strobes when the alarm level is reached to alert the home owner.

3.3 Proposed Recycled Water Reticulation System

A concept master plan for the recycled water reticulation system is contained in **Appendix 2**. The master plan and **Figure 1** show the installation of a common ring recycled water main of diameter 150mm predominately running through the basements of buildings within Stages 2, 3 and 8 of the Shepherds Bay Urban Renewal Project area. All legs will be contained within private lands associated with Stages 2, 3 and 8 except where crossing of Nancarrow Street is required. The recycled water main will be located approximately 900mm to 1500mm below the surface and laid via traditional trenching. Directional drilling / under-boring will occur at the eastern and western end of Nancarrow Street to facilitate connection of Stages 4 and 5 buildings with the recycled water main and Stages 6 and 7 with the recycled water main respectively.

Pipe sizes for the recycled water reticulation system will be industry standard thick-walled high density polyethylene (HDPE) pipes with fusion welded joints. The HDPE recycled water reticulation system pipes are designed to have the same life expectancy as a typical domestic building, which is 50 years.

As the recycled water reticulation system does not attract inflow and infiltration from stormwater and groundwater (as gravity sewer does), recycled water overflow points in the system are not required.

3.4 Outline of Construction Works

Construction of the sewage and recycled water reticulation systems will occur in one stage.

Trenching will be confined to a two (2) metre corridor overlying the route selected in the concept master plan for the pressure sewage reticulation system and the recycled water reticulation system contained in **Appendix 2**. Recycled water mains will be laid simultaneously with the pressure sewage reticulation system mains.

Spoil from the construction of the reticulation infrastructure is expected to be minimal due to the relatively small size of pipe and shallow depth and will be managed in accordance with a Construction and Environmental Management Plan (CEMP) for the proposed activity. Temporary stock piles of spoil are expected to be minimal and will be placed within the extent of the works corridor and appropriate erosion control devices installed around the stock piles to control runoff and prevent sedimentation. It should be

noted that the impact assessments and mitigation measures provided in subsequent chapters of this REF provide consideration of the proposed activity's impacts as if it was a stand-alone project.

3.5 Construction Plant and Equipment

The following plant and equipment would be required to undertake the proposed works:

- Small tipper trucks at all times to move material and equipments around the site;
- Rigid delivery trucks to deliver pipes and equipment at the start of works;
- Excavator at all times to dig and backfill the trenches along Nancarrow Street road reserve and private land;
- Portable generators intermittently to provide power for the polyethylene pipe electro-fusion process;
- General construction tools; and
- Horizontal directional drill for the under boring and laying of pipes at the eastern and western end Nancarrow Street.

3.6 Construction Workforce

It is anticipated that the construction works for proposed activity will be undertaken by a work crew of 6-8 people over a two month period. All contractors and machine operators will be inducted on the relevant safeguards required.

3.7 Construction Hours

Construction will be undertaken during the following hours:

- Monday to Friday 7am to 6pm; and
- Saturday 8am to 1pm.

3.8 Construction Program

Works are expected to commence in the second quarter of 2017.

3.9 Environmental Management Plan – Construction Phase Activities

During construction environmental safeguards referred to in this REF shall be implemented. The contractor will prepare a CEMP covering the construction phase prior to the commencement of construction. This CEMP will cover the requirements of this REF.

3.10 Outline of Operation Works

The activity will be undertaken by Flow Systems Operations and the systems will operate 24 hours a day, 7 days per week to service the community. The pipe work is designed for a life-span of 50-100 years and as it is predominantly buried routine maintenance is not required nor carried out. The sewage and recycled water systems will service around 1,750 apartments.

Schematics illustrating typical construction responsibilities for the infrastructure and typical ownership and operation and maintenance responsibilities are contained in **Appendix 3**.

Each property will be supplied with a reference guide explaining the requirements of the pressure sewage reticulation system.

If defects in the pressure sewage reticulation system pumps are identified (often through telemetry connected to the control panels before the home owner is aware), Flow Systems Operations' operational staff or contractors will attend the site within 24 hours.

Occasionally the pressure sewage reticulation system may be flushed with recycled water to ensure that there is no build-up of solids.

Reactive repairs may need to be carried out in the event that mains are damaged by third parties. All of Flow Systems Operations' assets are registered on the "dial before you dig" service to assist with minimising the risk of this occurring.

4.0 Key Legislation

4.1 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the statutory framework for planning and environmental assessment in New South Wales. Implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils. The EP&A Act contains two parts which impose requirements for planning approval, namely:

- Part 4 generally provides for the control of local development that requires development consent from the local Council. Part 4 also provides for State Significant Development; and
- Part 5 provides for the control of 'activities' that do not require development consent under Part 4 and are undertaken or approved by approved authorities.

The applicable approval process is generally determined by reference to the relevant environmental planning instruments and other controls. These include local environmental plans (LEPs) and State Environmental Planning Policies (SEPPs). Pursuant to Section 36 of the EP&A Act there is a general presumption that a SEPP prevails over a LEP in the event of an inconsistency.

This REF has been prepared pursuant to two pieces of legislation, WICA and for the construction and operation of a *sewage reticulation system* as defined for the purposes of Clause 106(3) of ISEPP which is an activity under Part 5 of the EP&A Act.

The REF has been prepared in accordance with Sections 111 and 112 of the EP&A Act and clause 228 of the *Environmental Planning and Assessment Regulation 2000*. It examines and takes into account to the fullest extent possible all matters affecting or likely to affect the environment as a result of the activities associated with this project.

Once Flow Systems Operations becomes a licensed network operator for the area covered by this proposed activity, it will have powers under ISEPP (see section 4.3.1) but as it requires no further approval to undertake its activities, section 110 of the EP&A Act does not identify a determining authority for the environmental assessment. In accordance with Flow Systems Operations' Operational Environmental Management Plan and Approvals Management Procedure, Flow Systems Operations will submit future subsequent environmental assessments for third party review by IPART or a consultant approved by IPART at Flow Systems Operations' own cost.

It is noted that potable water infrastructure does not form part of this REF as these will be subject to development application under Part 4 of the EP&A Act. Licensed network operators under WICA cannot develop potable water infrastructure without consent as they can with recycled water and sewerage infrastructure under ISEPP. Environmental impact assessments of the potable water infrastructure will be carried out to accompany the relevant development application(s) under Part 4 of the EP&A Act.

4.2 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) requires the approval of the Commonwealth Minister for the Environment for actions that may have a significant impact on matters of National Environmental Significance (NES). The Matters of NES under this Act are:

- World Heritage properties.
- National heritage places.
- Wetlands of international importance (Ramsar wetlands).

- Threatened species and ecological communities.
- Migratory species.
- Great Barrier Reef Marine Park.
- Commonwealth marine areas.
- Nuclear actions (including uranium mining).
- A water resource, in relation to coal seam gas development and large coal mining development.

The REF has assessed the above matters with respect to the proposed activity as contained in **Appendix 1** and it is concluded that the proposed activity will not result in a significant impact on any matters of NES and, as such, does not require a referral to the Minister for the Environment.

4.3 State Environmental Planning Policies

4.3.1 State Environmental Planning Policy (Infrastructure) 2007

The ISEPP provides a planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The ISEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency. The following clause of the ISEPP is applicable to the construction of the proposed activity.

106 Development permitted with or without consent

Clause 106 of the ISEPP addresses development permitted with or without consent. Subclause (3) states the following:

(3) Development for the purpose of sewage reticulation systems may be carried out:

- (a) by or on behalf of a public authority or any person licensed under the Water Industry Competition Act 2006 without consent on any land, and*
- (b) by any other person with consent on any land.*

However, such development may be carried out on land reserved under the National Parks and Wildlife Act 1974 only if the development is authorised by or under that Act.

The operation of the proposed activity will be undertaken by Flow Systems Operations who will be licensed under the WICA. Once licensed, Flow Systems Operations requires no further approval as there is no determining authority defined within the EP&A Act for this activity.

The land is not reserved under the *National Parks and Wildlife Act 1974*.

Part 2 Division 1 of ISEPP requires 'public authorities' to notify Council and other relevant authorities where specific impacts (as listed in ISEPP) on Council are identified. Flow Systems Operations is not defined as a public authority and the proposed activity does not identify any impacts on Ryde Council. Ryde Council has the opportunity to comment on any part of the proposed activity when notified of the REF by IPART.

It is noted that potable water infrastructure cannot be developed without development consent under Part 4 of the EP&A Act as they can with recycled water and sewerage infrastructure under ISEPP.

4.4 Local Planning Policies

4.4.1 The Ryde Local Environmental Plan 2012

The *Ryde Local Environmental Plan 2014* (RLEP 2014) is a legal document that provides rules and guidelines for development within Ryde LGA to control the use of private and public land through zoning.

Land within the Shepherds Bay Urban Renewal Project area is zoned B4 Mixed Use and an extract of the land use zoning is shown as **Figure 4**.

The objectives of the B4 Mixed Use zone are provided below.

Zone B4 Mixed Use

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To ensure employment and educational activities within the Macquarie University campus are integrated with other businesses and activities.
- To promote strong links between Macquarie University and research institutions and businesses within the Macquarie Park corridor.

4.5 Other Legislative Requirements

Other state legislation relevant to the assessment of environmental impacts from the proposed activity has been considered and is outlined below.

Water Management Act 2000

The *Water Management Act 2000* is administered by the NSW Department of Primary Industries – Water. The objective of this Act is to protect watercourses from any deleterious effects as a result of works within or near such watercourses. Part 3A of the Act requires any persons undertaking works within 40 metres of a watercourse to obtain a permit. The proposed activity does not require a “Controlled Activity Approval” under the *Water Management Act 2000* due to the works being located more than 40 metres from a watercourse.

Water Industry Competition Act 2006 and Water Industry Competition (General) Regulation 2008

WICA, as part of its strategy for a sustainable water future aims to harness the innovation and investment potential of the private sector in the water and wastewater industries. WICA established a licensing regime for new entrants to the industry to ensure the continued protection of public health, consumers and the environment. The private sector is now encouraged to develop and operate water management schemes and the licensing system is governed by IPART and the Minister for Lands and Water. As mentioned in Section 3 of this REF the operation of the sewage and recycled water reticulation systems will be undertaken by Flow Systems Operations who will be licensed under the WICA.

IPART assesses WICA licence applications based on licensing criteria and principles in WICA, including the following environmental sections/ clauses within WICA and the Water Industry Competition (General) Regulation 2008.

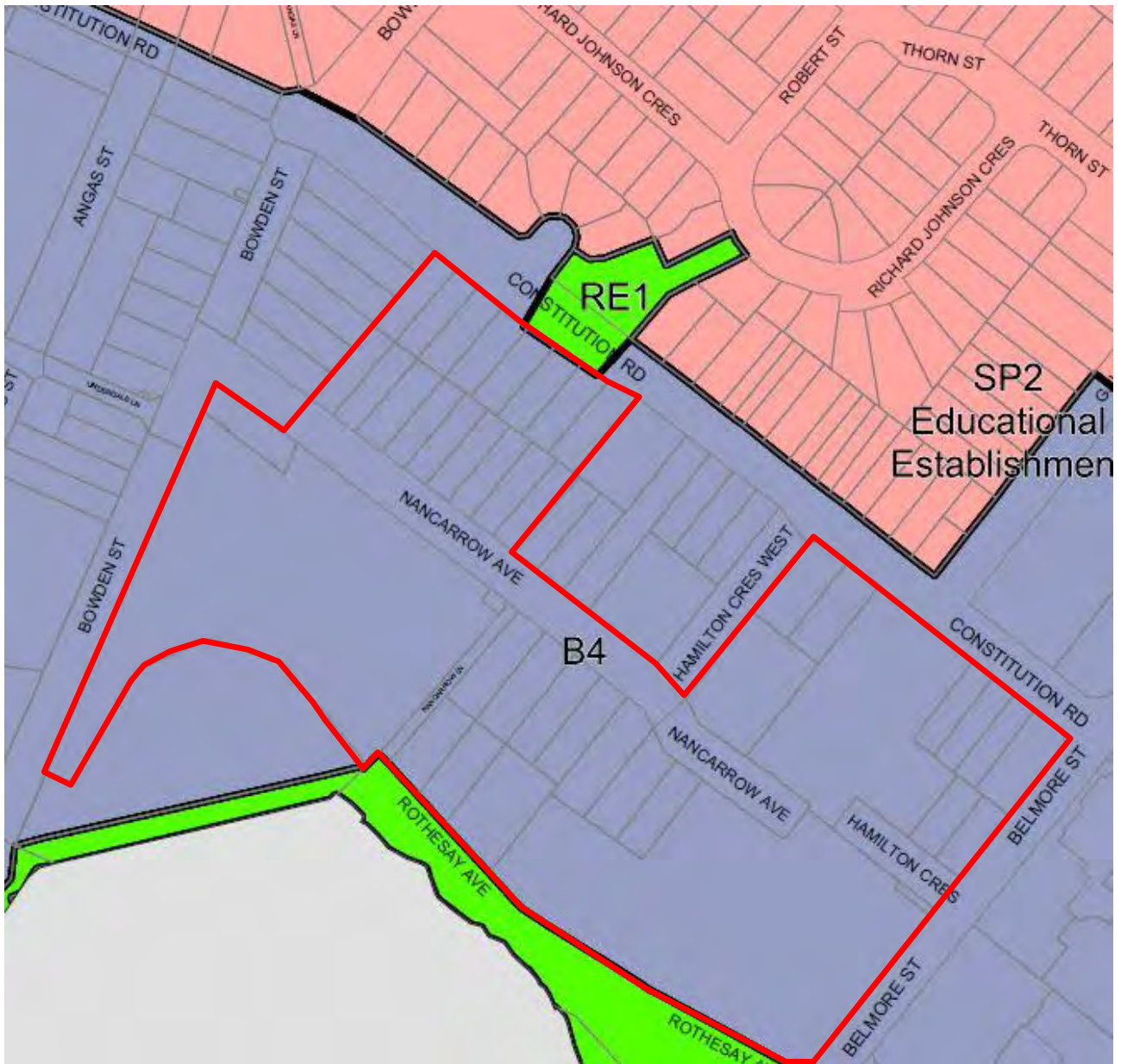



Figure 4 Current Land Use Zoning from RLEP 2014

Legend

-  Shepherds Bay Urban Renewal Project Area

Water Industry Competition Act 2006

“7 Licensing principles

(1) *In considering whether or not a licence is to be granted under this Part and what conditions are to be imposed on such a licence, regard is to be had to the following principles:*

(a) *the protection of public health, the environment, public safety and consumers generally.”*

Water Industry Competition (General) Regulation 2008

“7 Matters as to which Minister must be satisfied in relation to licence applications: section 10 (4) (e)

Before granting a network operator’s licence, the Minister must be satisfied that the applicant has the capacity to carry out the activities that the licence (if granted) would authorise in a manner that does not present a significant risk of harm to the environment.”

In considering licence applications the Minister administering the WICA must be satisfied of such other matters that he/she considers relevant, having regard to the public interest.

This REF has been prepared with due regard for the licensing criteria, principles and environmental clauses in the WICA. This assessment under WICA is determined by the Minister for Lands and Water and is a high level threshold to determine that the licensee has the capacity to protect the environment and not to cause significant risk of environmental harm. This can be considered through this assessment in conjunction with the licensee’s operational environmental management plan and certified environmental management systems.

Contaminated Land Management Act 1997

The *Contaminated Land Management Act 1997* (CLM Act) is administered by the NSW Environment Protection Authority (EPA) and local councils. It provides a regime for investigating and, where appropriate, remediating land affected by contamination which represents a significant risk of harm to human health or the environment. The CLM Act specifies responsibilities for managing contaminated land and the role of the EPA in the assessment of contamination and the supervision of the investigation, remediation and management of contaminated sites. No known contaminated sites will be disturbed or generated during the construction of the proposed activity.

State Environmental Planning Policy No. 55 - Remediation of Land (SEPP 55) requires that prior to the granting of consent to any development that consideration be given to whether or not the land is suited to the intended use of the land with respect to potential soil and groundwater contamination. The Preliminary Screening Contamination Assessment completed by Douglas Partners in 2010 for Concept Plan MP09_0216 did not raise significant concern with regard to the proposed activity and residential use on this site. In summary the proposed activity area is considered to be suited to the proposed activity and thereby satisfies the provisions of SEPP 55.

Threatened Species Conservation Act 1995

Developments requiring approval from a consent authority under Part 4 of the EP&A Act or activities requiring determination or approval by a determining authority under Part 5 of the EP&A Act, are required to be assessed in accordance with the *Threatened Species Conservation Act 1995* (TSC Act).

Section 111(4) of the EP&A Act requires a determining authority to consider the effects of an activity on the following:

- (a) critical habitat, and
- (b) in the case of threatened species, populations and ecological communities, and their habitats, whether there is likely to be significant effect on those species, populations or ecological communities, or those habitats, and
- (c) any other protected fauna or protected native plants within the meaning of the *National Parks and Wildlife Act 1974*.”

Section 5A of the EP&A Act outlines seven points which must be considered in order to determine the significance of the impact of a development or activity on the habitat of threatened species, population and ecological communities, known or considered likely to occur in the study area and environs. This assessment is commonly referred to as the ‘seven part test’.

The proposed activity has the potential to impact on four street trees on the southern side and two street trees on the northern side of Nancarrow Street. Trenching will be designed around these streets to enable their retention. Hence the proposed activity will have no significant impact on threatened species, populations and ecological communities listed pursuant to the TSC Act. The existing physical condition of the site is such that it does not have any ecological attributes which, if lost, would impact upon any threatened species, population, ecological community or habitat.

Heritage Act 1977

The *Heritage Act 1977* is concerned with the protection of scheduled heritage items, sites and relics. The NSW Heritage Office administers this Act. It is an offence under the *Heritage Act 1977* to disturb any relics. Relics, as defined in the *Heritage Act 1977* means any deposit, artefact, object or material evidence that:

- Relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
- Is of State or local heritage significance.

There are no known European heritage items identified within the site. The site is not a heritage item or within a heritage conversation area pursuant to the RLEP 2014.

Protection of the Environment Operations Act 1997

One of the aims of the *Protection of Environment Operations Act 1997* (POEO Act) is to reduce risks to human health and prevent the degradation of the environment by the use of mechanisms that promote the following:

- Pollution prevention and cleaner production,
- The reduction to harmless levels of the discharge of substances likely to cause harm to the environment,
- The elimination of harmful wastes,
- The reduction in the use of materials and the re-use, recovery or recycling of materials,
- The making of progressive environmental improvements, including the reduction of pollution at source, and
- The monitoring and reporting of environmental quality on a regular basis.

Under Schedule 1, clause 36 of the POEO Act, the activity of a sewage treatment system is declared to be a scheduled activity if the operation of sewage treatment systems (including the treatment works, pumping stations, sewage overflow structures and the reticulation system) that involve the discharge or likely discharge of wastes or by-products to land or waters has a processing capacity that exceeds:

- 2,500 persons equivalent, as determined in accordance with guidelines established by the EPA Gazettal notice, or
- 750 kilolitres per day.

The proposed activity is designed with ultimate capacity for 600kL per day of sewage treatment, and to provide wastewater services to approximately 1,750 equivalent persons (EP) and does not exceed the threshold and hence the activity is not a scheduled activity.

Although the proposed activity is not a scheduled activity for the purposes of the POEO Act, Clause 120 (Prohibition of pollution of waters) identifies that a person who pollutes any waters is guilty of an offence. Clause 148 (Pollution incidents causing or threatening material harm to be notified) identifies the kinds of pollution incidents that must be notified to the EPA and the duties that persons, employees, employers and agents must take in respect of a pollution incident.

Flow Systems Operations will ensure that in the unlikely event of a pollution incident all remedial actions are in accordance with the POEO Act.

Native Vegetation Act 2003

The *Native Vegetation Act 2003* requires approvals for works to clear native vegetation. No native vegetation will be removed as a result of the proposed activity.

4.6 Summary

The proposed activity has been assessed pursuant to two pieces of legislation:

- *Water Industry Competition Act 2006* (WICA); and
- *Environmental Planning and Assessment Act 1979* (EP&A Act), particularly environmental assessment under Part 5 and the *Environmental Planning and Assessment Regulation 2000*.

No requirement in any other legislation has identified the need for further approval or licences to be obtained.

The assessment of environmental impact under WICA is made by the Minister for Land and Water in issuing a network operator's licence.

Once Flow Systems Operations is issued with a network operator's licence under WICA, no further approval is required for it to undertake its activities and therefore section 110 of the EP&A Act does not identify any determining authority for Flow Systems Operations' environmental assessment pursuant to sections 111 and 112 of the EP&A Act and clause 228 of the *Environmental Planning and Assessment Regulation 2000*. In accordance with Flow Systems Operations' Operational Environmental Management Plan and Approvals Management Procedure, Flow Systems Operations will submit future subsequent environmental assessments for third party review by IPART or a consultant approved by IPART at Flow Systems Operations' own cost.

The development of a sewage reticulation system is an activity under Part 5 of the EP&A Act. This obliges Flow Systems Operations to assess to the fullest extent possible all matters affecting, or likely to affect, the environment by the construction and operation of the proposed activity. This obligation of the proponent survives in legislation regardless of the status of WICA licence approvals and environmental assessments carried out under WICA.

Section 6 and **Appendix 1** of this REF provide an assessment of the environmental issues associated with the proposed activity, in line with the requirements of the EP&A Act and relevant Commonwealth legislation.

This REF has been prepared with due regard for the licensing criteria, principles and environmental clauses in the WICA. This assessment under WICA is determined by the Minister for Lands and Water and is a high level threshold to determine that the licensee has the capacity to protect the environment and not to cause significant risk of environmental harm. This can be considered through this assessment in conjunction with the licensee's operational environmental management plan and certified environmental management systems.

5.0 Consultation

Consultation will be performed as part of the Network Operator's Licence (NOL) application process via IPART's exhibition of the NOL application. Exhibition of the NOL application will include exhibition of this REF.

Submissions to the exhibition of the NOL application will be considered as required under ISEPP and WICA.

6.0 Environmental Assessment

This section of the REF provides a detailed description of the potential environmental impacts associated with the proposed activity during both construction and operation, and provides site-specific mitigation measures to ameliorate the identified potential impacts.

Ryde Council has received the following four local development applications for the following activities in the Shepherds Bay Urban Renewal Project Area (MP09_0216).

- LDA 2015/0018 – Stages 2 and 3 of the Project Area;
- LDA 2015/0019 – Stages 4 and 5 of the Project Area;
- LDA 2015/0032 – Stages 6 and 7 of the Project Area; and
- LDA 2015/0031 – Stages 8 and 9 of the Project Area.

Statements of Environmental Effects for each of the above DA's have been prepared by others and are contained in **Appendix 4**.

As noted throughout this REF, the sewage and recycled water reticulation systems will be located predominately within the approved Shepherds Bay Urban Renewal Project area and consequently the following sections contain relevant information from the relevant Statement of Environmental Effects contained in **Appendix 4**. As outlined in further detail in Section 3, installation of the pressure sewage reticulation system requires much smaller infrastructure than traditional gravity sewers and is laid at shallower depths. Accordingly, the area of disturbance and impact on the environment are considered minimal compared to other development works that will be undertaken as part of the overall development.

An environmental risk assessment consistent with Australian Standard AS/NZS ISO 31000:2009 and the AGWR was undertaken to confirm the key issues/potential impacts associated with the proposed activity and identify the scope of environmental impact mitigation and management measures required. The environmental risk assessment process undertaken is outlined below. Risks were identified for each environmental aspect and the likelihood assigned using the likelihood matrix presented in **Table 1**.

Table 1 Risk assessment qualitative criteria – measures of likelihood

Qualitative Measures of likelihood		
Level	Descriptor	Example Description
A	Rare	May occur only in exceptional circumstances. May occur once in 100 years.
B	Unlikely	Could occur within 20 years or in unusual circumstances.
C	Possible	Might occur or should be expected to occur within a 5 to 10 year period.
D	Likely	Will probably occur within a 1 to 5 year period
E	Almost certain	Is expected to occur with a probability of multiple occurrences within a year.

The level of risk was then assessed and assigned using the consequence matrix presented in **Table 2**.

Table 2 Risk assessment qualitative criteria – measures of consequence

Qualitative Measures of Consequence		
Level	Descriptor	Example description
1	Insignificant	Insignificant impact or non-detectable.
2	Minor	Health - Minor impact for small population.
		Environment - Potentially harmful to local ecosystem with local impacts contained to site.
		Financial - Cost of event and / or rectification is less than \$10K
3	Moderate	Health - Minor impact for large population.
		Environment - Potentially harmful to regional ecosystem with local impacts primarily contained to site.
		Financial - Cost of event and / or rectification is greater than \$10K but less than \$100K.
4	Major	Health - Major impact for small population.
		Environment - Potentially lethal impact to local ecosystem, predominantly local, but potential for off-site impacts.
		Financial - Cost of event and / or rectification is greater than \$100K but less than \$1,000K
5	Catastrophic	Health - Major impact for large population.
		Environment - Potentially lethal to regional ecosystem or threatened species; widespread on-site and off-site impacts.
		Financial - Cost of event and / or rectification is greater than \$1,000K

With both likelihood and consequence having been identified for each key issue/potential impact, the level of risk was determined using the risk estimation matrix in **Table 3**.

Table 3 Qualitative risk estimation

Qualitative Risk Estimation					
Likelihood	Consequence				
	1 – Insignificant	2 – Minor	3 – Moderate	4 – Major	5 – Catastrophic
A – Rare	Low	Low	Low	High	High
B – Unlikely	Low	Low	Moderate	High	Very High
C – Possible	Low	Moderate	High	Very High	Very High
D – Likely	Low	Moderate	High	Very High	Very High
E – Almost Certain	Low	Moderate	High	Very High	Very High

Table 4 highlights all of the environmental aspects considered and shows those included in this REF, pre and post mitigation risk rankings and reference to the relevant section outlining the proposed mitigation measures.

Table 4 Environmental aspects considered

Environmental Aspect Considered	Included for consideration in REF	Pre-mitigation risk	Reference to Mitigation Measures	Post-mitigation (residual Risk)
Contamination	Yes	Moderate	Section 6.1.3	Low
Soils and Water	Yes	Moderate	Section 6.2.3	Low
Noise and Vibration	Yes	Moderate	Section 6.3.3	Low
Traffic and Access	Yes	Moderate	Section 6.4.2	Low
Flora and Fauna and Visual Amenity	Yes	Moderate	Section 6.5.3	Low
Socio-economic effects	Yes	Moderate	Section 6.6.3	Low
Waste Management	Yes	Moderate	Section 6.7.3	Low
Heritage	Yes	Low	Section 6.8	Low
Risks and Hazards	Yes	Moderate	Section 6.9	Low

Due diligence will be demonstrated in the carrying out of the activity and all contractors involved will be made aware of statutory obligations and concept approval conditions. A CEMP for the project works will be adhered to.

The following provides a summary of relevant environmental issues sourced from **Appendix 4**.

6.1 Contamination

6.1.1 Existing Environment

As part of a suite of specialist studies to inform the Concept Plan Approval (MP09_0216) of the Shepherds Bay Urban Renewal Project area, a Preliminary Screening Contamination Assessment and a Preliminary Geotechnical and Groundwater Assessment were prepared by Douglas Partners in 2010. These documents were prepared in order to assess the likelihood and/or extent of potential soil and groundwater contamination, which may have resulted from past and present uses on or adjacent to the site. These reports did not raise significant concern with regard to the proposed works and residential uses across the Shepherds Bay Urban Renewal Project area.

There are no contaminated sites as identified under the *Contaminated Land Management Act 1997* in the vicinity of the proposed activity area.

6.1.2 Potential Impacts

Previous investigations of the site do not identify the site as being unsuitable for the proposed activity and it is unlikely that adverse impacts would result from any proposed earthworks including the shallow trenching and directional drilling required for the proposed activity.

In relation to contamination, there is potential for the proposed activity to encounter contamination. As noted in the Statement of Environmental Effects for LDA 2015/0032 (refer to Section 5.1.4 in the relevant SEE contained in **Appendix 4**) detailed assessment of the soil and groundwater conditions of the site was

undertaken by Environmental Investigations Pty Ltd with the results provided in a Contaminated Land Report (RAP).

Known contaminated sites will be remediated prior to the installation of the reticulation and collection network and hence the proposed activity is unlikely to impact on known contaminated sites. If components of the reticulation and collection network need to commence prior to other works associated with LDA 2015/0018, 2015/0019, 2015/0031 and 2015/0031 then the principal construction contractor of the proposed activity will need to undertake site investigations, in accordance with NSW EPA Guidelines.

State Environmental Planning Policy No. 55 - Remediation of Land (SEPP 55) requires that prior to the granting of consent to any development that consideration be given to whether or not the land is suited to the intended use of the land with respect to potential soil and groundwater contamination. The Preliminary Screening Contamination Assessment completed by Douglas Partners in 2010 did not raise significant concern with regard to the proposed activity and residential use on this site.

In summary the proposed activity area is considered to be suited to the proposed activity and thereby satisfies the provisions of SEPP 55.

The RAP referred to in the Statement of Environmental Effects for LDA 2015/0032 (refer to Section 5.1.4 in the relevant SEE contained in **Appendix 4**) identifies that there is a low risk of widespread groundwater contamination and that any groundwater impact is unlikely to prevent the redevelopment of the sites for residential and open space development. The RAP addresses the relevant regulatory framework and establishes a sequential process of remedial works to assist the site in meeting the required residential and open space criteria.

In relation to contamination known contaminated sites will be remediated prior to the installation of the reticulation and collection network and hence the proposed activity is unlikely to impact on known contaminated sites. If components of the reticulation and collection network need to commence prior to the bulk earthworks and remediation then the principal construction contractor will need to undertake all site remediation in strict accordance with the RAP (Environmental Investigations Pty Ltd) and an appropriate validation report of the remediation works will be required.

6.1.3 Proposed Mitigation Measures

A range of control measures to eliminate, limit or mitigate impacts from construction activities have been proposed for the activity. These measures will be contained in the CEMP for the works and will include the following:

- No excavation or ground disturbance works are to commence unless site contamination investigations in accordance with NSW EPA Guidelines have occurred.
- No excavation or ground disturbance works are to commence unless site remediation of the site has been undertaken in accordance with the RAP (Environmental Investigations Pty Ltd) and an appropriate validation report of the remediation works has been prepared.
- Excavation works would be undertaken consistent with any long term management plan for the management of any impacted materials exceeding criteria which are retained at the site (if relevant).
- Should any potential hazards be identified (or any other unexpected potentially hazardous substance), a unexpected finds protocol is to be followed.

6.1.4 Conclusion

The various assessments associated with LDA 2015/0018, 2015/0019, 2015/0031 and 2015/0031 (refer to the relevant SEE contained in **Appendix 4**) conclude that the Shepherds Bay Urban Renewal Project area is

suitable for the proposed activity. No geotechnical constraints adversely affect the site as a whole. Preliminary contamination assessments may be required for the proposed activity if components of it commence prior to works associated with the development applications for the various stages of the Shepherds Bay Urban Renewal Project.

6.2 Soils and Water

6.2.1 Existing Environment

The site is located within an area undergoing urban renewal. Many of the sites within the Shepherds Bay Urban Renewal Project area have had existing buildings demolished and construction of new buildings are underway. The proposed activity will occur in a context of disturbed soils consistent with land under re-development and soils contained within existing road and street reserves.

The Statement of Environmental Effects (SEE) for the following development applications indicate that Erosion and Sedimentation Control Plans will be provided as part of the Construction Environmental Management Plan of each development.

- LDA 2015/0018 – Stages 2 and 3 of the Project Area (refer to Section 7.4.5 of the relevant SEE contained in **Appendix 4**);
- LDA 2015/0019 – Stages 4 and 5 of the Project Area (refer to Section 7.4.4 and 7.4.5 of the relevant SEE contained in **Appendix 4**);
- LDA 2015/0032 – Stages 6 and 7 of the Project Area (refer to Section 5.3.5 of the relevant SEE contained in **Appendix 4**); and
- LDA 2015/0031 – Stages 8 and 9 of the Project Area (refer to Section 5.3.5 of the relevant SEE contained in **Appendix 4**).

6.2.2 Potential Impacts

It is unlikely that significant impacts to soils and water will occur as the works are largely temporary and limited in scale due to the modified and highly disturbed nature of the site. Works proposed will not have any additional impacts to those carried out as part of works for each of the approved stages of the Shepherds Bay Urban Renewal Project area.

It is unlikely that adverse impacts on water quality would occur during operation. The proposed activity is a closed pressurised system which is continually monitored. Should a significant leak or any unusual flow occur personnel from Flow Systems Operations are immediately alerted to fault in the system by alarms connected to pressure monitoring points on the recycled water and pressure sewage reticulation system. Operators will respond accordingly in accordance with standard operating procedures which could be by switching off (recycled water or pressure sewage reticulation system) pumps via the SCADA control system and by sending trained local contractors to site to close off the nearby valves in the system. In the unlikely event that recycled water or sewage escapes the reticulation system and gets into the stormwater system, this would be captured by the development's onsite detention system which will contain the spill from entering the natural surrounding waterways. This will ensure any accidental release of sewage or recycled water is minimised and captured on-site. Adverse impact on groundwater as a result of the proposed activity is therefore considered to be unlikely.

6.2.3 Propose Mitigation Measures

A range of control measures to eliminate, limit or mitigate impacts from construction activities have been proposed for the activity. These measures will be contained in the CEMP for the works, will be consistent with those contained in the CEMP's to be prepared as part of the development applications for the respective stages and will include the following

- Sediment and nutrient controls, prepared in accordance with the *Landcom Managing Urban Stormwater – Soils and Construction (the Blue Book)*, will be implemented to reduce the impacts of stormwater, erosion and sedimentation on water quality. Specific erosion and sediment controls are to be contained within the site CEMP. All erosion and sediment control measures will be established before excavation and vegetation clearance begins. Control measures are to remain in place until all surfaces have been fully restored and stabilised.
- Sandbags will be placed at the entry points to any culverts and stormwater channels to prevent sediment entering the stormwater system.
- Sediment and erosion control devices will be inspected regularly, maintained to ensure effectiveness over the entire duration of the project, and cleaned out before 30% capacity is reached.
- Any temporary stockpiles will have appropriate erosion control devices installed to control runoff and prevent sedimentation.
- Upslope surface runoff will be redirected around work areas by using diversion drains or other methods.
- Sediment fences down slope of all disturbed areas and material stockpile areas.
- Where appropriate, disturbed areas will be stabilised by revegetation within 10 days after completion of construction.
- Site disturbance will be minimised by containing machinery access to site areas required for approved construction works.
- Sediment filters such as silt fences, coir bales, or turf strips will be located downstream of disturbed areas.
- No chemicals, fuels, and/or waste will be stored or collected for disposal within or adjacent to drainage lines or unsealed surfaces. Nevertheless a 'spill kit' will be kept on site at all times for potential chemical or fuel spills.
- Appropriate containment measures will be used to ensure that all drilling fluids from directional drilling or boring activities are captured and contained.
- Drainage systems will be checked at regular intervals and maintained to ensure they are operating at full capacity (e.g. clearance of debris from drainage lines).

6.3 Noise and Vibration

6.3.1 Existing Environment

The area surrounding the proposed activity area is undergoing urban renewal. Many of the sites within the Shepherds Bay Urban Renewal Project area have had existing buildings demolished and construction of new buildings are underway.

6.3.2 Potential Impacts

The main source of construction noise will be from machinery associated with the earthworks and construction and installation of pipes. These impacts will be short term and would include associated traffic movements. Earthworks will include the use of small tipper trucks, rigid delivery trucks, excavator, directional driller and portable generators.

Due to the distance of the site from existing residences and the nature of the plant and equipment that will be used during construction the noise level during construction is unlikely to have an adverse impact on residential receivers.

Construction noise is assessed with reference to the NSW *Interim Construction Noise Guideline* (ICNG) and the NSW *Industrial Noise Policy* (INP). Construction noise is unlikely to have an adverse impact on residential receivers for the following reasons:

- Construction will temporary and will be undertaken during standard hours;
- The nature of the plant and equipment (relatively small scale) that will be used during construction; and
- There will be minimal use of “very annoying activities” such as rock hammering.

It is considered that the nearest existing resident is unlikely to be subject to construction noise levels greater than 10dBA above background levels, except for potential minor exceedances up to 5dBA during initial earthworks on site. Any potentially noise affected neighbours will be contacted with details of construction scheduling and activities, and be made aware of telephone numbers for complaints. Community consultation and complaints handling will be undertaken according to the guidelines of the ICNG. All contractors and staff will be made aware of the location of neighbours, and instructed on appropriate noise minimisation procedures.

Mitigation measures associated with construction noise for the entire proposed activity are provided below.

6.3.3 Proposed Mitigation Measures

In line with industry best practice, the following mitigation measures are recommended to minimise the impact of potential construction noise from the proposed activity upon residential receivers.

- All equipment used will comply with AS2436-1981 *Guide to Noise Control on Construction, Maintenance and Demolition Sites*.
- Work and deliveries will only occur during the following times: Monday to Friday 7am to 6pm, Saturday 8am to 1pm. No construction work or deliveries will occur on Sundays or public holidays.
- Regular and effective maintenance of all equipment, including vehicles moving on and off the site, will be conducted.
- Plant and equipment which is used intermittently will either be shut down in the intervening periods between works or throttled down to a minimum.
- Any portable equipment with the potential to create high levels of noise (e.g. compressors, generators) will only be selected for use if it incorporates effective noise control. This equipment should be located, where practical, so that natural ground barriers are between it and the nearest potentially affected receivers.

6.3.4 Conclusion

Standard best practice measures to proactively control construction noise will be used. These measures will be included within the proposed CEMP.

6.4 Traffic and Access

6.4.1 Existing Environment

The site is generally bound by Nancarrow Avenue to the north and Rothesay Avenue to the south. Initial access to and from the site during construction will be along the existing road network.

Vehicle access to the land within the development stages of the Shepherds Bay Urban Renewal Project Area will be via the approved access points for these stages. From the street network, construction vehicles have access to surrounding major roads and arterial road networks.

6.4.2 Potential Impacts

It is proposed that all material loading and unloading will occur within the work sites. No loading or unloading is proposed to occur from public roads. The construction vehicle access routes will be selected to minimise vehicle access to local residential streets to minimise the potential amenity impacts associated with construction vehicle flows.

Temporary access restrictions or diversions may be required during construction due to excavation and connection activities, and on an as required basis during operation to undertake maintenance and repairs, where required. Restriction or diversions may have temporary impacts on pedestrian and vehicle flows within the area.

There are no existing bus services that would be adversely impacted by the proposed works. Public services would not need to be detoured or existing bus stops relocated during construction and operation.

Vehicle movements during construction will mostly consist of the floating of small earthmoving equipment. Truck movements will occur at various stages throughout the construction period.

The proposed activity is unlikely to have significant impacts on the existing environment due to the temporary nature of the works.

6.4.3 Proposed Mitigation Measures

All reasonable measures will be used to ensure that the proposed activity does not significantly reduce road capacity or disturb traffic flows. Appropriate exclusion barriers, signage and site supervision will be employed at all times to ensure that the work site(s) are controlled and that unauthorised vehicles and pedestrians are excluded from the works area. The following mitigation measures will be applied throughout the duration of the works:

- The Contractor will maintain a complaints register. Any complaints received will be responded to as soon as possible.
- A traffic control plan prepared by a suitably qualified person will be submitted to Flow Systems Operations for approval, detailing construction movements and controls, prior to commencement of work on the site.

6.4.4 Conclusion

The mitigation measures proposed will be applied throughout the duration of the construction works via the implementation of the CEMP for the proposed activity.

6.5 Flora and Fauna and Visual Amenity

6.5.1 Existing Environment

Land that will contain buildings associated with Stages 2 to 5 have been cleared and are under-going earthworks in accordance with Concept Plan MP09_0216 (as modified) and recent development applications. Large industrial style buildings are still located on the land ear marked for Stages 6 to 9 but contain no vegetation that will be impact upon by the proposed activity. Six street trees (four immature trees located on the southern side of Nancarrow Street and two established trees on the northern side of Nancarrow Street) maybe impacted by the trenching methods proposed.

6.5.2 Potential Impact

The proposed activity does not propose to remove the existing street trees and trenching will be designed around these streets to enable their retention. The existing physical condition of the site (cleared land and the non-removal of street trees) is such that it does not have any ecological attributes which, if lost, would impact upon any threatened species, population, ecological community or habitat.

Hence the proposed activity will have no significant impact on threatened species, populations and ecological communities listed pursuant to the TSC Act.

6.5.3 Proposed Mitigation Measures

The following mitigation measures are recommended to minimise the impact of more general ecological issues during the construction of the proposed activity:

- To prevent damage to vegetation outside the boundaries of the site (if any), vehicles and machinery will be restricted to designated work areas; and
- All temporary erosion and sediment control devices such as silt-stop fencing will be removed from the site at the completion of the works or when the site is stabilised.

6.5.4 Conclusion

Each of the above matters will be incorporated into the CEMP for the site to ensure that the impact of the proposed activity on the environment is minimised.

6.6 Socio-economic effects

6.6.1 Existing Environment

The proposed activity is located within the Ryde LGA. The Shepherds Bay Urban Renewal Project Area, which covers approximately 35 hectares, is undergoing a fundamental change from an industrial area to a high density residential area. As well as residential development, the area will contain some commercial and retail areas. Construction of the proposed activity will be primarily underneath private lands within the Shepherds Bay Urban Renewal Project Area and underneath the Nancarrow Street reserve.

6.6.2 Potential Impact

It is considered that there will be minor short term constructional impacts on workers within the Nancarrow Street vicinity and potentially residents within the now completed Stage 1 of the Shepherds Bay Urban Renewal Project Area. Impacts will include the presence of machinery and associated traffic movements, and the minor visual impacts of these. These impacts will be for a short period of time (2 months) and will not create any long term socio-economic issues.

The proposed activity will contribute positively to the community by reducing the demand on potable water resources through the use of recycled water for approved uses. The recycled water is treated to a high quality in accordance with the AGWR and its intended end uses of landscape and planter box irrigation, toilet flushing and in washing machines. The AGWR was developed by representatives of state health authorities and scientists from state and federal authorities and its adherence ensures the health of people who live in areas using recycled water. It is likely that Flow Systems Operations network operator's licence will stipulate that it adheres with AGWR and continues to produce recycled water to the required standard. The NSW regulator, IPART, will make sure that Flow Systems Operations complies with these standards through regular compliance auditing.

The proposed activity makes a significant contribution to sustainability of the re-development through the provision of recycled water back to the planned apartments reducing the demand on potable water sources.

6.6.3 Conclusion

Overall, the socio- economic impacts of the proposed activity are considered to be positive. The proposed activity will facilitate the development of the redevelopment area and provide a viable long term scheme for water re-use and thus make a significant contribution to sustainability and the conserving of resources.

6.7 Waste Management

6.7.1 Potential Impacts

During excavation of the trenches any displaced soil will be stockpiled to one side and back filled. The soil stockpile will be protected from dispersion by runoff during storm events through the implementation of best practice Erosion and Sediment Control measures.

Any excess spoil, if generated, will be utilised within the Shepherds Bay Urban Renewal Project Area. Construction waste (concrete, off cuts and general waste etc) will be stored and disposed of in accordance with waste disposal safeguards.

Waste materials likely to be generated by the proposed activity include:

- Off-cuts of piping from construction works;
- Domestic waste such as paper, aluminium cans and material generated by workers.

6.7.2 Proposed Mitigation Measures

Waste generated would be managed in accordance with the CEMP for the works. The following mitigation measures will be applied throughout the duration of the works:

- All waste generated during the course of the works will be reused or removed from the work areas as soon as practicable and disposed of in accordance with the waste disposal safeguards;
- All vessels used for contaminated or hazardous waste should be sealed, labelled according to their contents, and stored within bunded areas until their removal from the work site;
- Any fuel, lubricant or hydraulic fluid spillages will be collected using absorbent material and the contaminated material disposed of at an EPA licensed waste depot;
- In the unlikely event of a pollution incident, the relevant authorities will be notified in accordance with Clause 148 of the POEO Act and remedial actions undertaken. Environmental incident response and notification procedures will be detailed in the CEMP and OEMP to be reviewed and approved by IPART prior to the commencement of construction and operation, respectively.
- The work site will be left clean and free of debris and other rubbish at the end of works;

- All hazardous wastes on site will be removed and disposed in accordance with the state and national regulations and guidelines and best practice for the removal of these materials;
- The Contractor's recycling and reuse proposal will be detailed in the CEMP;
- Off-cuts of piping and other materials used will be recycled where possible.

6.7.3 Conclusion

The extent of the potential waste impacts is low due to the relatively small amounts of waste to be generated and the short time-frame for construction. There will be no onsite maintenance of vehicles and machinery. Refuelling of vehicles and machinery would be undertaken at designated refuelling stations off site.

In conclusion, the potential waste impact from the construction of the proposed activity will be low as the mitigation measures detailed above would be employed at all stages of construction works.

Clause 148 of the POEO Act identifies the kinds of incidents that must be notified to the EPA and the duties that persons, employees, employers and agents must take in respect of a pollution incident.

Flow Systems Operations will ensure that in the unlikely event of a pollution incident, the relevant authorities will be notified in accordance with the POEO Act and remedial actions undertaken.

6.8 Heritage

The proposed activity area is not a heritage item or within a heritage conversation area pursuant to the RLEP 2014. A Heritage Interpretation Strategy was prepared for LDA 2015/0032 (refer to Section 4.14 of the relevant SEE contained in **Appendix 4**) relating to the development of Stages 6 and 7 of the Shepherds Bay Urban Renewal Area. The proposed activity will not impact the heritage interpretive works to be carried as part of the development of Stages 6 and 7.

6.9 Risks and Hazards

During construction of the proposed activity there is a possibility that fuels, oils and greases may be discharged to the storm water system if they are inappropriately stored. Storage and handling of hazardous materials will be in accordance with the state and national regulations and guidelines and best practice for the storage and removal of these materials.

In regards to public health, relatively few restrictions need to be placed on non-drinking water uses of tertiary treated and disinfected recycled water due to the high quality and low risk for direct human contact. End use controls and onsite constraints can also be used to minimise both human exposure to hazards and the impact on receiving environments; such as signage and control of plumbing and distribution systems.

Provided that the mitigation measures documented below are implemented the potential for the occurrence of environmental hazards and risks is considered to be a low risk and low hazard activity.

- Chemicals and potentially hazardous substances will be used and stored according to regulatory requirements including the *Work Health and Safety Act 2011, AS 3780 The storage and handling of corrosive substances* and relevant guidelines.
- The management of waste, including its transport will comply with the POEO Act and POEO (Waste) Regulation.
- Waste materials will be separated, classified and managed in accordance with the *Waste Classification Guidelines Part 1: Classifying Waste* (DECCW 2009).
- All staff and contractors will be made aware of waste management procedures.

- Chemical, fuel and oil containers will be managed according to manufacturers' directions to avoid potential impacts to the environment or human health.
- Flow Systems Operations will ensure that in the unlikely event of a pollution incident all remedial actions are in accordance with the POEO Act.

6.10 Cumulative Impacts

6.10.1 Description of Impact

The installation of the sewer and recycled water pipes will occur simultaneously with construction of the proposed buildings within the Shepherds Bay Urban Renewal Project Area. The impacts on the environment due to the construction of the proposed activity are considered to be minor.

Construction of the proposed activity will allow the provision of reticulated services to the approved re-development area. The proposed activity will not affect any likely future activities.

Due to the extent of future development in the area, a minor cumulative increase in traffic is possible should all development occur concurrently whereby construction noise could be exacerbated by dual operations. However provided that the mitigation measures as identified within this REF are adhered to the cumulative impact will be reduced to a minimum.

Positive cumulative environmental and social impacts will result from the installation of the reticulated systems.

The assessment indicates that the activity is not likely to have a significant effect on the environment. A range of environmental factors as listed in Clause 228 of the *Environmental Planning and Assessment Regulation* (as amended) and Commonwealth Matters of National Environmental Significance have been considered as contained in **Appendix 1**.

6.10.2 Mitigation Measures/Safeguards

Implementation of the mitigation measures and safeguards identified above will minimise the risk of any impact and therefore further reduce the significance of any effect of cumulative impacts.

6.11 Ecologically Sustainable Development

6.11.1 Description of ESD

Ecologically Sustainable Development involves the conservation and enhancement of a community's resources, so that the overall quality of life can be increased now and in the future. The aim is to meet the needs of a community and to conserve surrounding ecosystems for the benefit of future generations.

Ecologically Sustainable Development means changes to the use of resources, and includes improvements in the quality of air, land and water, and in the development of environmentally friendly products and processes.

The construction of the proposed activity will not pose any significant ecological impacts, and will provide benefits for residents of the Shepherds Bay Urban Renewal Project Area.

6.11.2 The Proposal and Principles of ESD

The proposed activity involves the installation and operation of sewage and recycled water systems within the Shepherds Bay Urban Renewal Project Area. The installation and operation of a recycled water

reticulation system will deliver high quality recycled water (non-potable uses such as toilet flushing, washing machines, irrigation and car washing) back to the new residential apartments. The sewage and recycled water systems will service approximately 1,750 apartments. This construction will benefit the current and future community in providing ready access to sewage disposal and recycled water that makes a significant contribution to sustainability.

Ecologically Sustainable Development involves the conservation of resources and providing benefits for local communities. This proposed activity complies with all principles of ESD including conserving the community's resources. This proposed activity will enhance both current and future residents within the area.

7.0 Summary of Mitigation Measures

Mitigation measures outlined in this document will avoid or reduce the potential impacts of the proposed activity. These mitigation measures have been designed to minimise and or mitigate, as far as practical, the potential impacts. Construction and operational mitigation measures described in this REF will be incorporated into the CEMP and OEMP, respectively. The CEMP and OEMP will be submitted to IPART for review and approval prior to the commencement of construction and operation, respectively.

A summary of the mitigation measures can be viewed in **Table 5** and **Table 6** common mitigation measures between key environmental issues have been amalgamated.

Table 5 Impact and Mitigation Measures to be Incorporated into the CEMP

Impact	Mitigation Measures
General	Construction works will be consistent with appropriate and relevant conditions imposed by the consent authority for each stage of subdivision. Due diligence will be demonstrated and all contractors involved will be made aware of their statutory obligations and development approval conditions.
	All contractors and machine operators will be inducted on the environmental sensitivities of the work site(s) and relevant safeguards.
Contamination	No excavation or ground disturbance works are to commence unless site contamination investigations in accordance with NSW EPA Guidelines have occurred.
	No excavation or ground disturbance works are to commence unless site remediation of the site has been undertaken in accordance with the RAP (Environmental Investigations Pty Ltd) and an appropriate validation report of the remediation works has been prepared.
	Excavation works would be undertaken consistent with any long term management plan for the management of any impacted materials exceeding criteria which are retained at the site (if relevant).
	Should any potential hazards be identified (or any other unexpected potentially hazardous substance), a unexpected finds protocol is to be followed
Soils and Water	Sediment and nutrient controls, prepared in accordance with the <i>Landcom Managing Urban Stormwater – Soils and Construction</i> (the Blue Book), will be implemented to reduce the impacts of stormwater, erosion and sedimentation on water quality. Specific erosion and sediment controls are to be contained within the site CEMP. All erosion and sediment control measures will be established before excavation begins. Control measures are to remain in place until all surfaces have been fully restored and stabilised.
	Sandbags will be placed at the entry points to any culverts and stormwater channels to prevent sediment entering the stormwater system.
	Sediment and erosion control devices will be inspected regularly, maintained to ensure effectiveness over the entire duration of the project, and cleaned out before 30% capacity is reached.
	Any temporary stockpiles will have appropriate erosion control devices installed to control runoff and prevent sedimentation.
	Upslope surface runoff will be redirected around work areas by using diversion drains or other methods.
	Sediment fences down slope of all disturbed areas and material stockpile areas.
	Where appropriate, disturbed areas will be stabilised by revegetation within 10 days after completion of construction.
	Site disturbance will be minimised by containing machinery access to site areas required for approved construction works.
	Sediment filters such as silt fences, coir bales, or turf strips will be located downstream of disturbed areas.
	No chemicals, fuels, and/or waste will be stored or collected for disposal within or adjacent to drainage lines or unsealed surfaces. Nevertheless a 'spill kit' will be kept on site at all times

Impact	Mitigation Measures
	for potential chemical or fuel spills.
	Appropriate containment measures will be used to ensure that all drilling fluids from directional drilling or boring activities are captured and contained.
	Drainage systems will be checked at regular intervals and maintained to ensure they are operating at full capacity (e.g. clearance of debris from drainage lines).
Noise	All equipment used will comply with AS2436-1981 <i>Guide to Noise Control on Construction, Maintenance and Demolition Sites</i> .
	Work and deliveries will only occur during the following times: Monday to Friday: 7am to 6pm, Saturday: 8am to 1pm with deliveries 8am to 6pm. No construction work or deliveries will occur on Sundays or public holidays.
	Regular and effective maintenance of all equipment, including vehicles moving on and off the site, will be conducted.
	Plant and equipment which is used intermittently will either be shut down in the intervening periods between works or throttled down to a minimum.
	Any portable equipment with the potential to create high levels of noise (e.g. compressors, generators) will only be selected for use if it incorporates effective noise control. This equipment should be located, where practical, so that natural ground barriers are between it and the nearest potentially affected receivers.
Flora and Fauna and Visual Amenity	To prevent damage to vegetation outside the boundaries of the site (if any), vehicles and machinery will be restricted to designated work areas.
	All temporary erosion and sediment control devices such as silt-stop fencing will be removed from the site at the completion of the works or when the site is stabilised.
Traffic and Access	A traffic control plan prepared by a suitably qualified person will be submitted to Flow Systems Operations for approval, detailing construction movements and controls, prior to commencement of work on the site.
Waste generation	All waste generated during the course of the works will be reused or removed from the work areas as soon as practicable and disposed of in accordance with the waste disposal safeguards.
	All vessels used for contaminated or hazardous waste should be sealed, labelled according to their contents, and stored within bunded areas until their removal from the work site.
	Any fuel, lubricant or hydraulic fluid spillages will be collected using absorbent material and the contaminated material disposed of at an EPA licensed waste depot.
	In the unlikely event of a pollution incident, the relevant authorities will be notified in accordance with Clause 148 of the POEO Act and remedial actions undertaken. Environmental incident response and notification procedures will be detailed in the CEMP and OEMP to be reviewed and approved by IPART prior to the commencement of construction and operation, respectively.
	The work site will be left clean and free of debris and other rubbish at the end of works.
	All hazardous wastes on site will be removed and disposed in accordance with the state and national regulations and guidelines and best practice for the removal of these materials.
	The Contractor's recycling and reuse proposal will be detailed in the CEMP.
	Off-cuts of piping and other materials used will be recycled where possible.
Amenity and public information	The Contractor will maintain a complaints register. Any complaints received will be responded to as soon as possible.
	Accurate public information signs will be displayed while work is in progress and maintained in presentable manner.

Table 6 Impact and Mitigation Measures to be Incorporated into the OEMP

Impact	Mitigation Measures
General	An Infrastructure Operating Plan is to be prepared prior to operation of the sewage and recycled water reticulation systems.
Waste Generation	Waste materials will be separated, classified and managed in accordance with the <i>Waste Classification Guidelines Part 1: Classifying Waste</i> (DECCW 2009)
Risks and Hazards	Chemicals and potentially hazardous substances will be used and stored according to regulatory requirements including the <i>Work Health and Safety Act 2011</i> and <i>AS 3780 The storage and handling of corrosive substances</i> .
	Chemical, fuel and oil containers will be managed according to manufacturers' directions to avoid potential impacts to the environment or human health.
	Flow Systems Operations will ensure that in the unlikely event of a pollution incident all remedial actions are in accordance with the POEO Act. In accordance with Section 148 of the POEO Act pollution incidents causing or threatening material harm will be notified immediately with the EPA.
	No chemicals, fuels, and/or waste will be stored or collected for disposal within or adjacent to drainage lines or unsealed surfaces.

8.0 Conclusions

8.1 Summary of Beneficial Effects

The proposed activity will benefit the current and future community in providing ready access to a sewage disposal and recycled water scheme that makes a significant contribution to sustainability. The proposed activity will reticulate to all new apartments and premises within the Shepherds Bay Urban Renewal Project area recycled water produced by the Shepherds Bay LWC. The recycled water will be used for toilet flushing and washing machines and externally for irrigation and car washing. The Shepherds Bay LWC will produce high quality and disinfected recycled water thus providing a higher level of security than other methods used for recycling water. The pressure sewage reticulation system requires much smaller reticulation infrastructure than traditional gravity sewer and because it doesn't have to be laid to grade like gravity sewer, it can be laid at shallower depths. Access chambers and pump stations that typically make up part of the gravity sewer network are not required. Construction of the pressure sewage reticulation system is faster and has less impact due to the shallower depths. Smaller infrastructure also means it is more easily repaired in the instance of a fault or emergency.

Given the essential need for this infrastructure, the type and location of the proposed activity is assessed as providing the community with the best outcome in terms of type, operation and location.

8.2 Summary of Adverse Effects

The proposed activity will result in minimal adverse effects upon the environment. The proposed activity will be built in conjunction with the works associated with development of the Shepherds Bay Urban Renewal Project area.

Various minor environmental impacts have been identified in this REF and these are generally temporary in nature. The Australian government has independently set the quality standards that Flow Systems Operations will have to meet for its recycled water. The NSW regulator, IPART, will make sure that Flow Systems Operations complies with these standards.

Based upon the information provided in this REF and assessments supporting current development applications across the site it is unlikely that the proposed activity will have direct and indirect impacts on threatened species, populations and ecological communities listed pursuant to the TSC Act, or impact on matters of National Environmental Significance pursuant to the EPBC Act.

Operational impacts will be minor and minimised through appropriate mitigation and management therefore there are no long-term operational impacts from the proposed activity.

8.3 Conclusion

Construction of the proposed activity will provide a service essential for the Shepherds Bay Urban Renewal Project area and greatly benefit the community by ensuring supply of affordable housing for Ryde district.

The minor adverse effects that have been identified are considered minor and only short term.

The REF has examined and taken into account all relevant Commonwealth, NSW and local legislation and policies. The REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity. A number of potential environmental impacts from the proposed activity have been avoided or reduced during the concept design development. The proposed activity as described in the REF best meets the project objectives. The proposed activity will

result in beneficial impacts by providing a service essential for the development of the area which greatly benefits the community by reducing the overall demand on potable water supplies and therefore helping to ensure security of supply.

This REF has been prepared in accordance with Part 5 (Section 111) of the EP&A Act. It has concluded that the proposed activity is unlikely to significantly affect the environment and hence an EIS is not required to be prepared under section 112 of the EP&A Act. The proposed activity is also unlikely to affect Commonwealth land or have an impact on any matters of national environmental significance.

This REF has also been prepared with due regard for the licensing criteria, principles and environmental clauses in the WICA and the *Water Industry Competition (General) Regulation 2008*. It is considered that the proposed activity is unlikely to present a significant risk of harm to the environment and approval of network operator's licence under the WICA and the *Water Industry Competition (General) Regulation 2008* would be in the public interest.

Amongst other benefits the proposed activity will provide benefits for current and proposed residential subdivisions in the area by the provision of reticulated recycled water to meet daily water demands.

9.0 Declaration

I certify that I have prepared the contents of this Review of Environmental Factors and to the best of my knowledge:

- It is in accordance with Section 111 of the *Environmental Planning and Assessment Act 1979* and clause 228 of the *Environmental Planning and Assessment Regulation 2000*;
- It examines and takes into account to the fullest extent possible all matters affecting or likely to affect the environment as a result of the activities associated with this project;
- It is true in all material particulars and does not, by its presentation or omission of information, materially mislead; and
- Has been prepared with due regard for the licensing criteria, principles and environmental clauses in the WICA and the *Water Industry Competition (General) Regulation 2008*.

The proposed activity is not likely to significantly affect the environment and may be approved subject to mitigation measures detailed in this document. No EIS is required.

The proposed activity is unlikely to present a significant risk of harm to the environment and approval of network operator's licence under the WICA and the *Water Industry Competition (General) Regulation 2008* would be in the public interest.

Signed:



Name: Rob Dwyer

Position: Planning Manger

Date: 3 June 2016

Appendix I

Consideration of the Clause 228 Factors and Matters of National Environmental Significance

The following factors, listed in Clause 228(2) of the Environmental Planning and Assessment Regulation 2000, are required to be considered to assess the likely impacts of the proposed activity on the natural and built environment.

Factor	Impact
<p>1. Any environmental impact on a community?</p> <p>The proposed activity is the construction and operation of a pressure sewage reticulation system and a recycled water reticulation system to service Stages 2 to 9 of the Shepherds Bay Urban Renewal Project area which is approximately 1,750 dwellings. The environmental impact on the community will result in the efficient and hygienic removal of sewage from the new residential area.</p> <p>There may be temporary impacts from increase in traffic and noise during the construction of the proposed activity. Deliveries and vehicle movements will only occur during the following times: Monday to Saturday 7am to 6pm. No construction work or deliveries will occur on Sundays or public holidays. Construction will take approximately 3 months per stage. A CEMP will be prepared prior to commencement of works.</p>	<p>Positive long-term benefits.</p> <p>Contractor will manage short-term negative impacts.</p>
<p>2. Any transformation of a locality?</p> <p>The site is located within an area undergoing urban renewal. The proposed activity is an essential element of the development of the Shepherds Bay Urban Renewal Project area. The proposed activity will be sympathetic to its location.</p>	<p>Positive – long term impacts that will accommodate existing and future development.</p>
<p>3. Any environmental impact on the ecosystems of the locality?</p> <p>Construction related impacts on biodiversity will be temporary and limited in scale due to the modified and disturbed nature of the local environment. The proposed activity does not propose to remove existing street trees and trenching will be designed around these streets to enable their retention. The existing physical condition of the site (cleared land and the non-removal of street trees) is such that it does not have any ecological attributes which, if lost, would impact upon any threatened species, population, ecological community or habitat.</p> <p>Hence the proposed activity will have no significant impact on threatened species, populations and ecological communities listed pursuant to the TSC Act. Post-construction cleared areas will be rehabilitated but it should be noted that the pipelines will be located within the proposed street network.</p> <p>Mitigation measures will be incorporated into the CEMP for the site to ensure that the impact of the proposed activity on the environment is minimised.</p>	<p>Long term negative impacts of vegetation removal have been determined to be minor.</p> <p>Mitigation measures will reduce environmental impact on ecosystems.</p>
<p>4. Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?</p> <p>The proposed activity will not reduce the aesthetic values of the site as the activities are part of the Shepherds Bay Urban Renewal Project area which include installation of underground services.</p>	<p>Neutral impact – consistent with existing and desired future values.</p>
<p>5. Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?</p> <p>The proposed activity does not impact on any identified areas of anthropological, cultural, historical, scientific or social significance.</p>	<p>Neutral impact.</p>
<p>6. Any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974)?</p> <p>No significant impact pursuant to the TSC Act will occur as a result of the proposed activity.</p>	<p>No impact identified within the meaning of the NPW Act 1974, and no significant impact pursuant to the TSC Act.</p>

Factor	Impact
<p>7. Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?</p> <p>The proposed activity is unlikely to have a significant impact on any threatened species, populations, ecological communities or migratory species in the locality..</p>	Impact unlikely.
<p>8. Any long-term effects on the environment?</p> <p>The development of the proposed activity will not result in any long term effects on the environment additional to those which have been addressed in previous assessments associated with the Shepherds Bay Urban Renewal Project area (Concept Plan MP09_0216 - as modified) and more recent local development applications.</p>	Unlikely to be any long-term impacts. Short-term impacts will be reduced through appropriate mitigation and management.
<p>9. Any degradation of the quality of the environment?</p> <p>The trenching required may temporarily degrade the quality of the existing environment. This impact is to be mitigated through erosion and sediment controls.</p>	Degradation will be mitigated through appropriate management.
<p>10. Any risk to the safety of the environment?</p> <p>The proposed activity may pose a minor risk to the environment if the necessary use of fuels, oils, greases and chemicals are discharged into the stormwater system if they are inappropriately stored. This risk is considered minimal and the occurrence of environmental hazards is considered to be extremely low.</p> <p>Impacts on the environment will be reduced by implementing effective storage of hazardous materials, erosion and sediment controls, appropriate stormwater and nutrient control systems to reduce the effects of runoff and ensure water flowing off the proposed activity area is of a suitable quality, ensuring that there are no accidental incursions into areas which are not subject to the proposed activity.</p>	Risks will be managed through appropriate controls.
<p>11. Any reduction in the range of beneficial uses of the environment?</p> <p>As the proposed activity is to be built in unison with the orderly development of Shepherds Bay Urban Renewal Project area no reductions in the range of beneficial uses of the environment are likely.</p>	No significant reduction identified.
<p>12. Any pollution of the environment?</p> <p>The proposed activity may pose a minor risk to the environment if the necessary use of fuels, oils, greases and chemicals are discharged into the stormwater system if they are inappropriately stored. This risk is considered minimal and the occurrence of environmental hazards is considered to be extremely low.</p>	The risk will be managed through appropriate controls.
<p>13. Any environmental problems associated with the disposal of waste?</p> <p>The proposed activity will be constructed to service apartments within the Shepherds Bay Urban Renewal Project area. No environmental problems associated with the disposal of waste are likely to result from the proposed activity.</p>	No waste disposal issues likely.
<p>14. Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?</p> <p>The proposed activity would not increase demands on resources, natural or otherwise that are or are likely to become in short supply in the future.</p>	No impact identified.
<p>15. Any cumulative environmental effect with other existing or likely future activities?</p> <p>Construction of the reticulation systems will, in-conjunction with the development of Shepherds Bay Urban Renewal Project area (Concept Plan MP09_0216 - as modified) and more recent local development applications, allow the provision of recycled water to the area. The proposed activity will contribute to the sustainable operation of the Shepherds Bay community.</p> <p>A minor increase in the movement of vehicles during the construction phase of the proposed activity may be noticed by residences however these will be tempered by the increased vehicle activities associated with progressive development within the Shepherds Bay Urban Renewal Project area.</p>	Long term positive impact.

Matters of National Environmental Significance

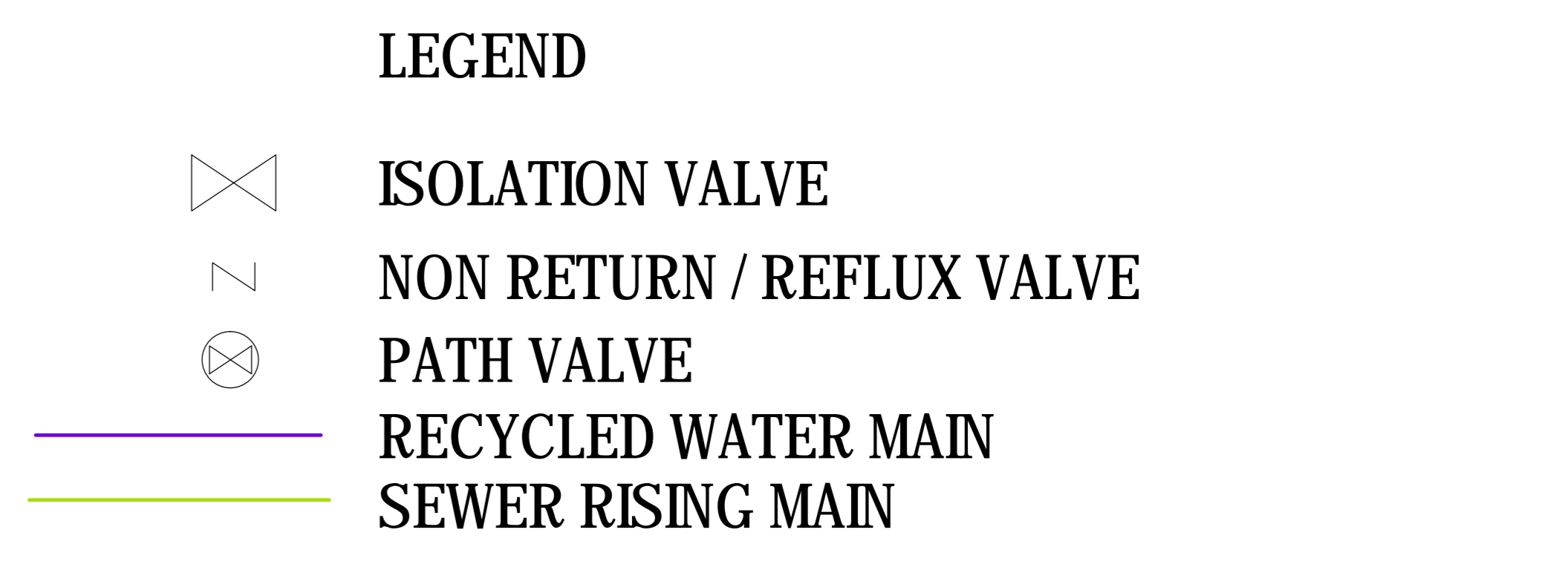
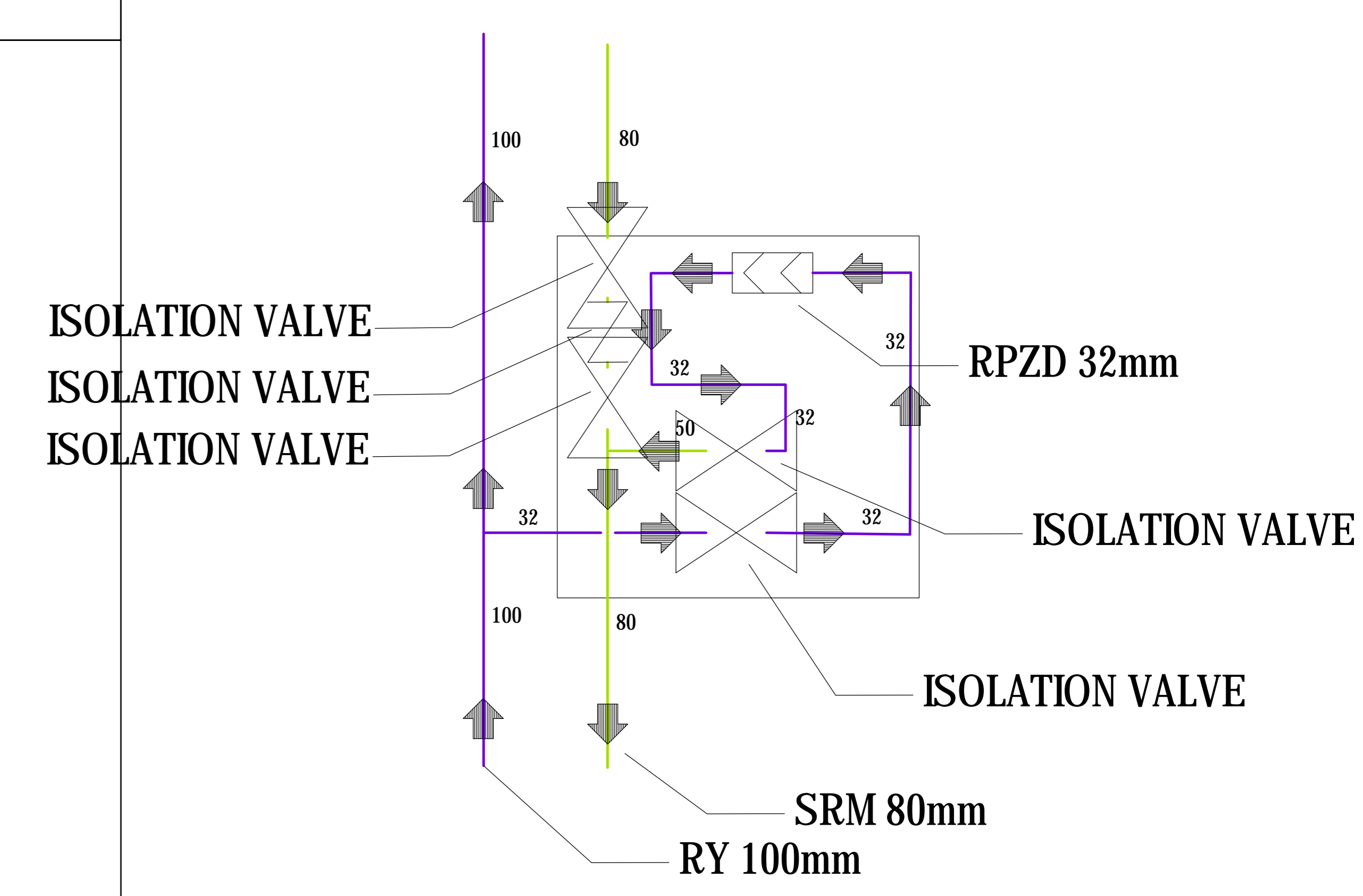
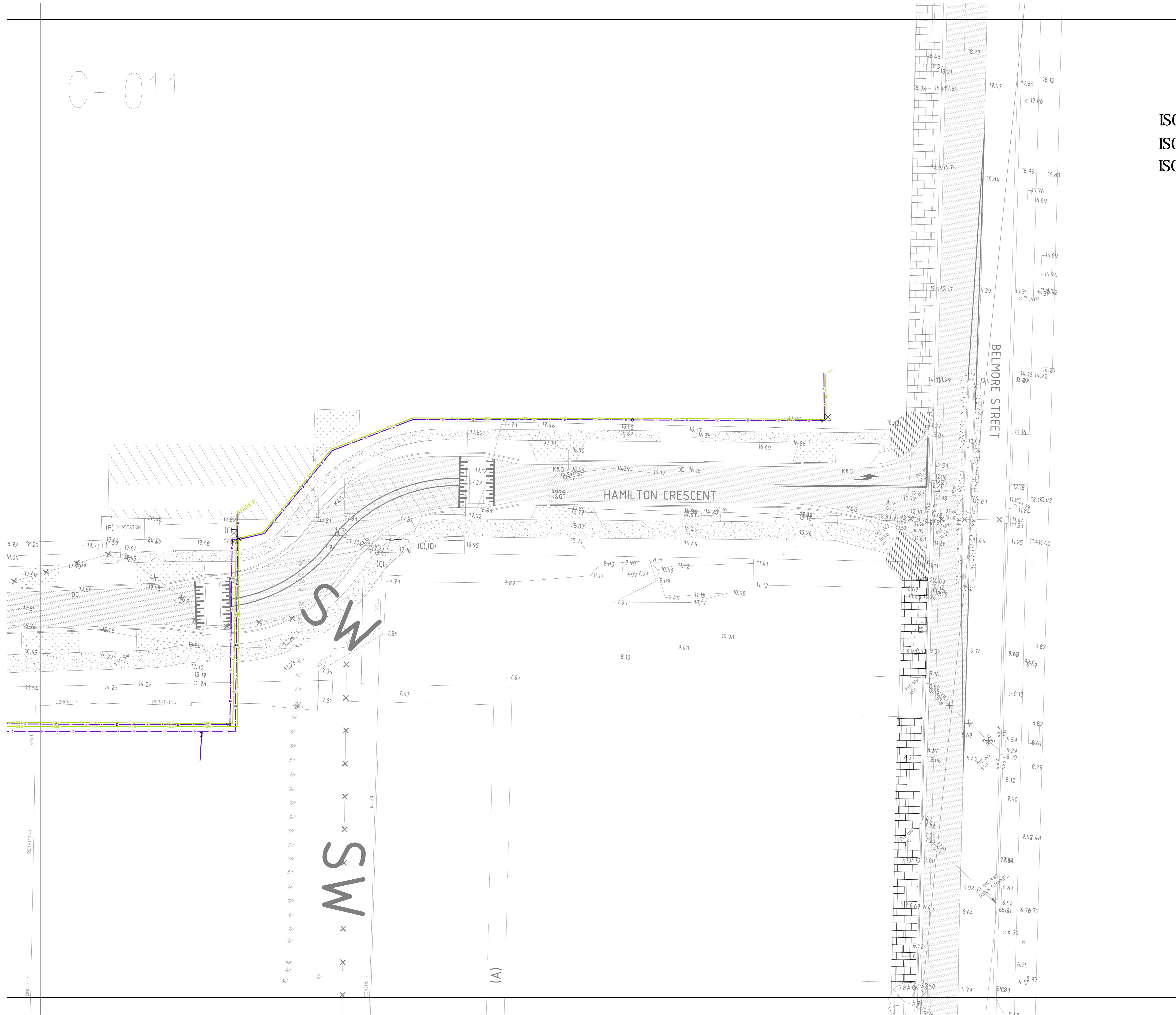
Under the environmental assessment provisions of the Environment Protection and Biodiversity Conservation Act 1999, the following Matters of National Environmental Significance are required to be considered to assist in determining whether the proposed activity should be referred to the Australian Government Department of the Environment and Water Resources.

Factor	Impact
<p>1. Any impact on a World Heritage property?</p> <p>There are no world heritage properties within the vicinity of the proposed activity.</p>	Nil
<p>2. Any impact on a National Heritage place?</p> <p>There are no National Heritage places within the vicinity of the proposed activity.</p>	Nil
<p>3. Any impact on a wetland of international importance?</p> <p>There are no wetlands of international importance located within 5km of the proposed activity.</p>	Nil
<p>4. Any impact on a listed threatened species or communities?</p> <p>As described in the REF the existing physical condition of the site (cleared land and the non-removal of street trees) is such that it does not have any ecological attributes which, if lost, would impact upon any threatened species, population, ecological community or habitat.</p> <p>The activity is not considered likely to result in a significant environmental impact on any Commonwealth listed migratory species. provided mitigation measures are implemented.</p>	Nil
<p>5. Any impact on a Commonwealth marine area?</p> <p>No Commonwealth marine areas are located within 10km of the proposed activity area.</p>	Nil
<p>6. Any impact on the Great Barrier Reef Marine Park?</p> <p>The proposed activity will not have a significant adverse effect on the Great Barrier Reef Marine Park, as the site is not within the region.</p>	Nil
<p>7. Does the proposal involve a nuclear action (including uranium mining)?</p> <p>The proposed activity will not involve a nuclear action.</p>	Nil
<p>8. Water resource, in relation to coal seam gas development and large coal mining development.</p> <p>The proposed activity is not considered to significantly impact upon a water resource, and thus does not contribute to this MNES.</p>	Nil
<p>Additionally, any impact (direct or indirect) on Commonwealth land?</p> <p>No Commonwealth Land is located in proximity to the proposed activity area.</p>	Nil

Appendix 2

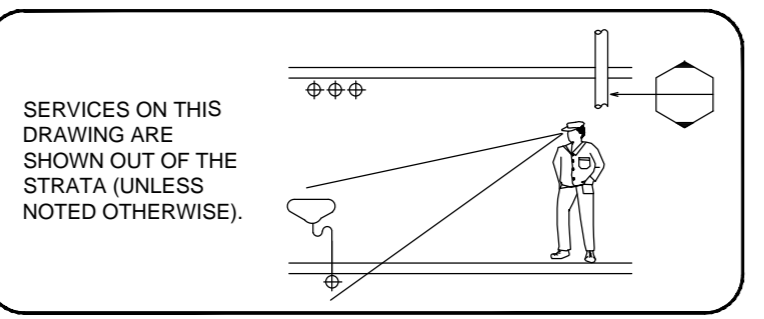
Sewerage Reticulation and Recycled Master Plans

C-011



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RCP			
ARCH			

CLIENT

HOLDMARK

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PROJECT

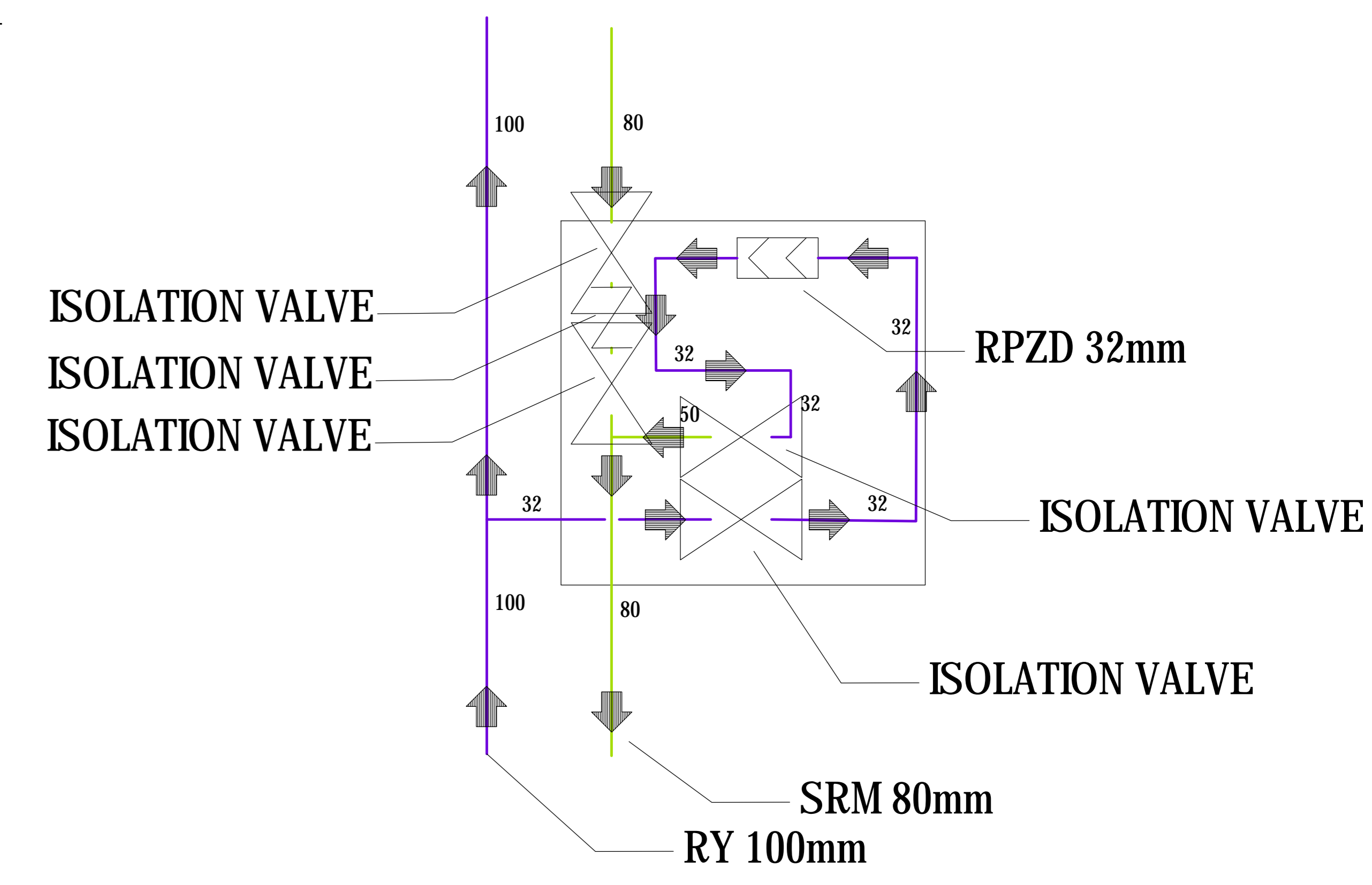
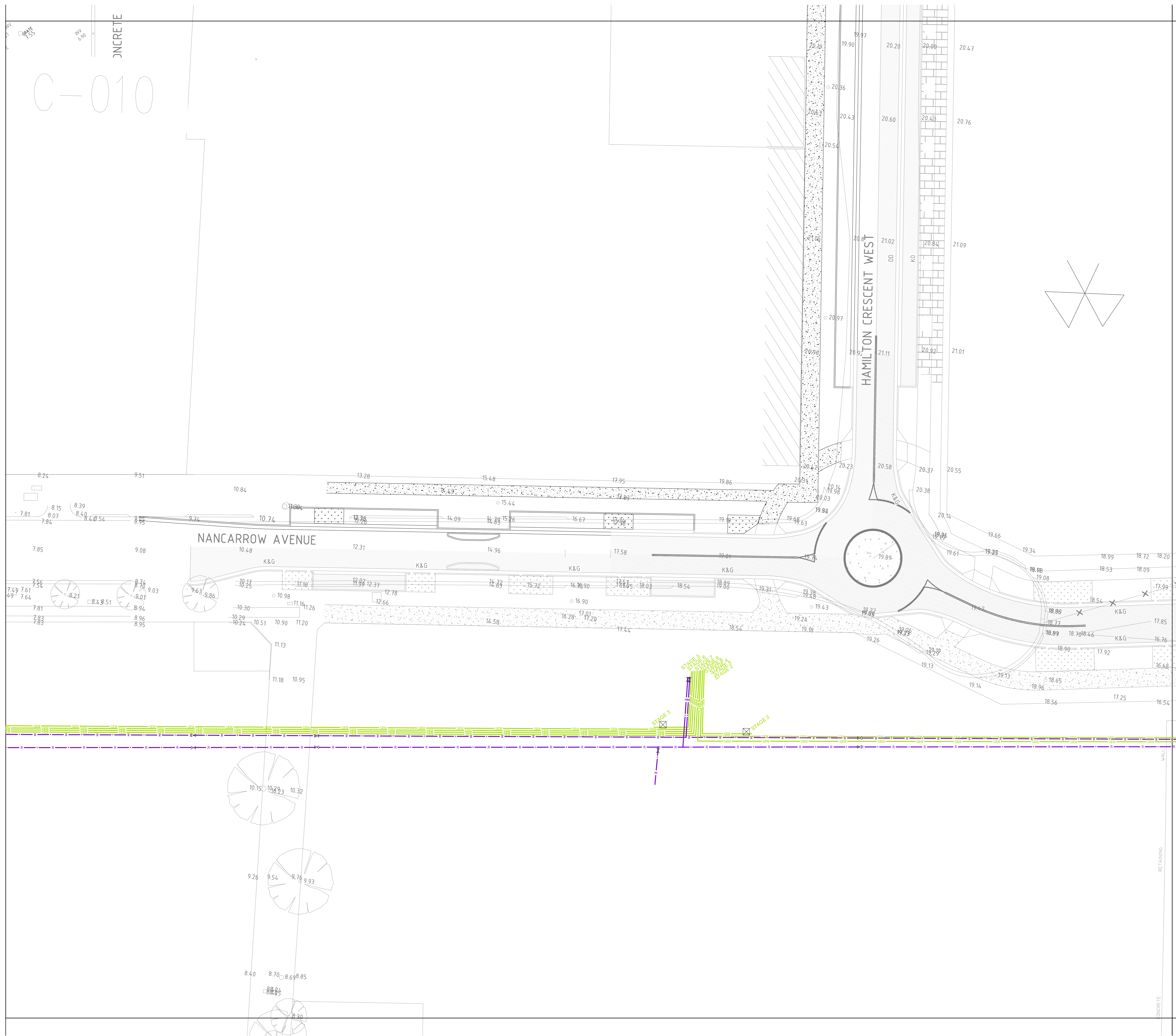
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SUB NAME	RISING MAIN & STREET RECYCLED INFRASTRUCTURE
STREET	
SUBURB	

DRAWING TITLE

HYDRAULIC SERVICES INFRASTRUCTURE

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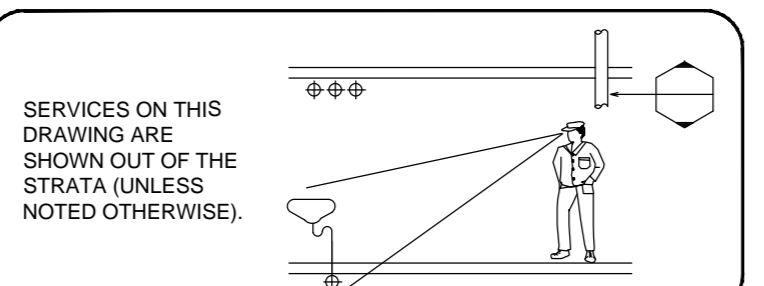
PROJECT No.	DRAWING No.	REVISION
5954	H-01	A



- LEGEND**
- ISOLATION VALVE
 - NON RETURN / REFLUX VALVE
 - PATH VALVE
 - RECYCLED WATER MAIN
 - SEWER RISING MAIN

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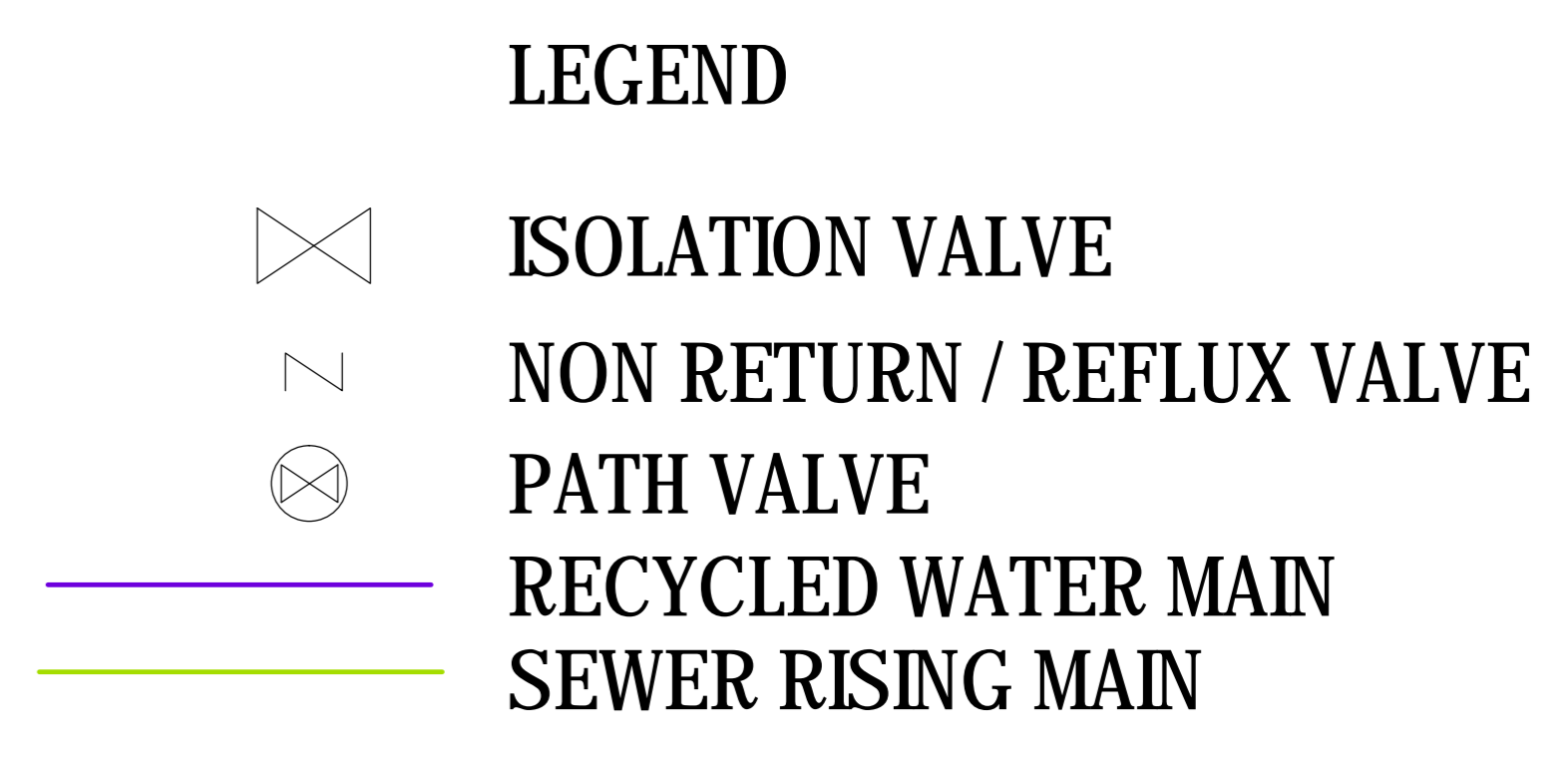
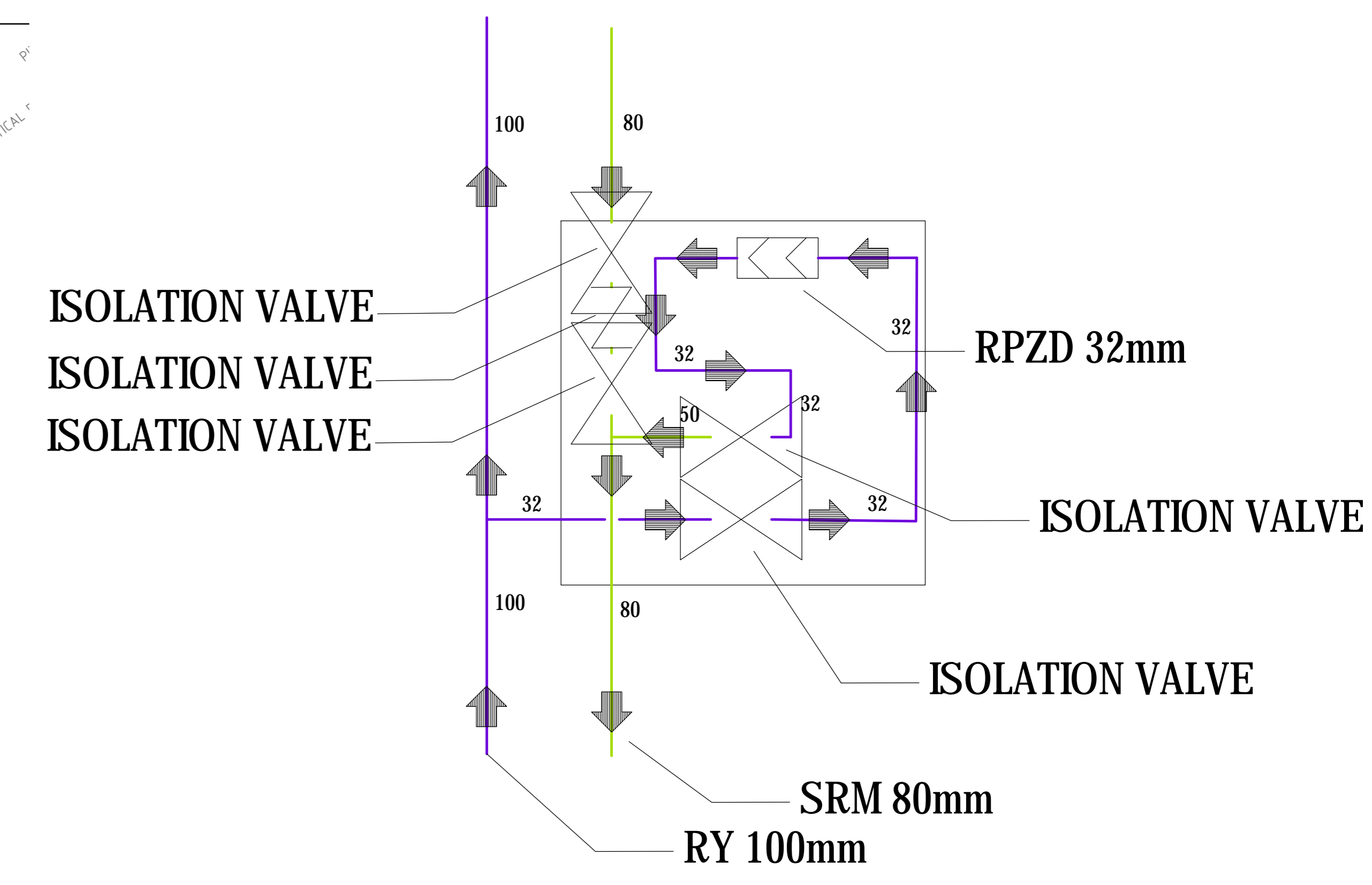
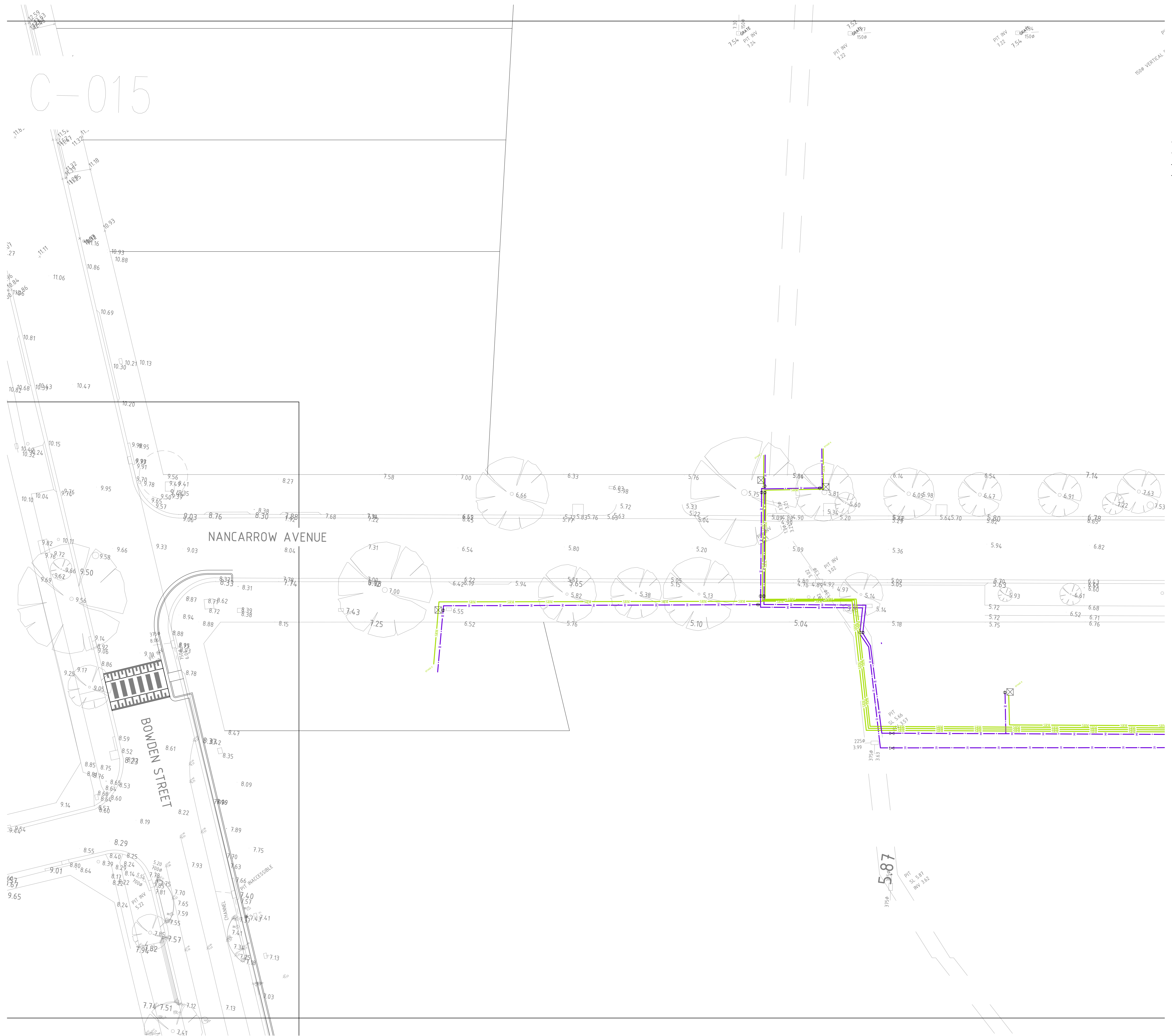
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 SUBURB: **RECYCLED INFRASTRUCTURE**

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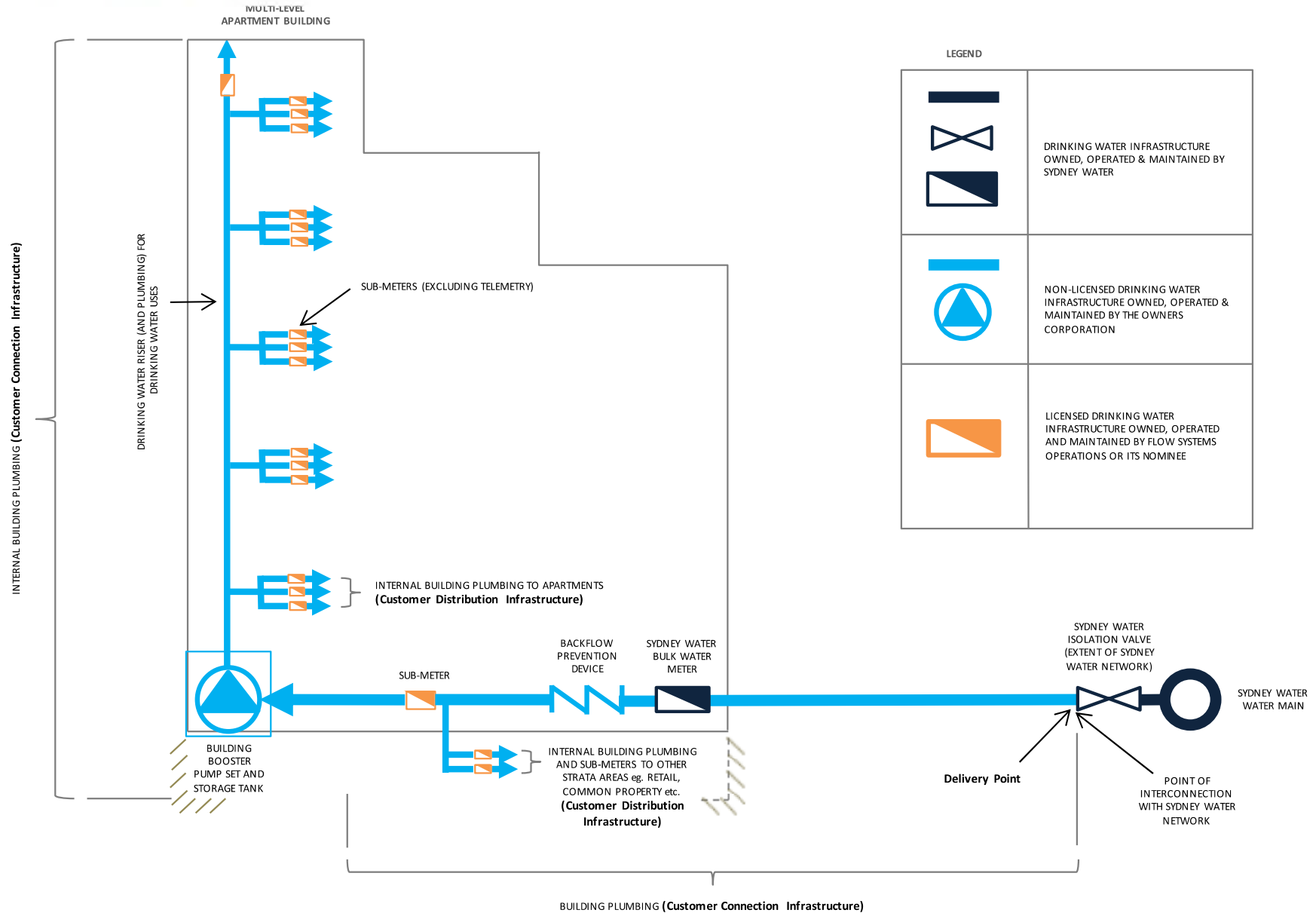
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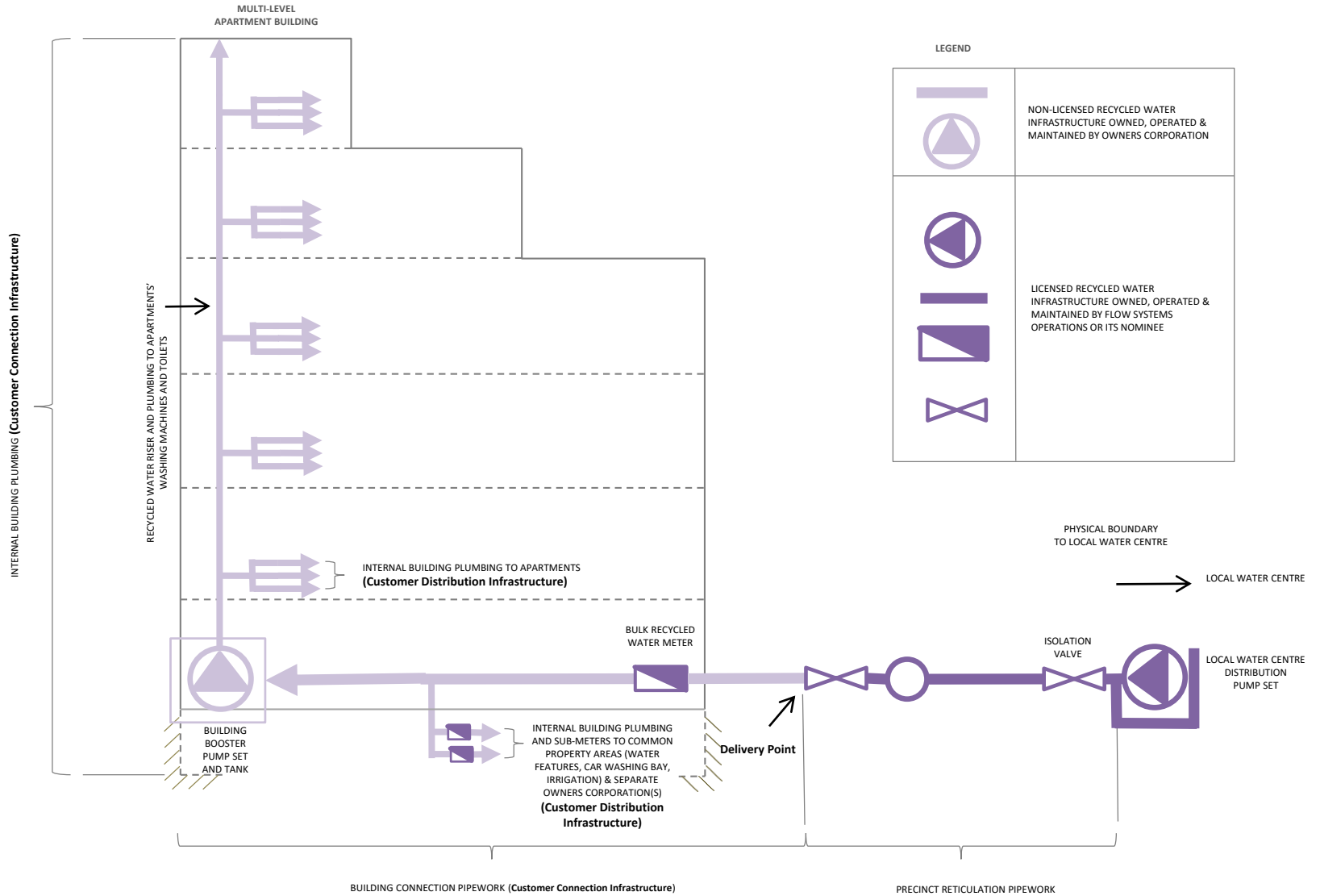
Appendix 3

Construction, ownership and O&M schematics

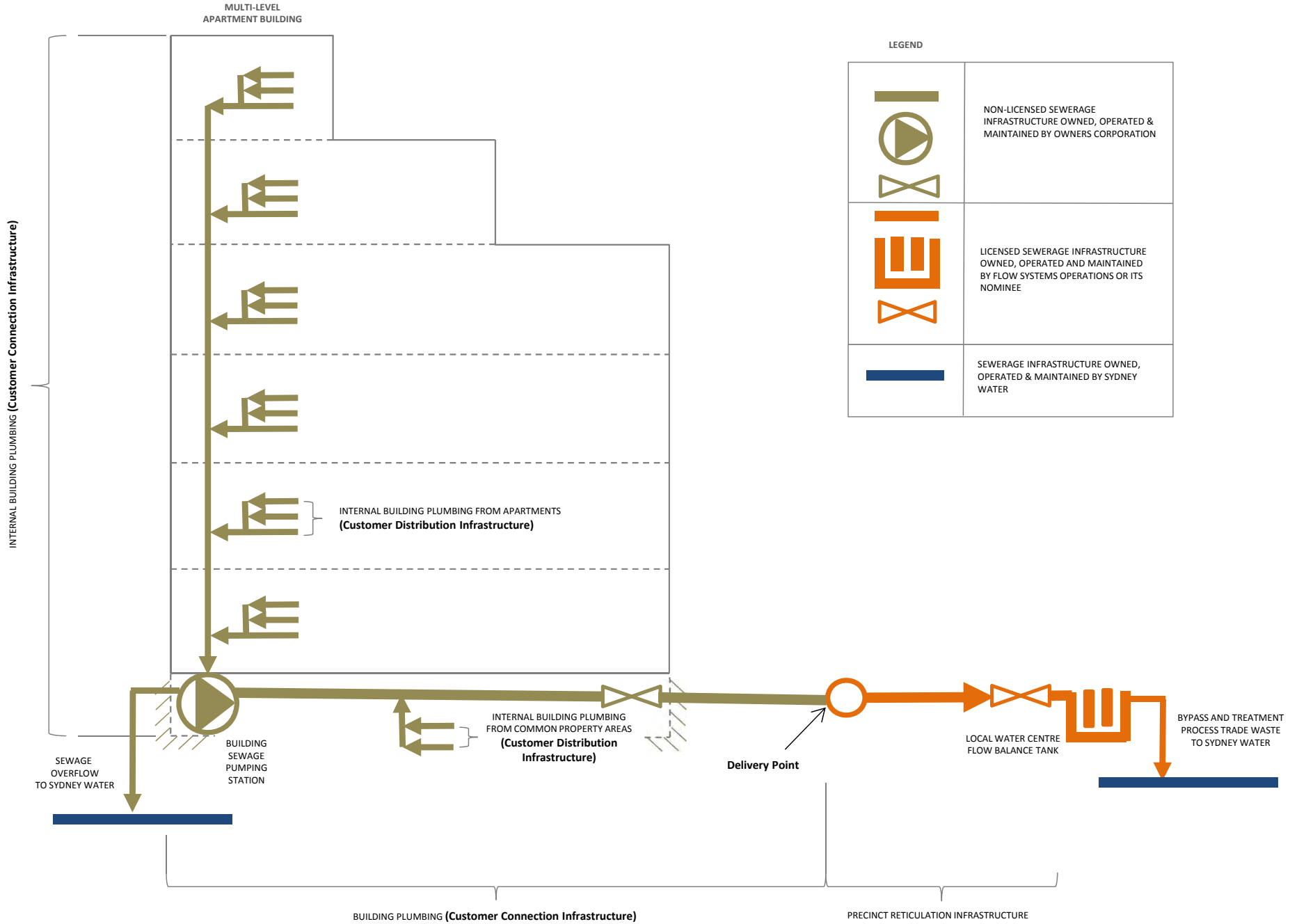
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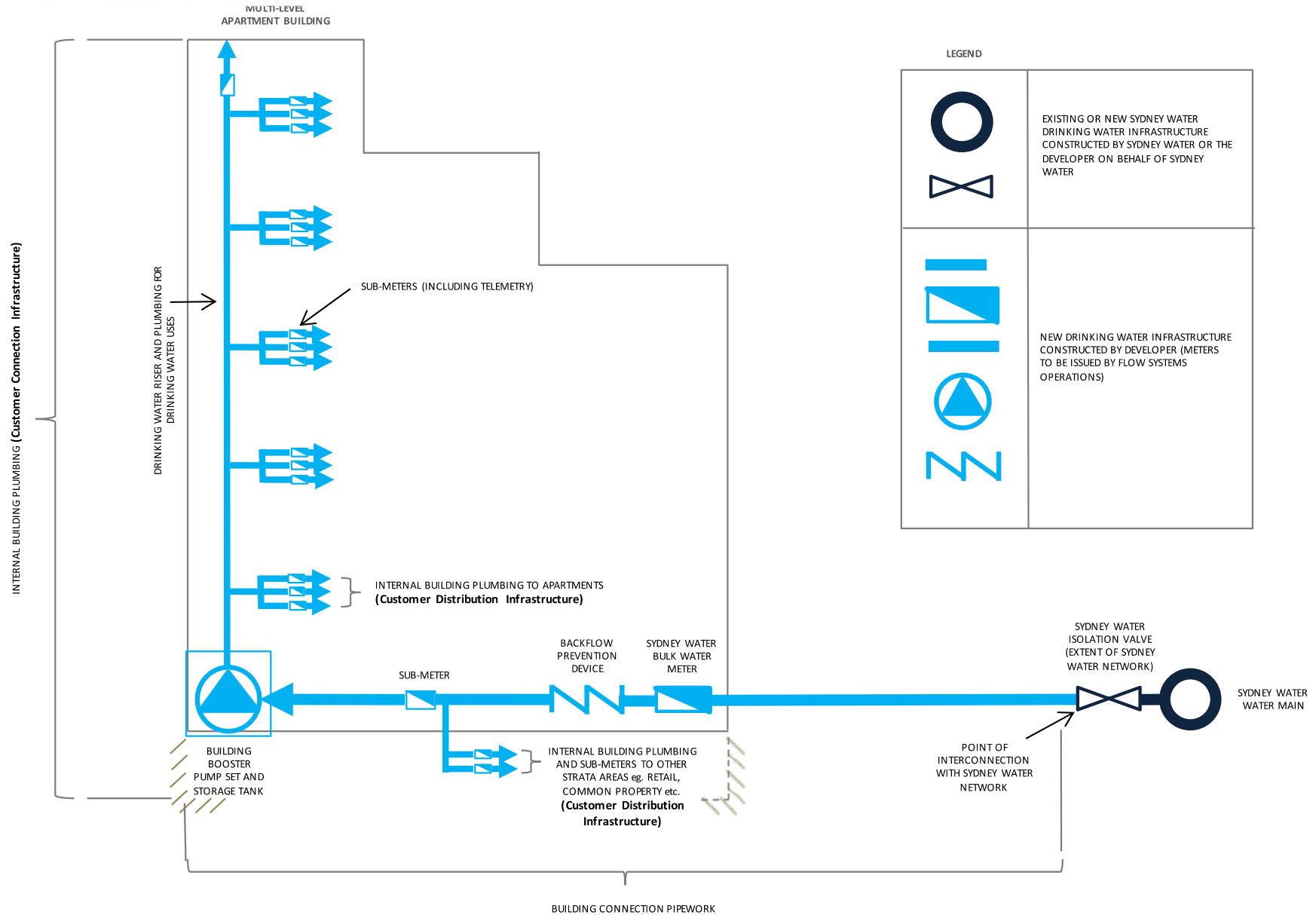
RECYCLED WATER INFRASTRUCTURE – TYPICAL OWNERSHIP & O+M RESPONSIBILITY SCHEMATIC



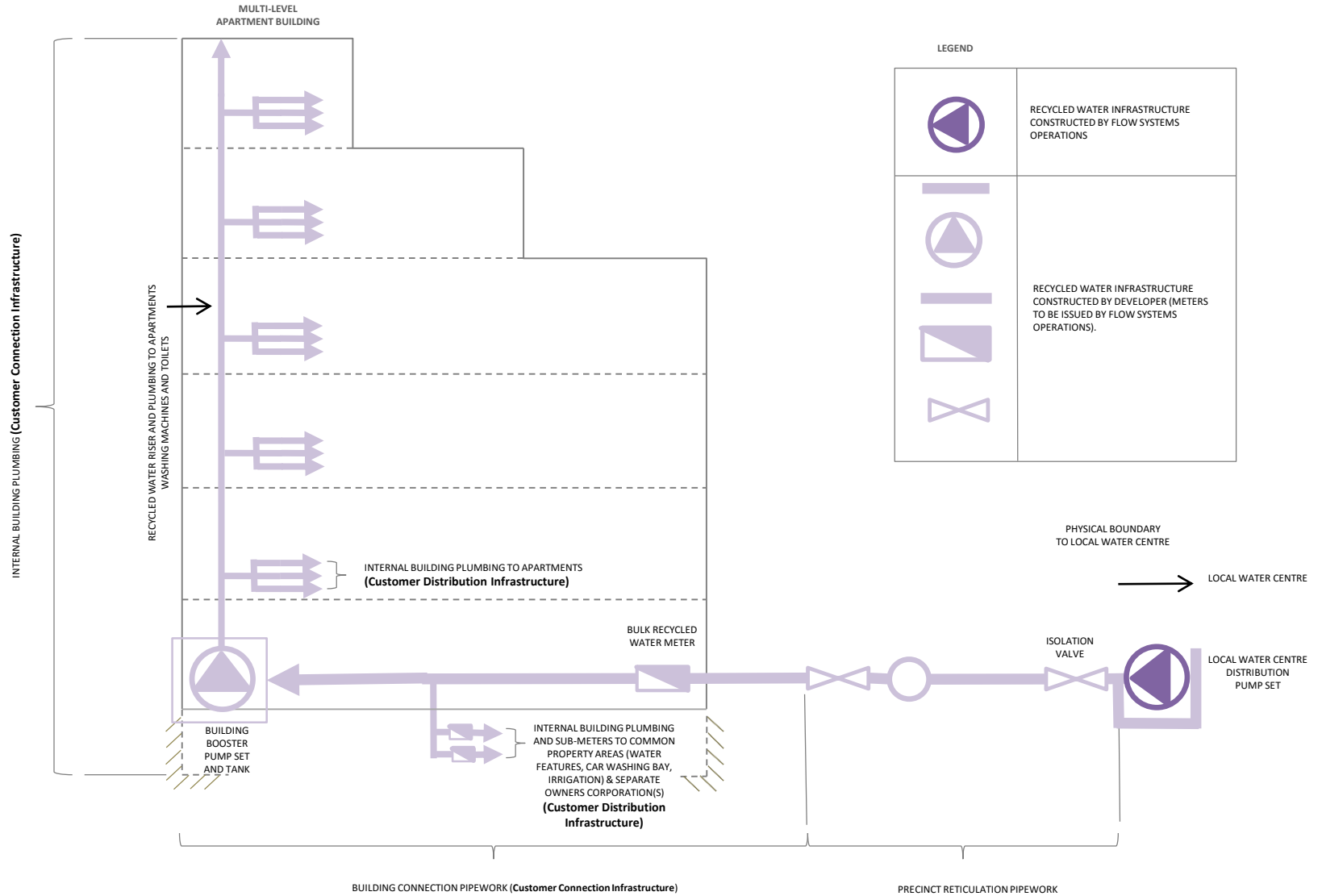
SEWERAGE INFRASTRUCTURE – TYPICAL OWNERSHIP & O+M RESPONSIBILITY SCHEMATIC



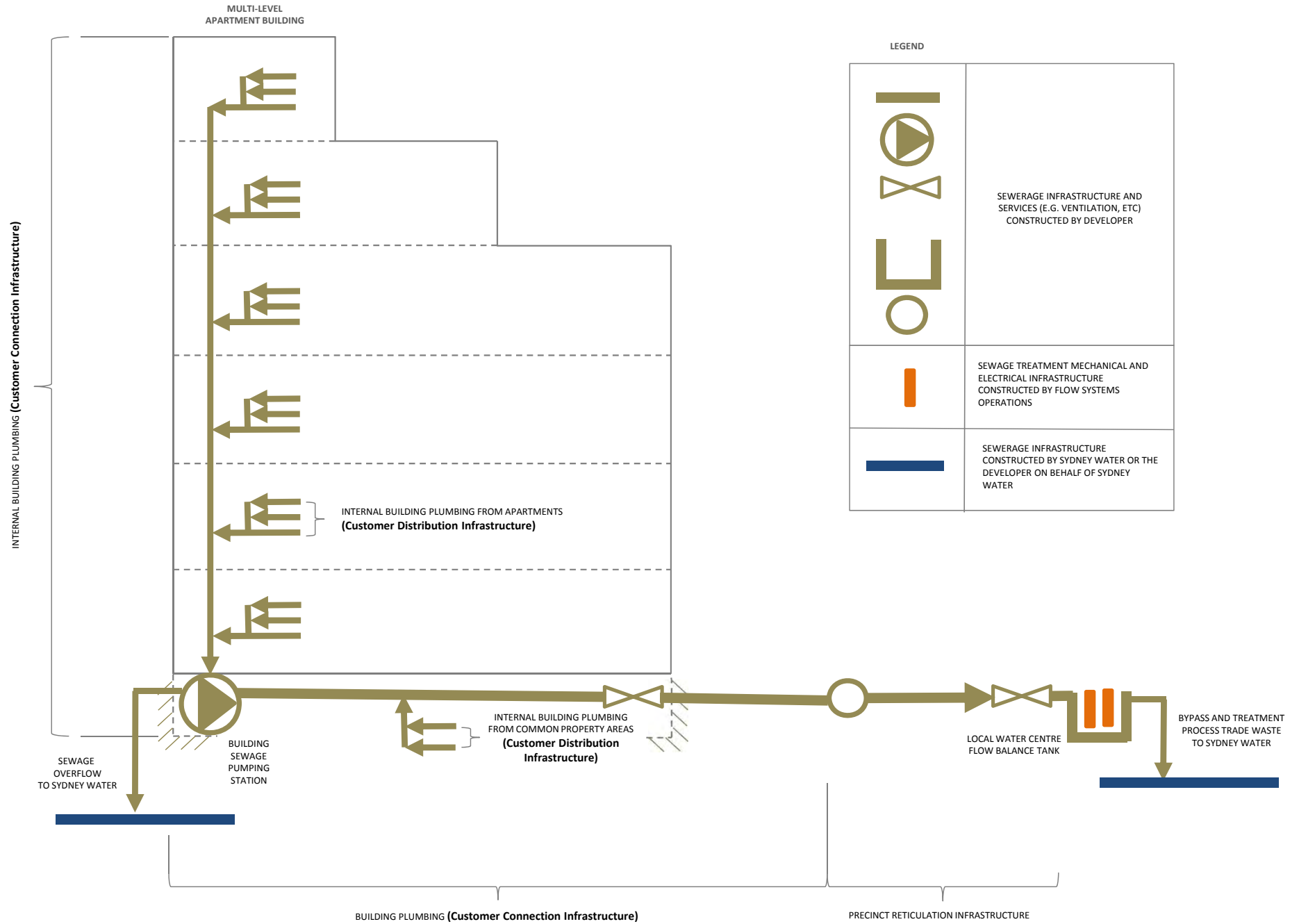
POTABLE WATER INFRASTRUCTURE – TYPICAL CONSTRUCTION RESPONSIBILITY SCHEMATIC



RECYCLED WATER INFRASTRUCTURE – TYPICAL CONSTRUCTION RESPONSIBILITY SCHEMATIC



SEWERAGE INFRASTRUCTURE – TYPICAL CONSTRUCTION RESPONSIBILITY SCHEMATIC



LEGEND

	SEWERAGE INFRASTRUCTURE AND SERVICES (E.G. VENTILATION, ETC) CONSTRUCTED BY DEVELOPER
	SEWERAGE TREATMENT MECHANICAL AND ELECTRICAL INFRASTRUCTURE CONSTRUCTED BY FLOW SYSTEMS OPERATIONS
	SEWERAGE INFRASTRUCTURE CONSTRUCTED BY SYDNEY WATER OR THE DEVELOPER ON BEHALF OF SYDNEY WATER

Appendix 4

Relevant Statement of Environmental Effects



Statement of Environmental Effects

Stages 2 & 3 - Residential Development, Foreshore Link and Foreshore Park (Integrated Development)


Shepherds Bay, Meadowbank

Submitted to Ryde Council
On Behalf of Shepherds Bay Urban Development Pty Ltd

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January 2015 | P-13034

Report Revision History

Revision	Date Issued	Prepared by	Reviewed by	Verified by
01 Draft	4/11/14	H Palmer <i>Senior Project Planner</i>	S Francis <i>Executive Director</i>	 Chris Outtersides <i>Director</i>
02 Draft	13/01/15	C Outtersides <i>Director</i>	S Francis <i>Executive Director</i>	<i>Director</i>
03 Final	16/01/15	C Outtersides Director	S Francis Executive Director	

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CERTIFICATION

This report has been authorised by City Plan Strategy & Development, with input from a number of other expert consultants (appended to this document), on behalf of the Client. City Plan Strategy & Development has relied on the accuracy of the information contained in each of the appended documents and takes no responsibility for any errors or faults in those reports. The comments herein have been based upon information and facts that were correct at the time of writing this report.

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Appendix	Document	Prepared by
1	Assessment against the Concept Plan (as approved) MP09_0216	CPSD
2	Assessment against the Ryde Development Control Plan	CPSD
3	Architectural Statement, SEPP 65 Design Verification Statement, SEPP 65 Assessment, RFDC Assessment	R+M
4	Direct Solar Access Report	Windtech
5	Natural Ventilation Preliminary Assessment	Windtech
6	Solar Light Reflectivity Analysis	Windtech
7	Detailed and Public Domain Landscape Plans	Place Design
8	Public Art Plan	Black Beetle
9	Sydney Water Requirements - Response to Condition 37	Greg Houston Plumbing
10	Internal Traffic Assessment	Thompson Stanbury
11	Travel Plan for a Sustainable Future	Road Delay Solutions
12	Infrastructure Assessment Report	Road Delay Solutions
13	Access Design Assessment Report	Design Confidence
14	Adaptable Housing Report	Design Confidence
15	BCA Report	Vic Lilli
16	Fire Safety Report	GN Consulting
17	BASIX Assessment Report BASIX Certificates	Integreco
18	ESD Strategy	Integreco
19	Acoustic Report	DK Acoustics
20	Operational Waste Management Report	Elephants Foot
21	Construction Management Plan	Upright Builders

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M:\PROJECTS\1313\1313-034 SHEPHERDS BAY, MEADOWBANK\110. SEE STAGES 2 & 3\2. STATEMENT OF ENVIRONMENTAL EFFECTS + APP 1 & 2 - STAGES 2&3, SHEPHERDS BAY, MEADOWBANK 160115.DOCM

22	Contamination Report and Remediation Action Plan	Environmental Investigations
23	Groundwater Investigation	Environmental Investigations
24	Geotechnical Investigation	Asset Geotechnical
25	Flood Assessment	BG&E
26	Council's Pre-Lodgement Meeting Minutes (Urban Design Review Panel)	City of Ryde Council
27	Letter from City of Ryde Council to Holdmark dated 2 December 2013	City of Ryde Council

1. Executive Summary

This Statement of Environmental Effects (SEE) has been prepared for Shepherds Bay Urban Development Pty Ltd by City Plan Strategy and Development Pty Ltd (“CPSD”) to accompany a Development Application (“DA”) to Ryde Council. The DA relates to Stages 2 and 3 of the 'Shepherds Bay' redevelopment, approved as part of Concept Plan MP09_0216 (as modified). The application relates to 9-11 Rothesay Avenue and 12-16 & 18 Nancarrow Avenue, Ryde (“the site”).

In summary, this DA seeks approval for the following works:

- Excavation and site preparation works;
- The construction and occupation of two (2) residential flat buildings consisting of 453 residential units comprising with 227 x 1 bed, 194 x 2 bed, 17 x 3 bed, 12 x loft and 3 x studio units;
- The creation of one, amalgamated basement parking area which will service both Stages 2 and 3 with a single point of access via Rothesay Avenue, providing a total of 605 parking spaces;
- The construction and dedication to Council of a publically accessible foreshore Plaza;
- The construction and dedication to Council of an accessible foreshore link connecting Nancarrow Road to the foreshore Plaza;
- Landscaping works associated with the subject site; and
- Street upgrades to public roads and upgrade to stormwater and drainage systems associated with the subject site.

This (SEE) has been prepared pursuant to Section 78A of the *Environmental Planning and Assessment Act, 1979* and Clause 50 of the *Environmental Planning and Assessment Regulation, 2000* and will:

- describe the proposed development and its context;
- assess the proposal against the applicable planning controls and guidelines; and
- assess the potential environmental impacts and mitigation measures.

The site benefits from a Concept Plan Approval (MP09_0216) (as modified) for a mixed use development comprising up to twelve (12) buildings. This was originally approved by the Planning Assessment Commission (PAC) on 6 March 2013 and subsequently modified on 16 October 2014. The proposed development has been designed to be consistent with the terms of that Concept Approval (as modified) and to provide a built form and outcome that will connect and respect the intended future character of the Shepherds Bay locality as well as enhancing the public domain and delivering the infrastructure required.

2. Background

2.1 Concept Plan Approval

The Planning Assessment Commission (PAC) approved a Concept Plan for the Shepherds Bay Site on the 6 March 2013 (ref. MP09_0216). The Approval was for twelve (12) separate buildings to incorporate a mixed use residential, retail, commercial precinct and included:

“Use of the site for a mixed use development including residential, retail, commercial and community uses incorporating:

(a) building envelopes for 12 buildings incorporating basement level parking;

(b) infrastructure works to support the development including:

(c) upgrades to the local road network;

(d) stormwater infrastructure works;

(e) publically accessible open space and through site links; and

(f) pedestrian and cycle pathways.”

2.2 Modification to the Concept Approval

Pursuant to the Concept Approval, a subsequent Section 75W Modification Application (Mod 1) was approved by the PAC on 16 October 2014. This resulted in amendments to the Concept Approval specifically to allow for a more logical construction process and to improve the overall built form. This approval also included revising the indicative staging of the 10 buildings and the clarification of the delivery of certain infrastructure works at certain stages of the development process. Of relevance to this proposal, this s75W approval also permitted the basement for Stages 2 and 3 to be connected.

These modifications are reflected in the updated Draft Statement of Commitments dated March 2014.

This DA relates to two Stages originally referred to in the Concept Approval as Stages 3 and 6 but subsequently modified as part of Mod 1 to be known as Stages 2 and 3.

2.3 Application for Demolition

The site benefits from separate Development Consent for the demolition of all existing structures on the site and we understand that demolition of all structures on the site has occurred. To expedite the development of the site, there is also a concurrent DA currently under consideration by Council for the excavation of the site. For completeness, this application also seeks approval for the excavation of the site.

2.4 Pre lodgement Meeting

A pre-lodgement meeting was held with Council's senior officers and the Urban Design Review Panel (UDRP) on 19 December 2013. It is noted that this meeting was held prior to the most recent modification of the Concept Approval (approved on 16 October 2014) and therefore some of the issues raised in relation to bulk and scale were addressed as part of the S75W modification.

Notwithstanding this, the principal issues raised by the UDRP are summarised in the table below, along with an explanation from the project architect, Robertson & Marks (R+M) of how each item has been resolved / justified in the revised proposal.

Item raised by UDRP	R+M Comment
General Comments	
<p>The apartments at the corners of the blocks within the deep courtyards are not acceptable. The apartments wrap into the wings of the building form and have no clear direct outlook for the bedrooms.</p>	<p><i>"Visual and acoustic privacy issues in the internal corners of the buildings addressed by:</i></p> <ul style="list-style-type: none"> ▪ <i>introducing vertical privacy fins/blades to bedroom windows</i> ▪ <i>introducing sliding/folding privacy screens to the balconies of the apartments living areas</i> ▪ <i>reducing the size and changing the location of the bedroom windows."</i>
<p>A number of the apartments have deep plan kitchens and spaces at the back of the units that will receive no light and are large enough to be used as habitable spaces on the upper basement levels.</p>	<ul style="list-style-type: none"> ▪ <i>"Apartments' living areas were designed as the open plan layouts consisting of lounge, dining and kitchen. Where functional depths of the open plan living areas are over the RFDC guidelines, the rear kitchen walls are between 8-9m from the glazing line (in most cases between 8-8.5m).</i> ▪ <i>Apartments with kitchen depths of more than 8m exceed RFDC guidelines in apartment size (area) and ceiling heights by 20%. In addition, extensive glazing is provided to the primary living space (more than 70% of the external facade).</i>
<p>There are a significant number of single aspect units in these plans which are not likely to achieve satisfactory cross ventilation. Additional cores should be introduced to allow more through units and better cross ventilation as well as more entry points into the buildings.</p>	<ul style="list-style-type: none"> ▪ <i>"Natural ventilation shafts (1sqm area) are introduced as per specialist consultants advice to allow for natural ventilation of the single aspect apartments (please refer to Windtech's report).</i> ▪ <i>In addition to ventilation shafts, highly articulated façade of the buildings in relation to the</i>

	<p><i>prevailing winds' direction will allow for natural ventilation of some of the single aspect apartments (please refer to Windtech's report)."</i></p>
<p>No units are shown with any ground level access to the public domain. Ground floor units should have direct access to the street/footpath. There are many internalised studies with no windows. These are also not supported.</p>	<ul style="list-style-type: none"> ▪ <i>"Access from the street/public domain provided for all apartments with direct access from the street.</i> ▪ <i>Please refer to the revised landscape and architectural plans."</i>
<p>The shadow diagrams indicate that the units facing into the internal courtyards on all the buildings will have either no or very poor solar access. These units should be dual aspect units to increase light and sun penetration. Further, units and in particular their balconies should not be located over driveway entrances/exits due to amenity concerns.</p>	<ul style="list-style-type: none"> ▪ <i>"Non-compliant solar access was addressed by introducing additional amenity to satisfy Condition 21 (20% increased height,20% increased apartment area, natural ventilation and increased glazing to living areas).</i> ▪ <i>Stages 2 & 3 have only one driveway access off Rothesay Avenue entering below Stage 2. A 1m deep recycled timber entry awning acts as a visual barrier between the units above and the driveway entry/exit. Further the driveway entry/exit is recessed from the building edge by approximately 2m."</i> ▪ <i>Where apartments are located adjacent to driveway exits/entrances in stages 4 & 5, driveways are screened by blade walls, timber awning structures and appropriate landscaping."</i>
<p>Include more dual aspect units and requisite additional cores to service dual aspect units</p>	<ul style="list-style-type: none"> ▪ <i>A review of the plans was undertaken to include more dual aspect units</i>
<p>Include more shallow units with wider frontage, which would improve daylight access and have less units at the building frontage</p>	<ul style="list-style-type: none"> ▪ <i>A review to improve daylight access to the maximum number of apartments has been undertaken.</i> ▪ <i>Additionally the requirement to increase 20% of the height requirement as per Condition 21</i>

	<p><i>of the Modification Approval for adding to increased amenity (3.2m) has benefited 60% of total apartments in Stage 2 and 47% of apartments in Stage 3. This assists with increased ambient/diffused light entering the apartment which meets similar objectives to having a shallower unit with wider frontage.</i></p> <ul style="list-style-type: none"> ▪ <i>All units have full height glazing.</i>
<p>Shallower units would also assist with eliminating inboard studies/bedrooms.</p>	<p><i>Spaces within the apartment layouts with depth greater than 8m relative to the glazing line are limited to non-habitable rooms such as bathroom, laundries, storage areas and entry foyers.</i></p> <p><i>Stages 2 & 3 – ‘Inboard’ areas are mostly utility spaces.”</i></p>
<p>Stage 2 & 3</p>	
<p>The sense of outlook and space is constrained by the connected "U" building form and greater height of the northern part of the "U" at 14 storeys.</p>	<p><i>"The building form and heights sit wholly within the PAC approval."</i></p>
<p>The separation provided by planters in the central courtyard between the communal areas and bedroom windows is not considered sufficient to afford appropriate privacy.</p>	<p><i>"Building footprint sit within the PAC approved building envelope that includes building separation between the wings.</i></p> <p><i>1.5m high courtyard walls, raised planting and 1.6m – 1.8m high screens within landscape are provided to achieve privacy. Refer to Landscape Report."</i></p>
<p>Fire stairs appear to protrude in front of the private open space of apartments that are within these deep courtyards on the lower ground floor. This is not appropriate and will exacerbate the sense of enclosure.</p>	<p><i>"1.5m high courtyard walls, raised planting and 1.6m – 1.8m high screens within landscape are provided to achieve privacy.</i></p> <p><i>Additionally, the fire stair integrated into the communal landscape as a part of a pavilion with recycled timber / steel pergola and perforated screen over. Refer to Landscape Report."</i></p>

<p>There are liable to be privacy issues between the corner units recessed in the courtyards and the apartments on the wings as direct overlooking will be possible and screens will not work as they will destroy the outlook and amenity of the units.</p>	<p><i>"Visual and acoustic privacy issues in the internal corners of the buildings addressed by:</i></p> <ul style="list-style-type: none"> ▪ <i>introducing vertical privacy fins/blades to bedroom windows</i> ▪ <i>reducing the size and changing the location of the bedroom windows."</i>
<p>Some units have very long corridors within the apartments which is not ideal.</p>	<p><i>"Longer corridors within apartments mostly in a corner apartment in order to located living and dining space for better solar access and/or views to water if facing south.</i></p> <p><i>'Active corridors' instead of 'blank corridors' with access to laundry, storage, bedrooms and bathrooms."</i></p>
<p>A number of units have bedrooms deeply recessed into the plan e.g. Level 1 on the eastern end of Stage 2 with the room reliant on a 'snorkel' window. This is not supported by the panel and is a particularly poor solution given the unit is also against a retaining wall that further reduces its light access.</p>	<p><i>"The unit has enhanced amenity of 20% increased floor to ceiling height, 20% increase to apartment area and extensive glazing as per Condition 21 of the Mod 1 PAC approval."</i></p>
<p>On level 2 the stairs for public access to the link appear to directly abut the windows of apartments and the balconies of the apartments for Stage 3.</p>	<p><i>"There is approx. 3m separation between the stairs and the Stage 3 apartments. Refer to Landscape Plan."</i></p>
<p>The amenity of the apartments that are located on the Central Spine and adjacent to the stair connections will be very poor with little light and privacy as persons on the stairs will be able to view into the apartments. There will be no sunlight in winter to these units and potentially for much of the year given the scale of the building forms around them.</p>	<p><i>"The building separation of 20m between the apartments along the Central Spine are as per PAC approval and better than SEPP65 requirement.</i></p> <p><i>The scale of the building forms are as per the PAC approval.</i></p> <p><i>The amenity of the units are addressed by:</i></p> <ul style="list-style-type: none"> ▪ <i>Raised lower level units to the central spine public area to provide privacy. Additionally entry lobbies and community facility located level with the public access spine.</i> ▪ <i>Double storey loft apartments located on the lower levels to achieve better amenity and</i>

	<p><i>lighting into the units.</i></p> <ul style="list-style-type: none"> ▪ <i>Lighter shade façade colour and cladding specified to allow for better reflective/ambient lighting.</i> ▪ <i>Mostly all apartments within the spine have oblique views to the Parramatta River and beyond.</i> <p><i>The privacy of the units are addressed by:</i></p> <ul style="list-style-type: none"> ▪ <i>Mostly evergreen trees and low maintenance shrubs and grasses,</i> ▪ <i>1.5m high courtyard walls, raised planting, and 1.6m – 1.8m high screens within landscape</i> ▪ <i>'Raised shrub beds with specimen tree planting to create avenue and ensure buffer between apartments / building and public precinct.' (from Landscape report)"</i>
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The proposal considers and addresses these aspects of the development identified for further improvement and the final design addresses each of these. Refer to the SEPP 65 Statement and RFDC Assessment against the Rules of Thumb prepared by R+M in relation to the how the design satisfies the above items (**Appendix 3**).

2.5 Discussions with State Agencies

The preparation and assessment process for the Concept Plan has included consultation with several State Agencies, the interests of which have been included in the Concept Approval and this proposal. Following the approval of the Concept Plan and as outlined in the Statement of Commitments, the proponent has undertaken further consultation which has been incorporated into this proposal.

The following agencies have been consulted include:

- Roads and Maritime Services; and
- Sydney Water;

As detailed in the Traffic Report, the traffic and transport consultants, Road Delay Solutions, on behalf of the applicant, has been in continuing contact with RMS in relation to satisfying the Conditions of the Concept Plan and Statement of Commitments.

3. The Site and Context

3.1 The Concept Plan Site

The Shepherds Bay Concept Plan site is located approximately 14 kilometres north-west of the Sydney CBD and on the Shepherd's Bay Foreshore between Ryde and Meadowbank.

The principal portion of the Concept Plan site forms an amalgamated precinct bounded, and with direct frontage to, Bowden Street, Constitution Road, Belmore Street and Rothesay Avenue. The site is also dissected by Nancarrow Avenue and Hamilton Crescent.

Of relevance to the Concept Plan Approval, the site also consists of the 'Church Street Site'. This site is separate from the rest of the Concept Approval and is located to the south-east and bound by Church Street, Well Street, Waterview Street and The Loop Road. The total combined site area is approximately 6.7 hectares and is demonstrated in **Figure 1** below.

The Concept Plan site benefits from being in the vicinity of regular rail, ferry and bus services. The main portion of the site is within 350 metres to 1km walking distance from the Meadowbank Railway Station and the Village Plaza and 250 metres to 1km from the Meadowbank Ferry Wharf. The Church Street site is also within 200m of bus services on Church Street, and approximately 1km from the railway station and ferry wharf.

The site currently comprises part of the former Meadowbank Employment Area and is experiencing a period of transition from manufacturing and light industrial uses towards the development of a high density mixed use neighbourhood.



Figure 1: Extract from the Masterplan of the Shepherds Bay redevelopment site prepared by Place Planning dated June 2013 which identifies the boundary of the Concept Plan Site.

3.2 The Site

The site which is the subject of this DA comprises 9-11 Rothesay Avenue, 12-16 and 18 Nancarrow Avenue, Ryde. These sites were originally known as Stages 3 and 6, but were re-named as Stages 2 and 3 pursuant to the most recent s75W application. The location of Stages 2 and 3 with respect to the Concept Plan site is detailed on Figure 2 below:



Figure 2 - Extract from Indicative Staging Plan prepared by R+M Architects detailing the location of the Stage 2 and Stage 3 buildings

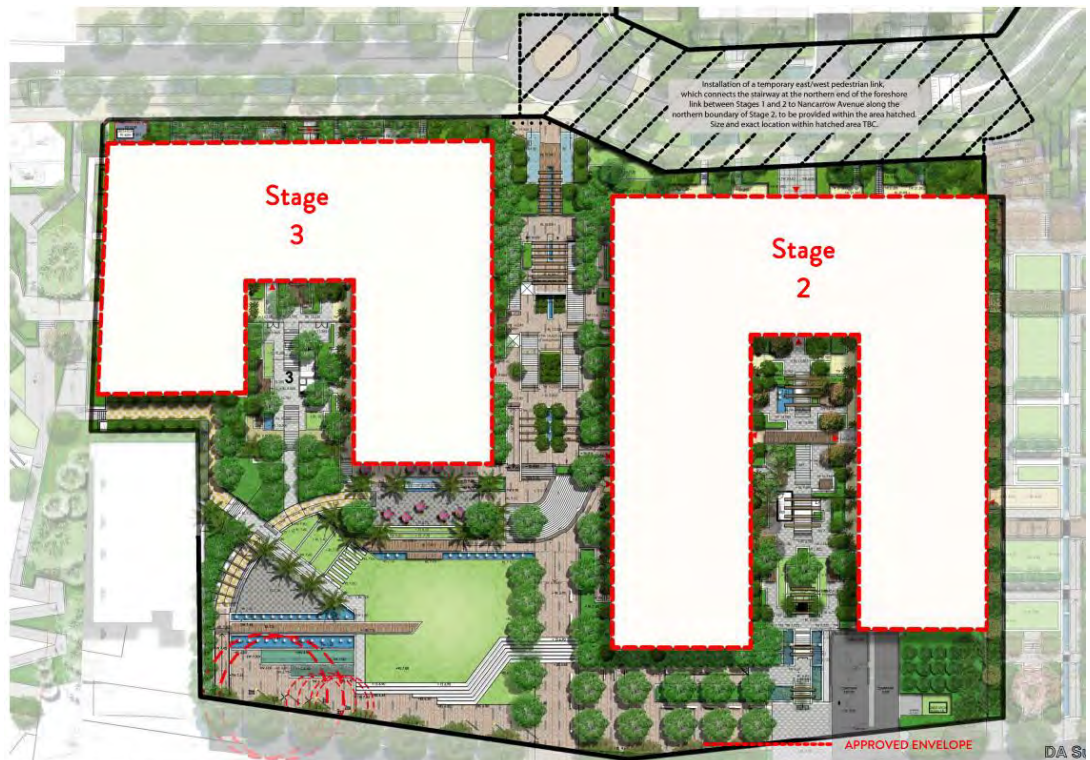


Figure 3: Extract from Site Plan prepared by R+M Architects detailing the building footprint of Stage 2 and Stage 3.

The previous light industrial nature of the site is illustrated in the following Figures. It is noted that these buildings are no longer on the site, and have been demolished in preparation for the proposal.



Figure 4: Former light industrial building fronting Rothesay Avenue (Source: Google Maps)



Figure 5: Former light industrial building fronting Rothesay Avenue (Source: Google Maps)



Figure 6: Former light industrial building fronting Nancarrow Avenue (Source: Google Maps)



Figure 7: Former light industrial building fronting Nancarrow Avenue (Source: Google Maps)



Figure 8: Existing Development South from Nancarrow Avenue (Source: Google Maps, 2009)

3.3 Adjoining Development

The Shepherds Bay locality has historically been characterised as a light industrial and manufacturing area. More recently, the area has been transitioning to create a varied mix of land uses with an emphasis on residential and mixed use development. **Figure 8** below provides an analysis of the recent mixed use and residential developments in Shepherds Bay and their relationship with the Concept Approval site.

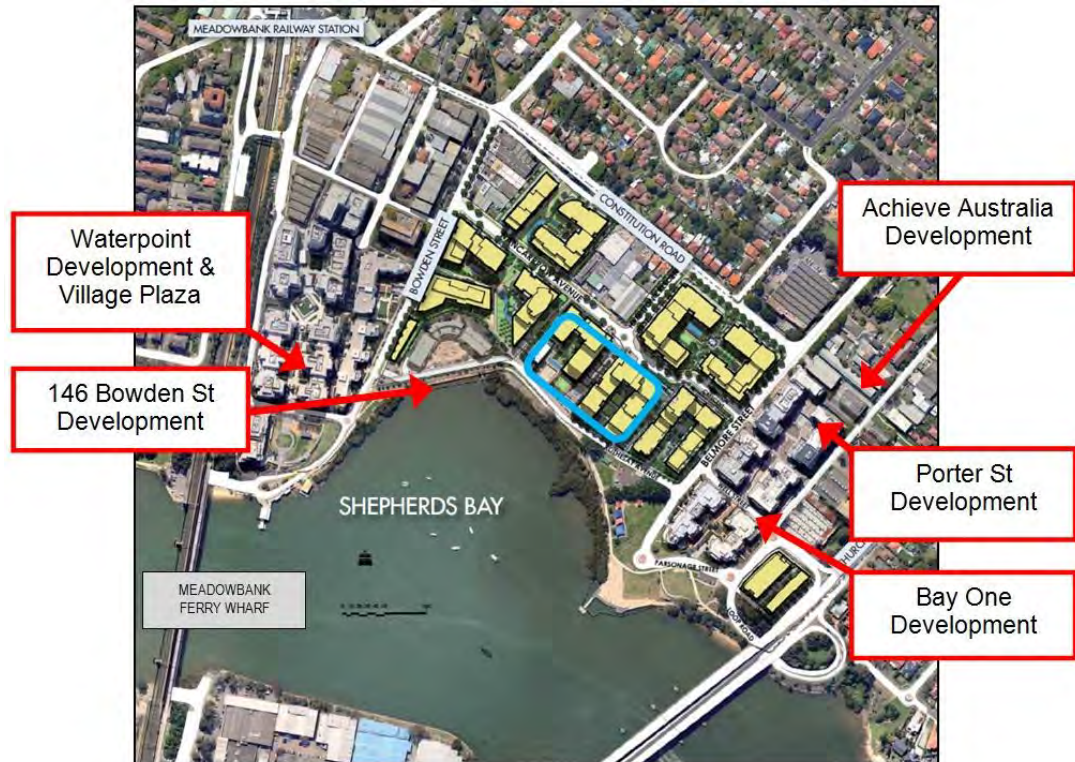


Figure 9: Aerial view of the site and locality. The Concept Plan site is identified in yellow. Stages 2 and 3 the subject of this application are identified in blue. This Figure also identifies the existing and approved mixed use developments in the Shepherds Bay area.

The peninsula benefits from a foreshore location and a high level of connectivity with the surrounding road network and adjoining large scale residential precincts which have replaced the historic industrial land uses, which is representative of these foreshore areas, such as Rhodes and Breakfast Point.

Shepherds Bay benefits from local retail centres including the Meadowbank shops and West Ryde Marketplace, as well as major retail centres in Rhodes and Top Ryde. There are extensive existing parks and recreation facilities including Olympic Park and access to the Parramatta River.

The locality has historically been characterised by predominantly industrial and warehousing uses. As the area is the subject of ongoing and historical urban renewal, the character of the area is currently transitioning to predominantly provide residential development.

4. Description of the Development

4.1 General Description

This Integrated Development Application seeks consent from Ryde Council for the construction and occupation of 2 residential flat buildings comprising a total of 453 residential units with a shared basement arrangement (refer to the Architectural Drawings).

In summary, the DA consists of the following components:

- The construction and occupation of 2 Residential Flat Buildings consisting of 453 units. Stage 2 comprises 1 x studio, 114 x 1 bed, 8 x loft, 98 x 2 bed and 11 x 3 bed apartments with Stage 3 comprising 2 x studio, 113 x 1 bed, 96 x 2 bed, 6 x 3 bed and 4 x loft apartments.
- A shared basement parking arrangement with a single vehicular entry and exit point off Rothesay Avenue which provides 605 basement parking spaces including accessible parking spaces, storage areas and waste storage and collection.
- A publicly accessible through site link as per the Concept Plan which connects Nancarrow Avenue to the foreshore.
- A Foreshore Plaza with an area of 3000sqm which is publically accessible.
- Upgrades to the adjoining streets and public domain works which supports pedestrian and cycle networks within the site.
- Maintenance/augmentation of the services and infrastructure on the site including upgrades to the stormwater and drainage systems.
- The removal of trees on the site and replacement with appropriate landscaping.
- Subsequent strata / stratum subdivision.

We understand demolition of all structures on the site has occurred and the site is now essentially cleared.

4.2 Design Principles

The Architect's design principles which are integrated into the proposal provides a residential character which is responsive to the transitioning context of the site and surrounds and the topography of the site in accordance with the Concept Plan. As detailed in the Architect's Design Report provided at **Appendix 3**, the proposal optimises the quality of the public domain and achieves a high level of amenity for the future occupants and neighbouring properties. The proposal creates a sense of connectivity which contributes to creating a strong sense of character and community.

The design principles apply suitable characteristics in relation to the street and waterfront characters to which they relate, which are interspersed with legible pedestrian network, passive recreation areas, private courtyards and balconies, plantings and views to Shepherds Bay. The proposed development is the result of a carefully considered design approach with input from multiple disciplines which provides a high level of amenity and architectural merit.

R+M have provided further details of the design principles in the architectural drawings, SEPP 65 Design Verification Statement and RFDC Assessment, photomontages, shadow

diagrams and Schedule of External Finishes which accompany this application at Appendices 3 and 4.

4.3 Development Statistics

The key statistics and elements of the project are shown in the **Table 2** below:

Table 2: Development statistics

Element	Proposal
Height	<p>Mod 1 of the Concept Plan sets out an approved RL for both the Stage 2 and Stage 3 buildings (plan ref: PPR 001-D). In addition, the modification also approved a building envelope plan for both Stage 2 and Stage 3 (plan ref: Figure 16, Rev 4 and Figure 19, Rev 4).</p> <p>The architectural plans submitted with the DA clearly illustrate the approved built form with a dotted red line with the proposal not exceeding the approved built form.</p>
Setbacks and Separation	As per the requirements of the RFDC and the approved 'Maximum Height with Setbacks' Plan reference PPR 001_D dated 2/11/13 and the Concept Plan. Refer to further discussion in the Architect's Statement.
Dwelling Yield and Mix	<p>Stage 2 - 232 units comprising:</p> <p>1 x studio unit (0.43%)</p> <p>114 x 1 bed units (49%)</p> <p>98 x 2 bed units (42%)</p> <p>11 x 3 bed units (5%)</p> <p>1 x loft unit (0.43%)</p> <p>Stage 3 - 221 apartments</p> <p>2 x studio units (0.9%)</p> <p>113 x 1 bed units (51%)</p> <p>96 x 2 bed units (43%)</p> <p>6 x 3 bed units (3%)</p> <p>4 x loft units (2%)</p> <p>Total Units for Stage 2 and 3: 453</p>
Non-residential Uses	<p>Cafe located at lower ground floor level of Stage 3</p> <p>Community facility space located at upper basement level and lower</p>

	ground level of Stage 2v(although not forming part of this application)
Car Parking	<p>A shared basement parking area</p> <p>605 total spaces split between:</p> <ul style="list-style-type: none"> - 514 residential spaces - 91 visitor spaces - 45 accessible spaces - 1 car wash bay - 61 bicycle spaces
Publicly Accessible Areas	<p>Provision and embellishment of a through site link from Nancarrow Avenue to the Parramatta River foreshore,</p> <p>Provision and embellishment of a Public Plaza with a minimum area of 3,000sqm of publicly accessible open space</p>

4.4 Indicative Staging

The indicative construction staging of the development is as follows:

Table 3: Indicative staging/phasing of the development

Stage	Phased Works
Stages 2 and 3	As per separate approval – demolition of all existing structures
Stages 2 and 3	Excavation Works - 'early works' as per separate DA
Stages 2 and 3	<p>Further Site Preparation Works</p> <p>Basement Construction Works</p>
Stages 2 and 3 concurrently	Construction of the residential component of the development for Stage 2 and Stage 3. Completion of public domain works, through site link and landscaping.
Stages 2 and 3 concurrently	Completion of works and issue of separate Occupation Certificates for the residential components of Stage 2 & Stage 3.

The overall construction phasing of the development will be undertaken in an efficient and logical manner.

The proposal also seeks to provide the payment of the Section 94 Contributions in accordance with the issue of the staged construction certificates for the residential components of the development.

4.5 Development Plans & Supporting Documentation

The SEE has been prepared and relies on the accuracy and factual integrity of the architectural drawings prepared by R+M which accompany this application.

The SEE has been prepared and relies on the accuracy and factual integrity of the following technical reports which accompany the application:

- Design Verification Statement, SEPP 65 Design Statement and Residential Flat Design Code Assessment prepared by R+M;
- Direct Solar Access Report prepared by Windtech;
- Natural Ventilation Preliminary Assessment prepared by Windtech;
- Solar Light Reflectivity Analysis prepared by Windtech;
- Detailed and Public Domain Landscape Plans prepared by Place Design;
- Public Art Plan prepared by Black Beetle;
- Hydrology Report and Hydraulic Engineering Plans prepared by Harris Page;
- Parking Impact Assessment Report prepared by Thompson Stanbury;
- Travel Plan for a Sustainable Future prepared by Road Delay Solutions;
- Access Report and Adaptable Report prepared by Design Confidence;
- BCA Report prepared by Vic Lilli;
- Fire Safety Report prepared by GN Consulting;
- Energy Efficiency Report, BASIC Report and BASIX Certificates prepared by Integreco; and
- Operational Waste Management Report prepared by Elephants Foot;

CPSD has wholly relied on the technical information, professional opinion and supporting justification in these reports, as prepared by professionals in their field, for the preparation of this SEE and the satisfaction of the technical conditions of consent.

4.6 Future Subdivision

The future Strata Subdivision of the development will be the subject of a separate Development Application(s).

4.7 Cost of Construction

The cost of construction of the project is estimated at \$142,140,283. Refer to the QS Report prepared by Altus Page Kirkland and submitted with the DA.

5. Statutory Planning Considerations

5.1 Overview

The relevant statutory framework considered in the preparation of this report comprises:

- Environmental Planning and Assessment Act, 1979;
- Environmental Planning and Assessment Regulation 2000;
- State Environmental Planning Policy No. 32;
- State Environmental Planning Policy No. 55;
- State Environmental Planning Policy No. 65;
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (State and Regional Development) 2011;
- Sydney Regional Environmental Planning Policy (Sydney Harbour Catchment) 2005; and
- Ryde Local Environmental Plan 2014.

Where relevant, these controls are addressed below.

5.2 Environmental Planning & Assessment Act 1979

Section 6A of the EP&A Act 1979 provides transitional arrangements for the repeal of Part 3A. In the case of Concept Plans, Clause 3B of Schedule 6A sets out the provisions to be addressed. Clause 3B(2) provides the following provisions which are relevant to developments assessed under Part 4:

- (a) *if Part 4 applies to the carrying out of the development, the development is taken to be development that may be carried out with development consent under Part 4 (despite anything to the contrary in an environmental planning instrument),*
- (b) *if Part 5 applies to the carrying out of the development, the development is taken to be development that may be carried out without development consent under Part 4 (despite anything to the contrary in an environmental planning instrument),*
- (c) *any development standard that is within the terms of the approval of the concept plan has effect,*
- (d) *a consent authority must not grant consent under Part 4 for the development unless it is satisfied that the development is generally consistent with the terms of the approval of the concept plan,*
- (e) *a consent authority may grant consent under Part 4 for the development without complying with any requirement under any environmental planning instrument relating to a master plan,*

- (f) *the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan,*
- (g) *any order or direction made under section 75P (2) when the concept plan was approved continues to have effect.*

These provisions set out that the Concept Plan continues to have effect. In the event of any inconsistency between the Concept Plan approval and any Environmental Planning Instrument or Development Control plan, the approved Concept Plan prevails.

Part 3A Consistency with the Concept Plan

This section addresses the consistency of the proposal with the modified Concept Plan (MP09_0216). A detailed assessment of the proposal against the Conditions and Statement of Commitments is provided at **Appendix 1** of this Report.

Part A – Terms of Approval

This application is generally consistent with the administrative conditions of the Concept Plan (as modified in MP09_0216 Mod 1) including the approved plans and documentation. The proposal seeks a minor variation to the approved number of storeys as detailed on the approved Building Envelope Control Diagram Figure 16 and Figure 19. However, this is in accordance with Condition 3A of the Modification which allows additional storeys on steeply sloping topography within Stages 2 and 3.

In accordance with Condition A6, all public open spaces, drainage reserves and through site links will be publicly accessible and maintained in private ownership by the future body corporate unless otherwise agreed by the Council.

Part B – Modifications

On 24 June 2013, The Department of Planning and Infrastructure discharged Condition B1 of the Concept Plan. This proposal maintains consistency with Condition B1 taking into account further amendments approved in MP09_0216 Mod 1.

The proposal maintains consistency with the requirements of Part B – Modifications Condition B1, including satisfying the maximum RLs, providing a continuous open space, providing a public domain plan, providing minimum widths for the through site links / view corridors, providing a site wide WSUD strategy, and allowing for pedestrian and cycleways. This application is also accompanied by a Sustainable Travel Plan prepared by Road Delay Solutions and provided at **Appendix 11**.

Schedule 3 – Future Environmental Assessment Requirements

This application addresses all of the Conditions of Consent in accordance with the Concept Plan (MP09_0216) and provides assessment and recommendations from suitably qualified consultants which confirm that the proposal complies and/or is capable of providing a development which satisfies the relevant objectives and development controls applicable to this site. Refer to further discussion below and the supporting reports which accompany this DA.

Detailed consideration of the consistency of the proposal with the Conditions of Consent in Schedule 3 – Future Environmental Assessment Requirements is provided at **Appendix 1**.

Section 91 – Integrated Development

This section of the Act defines 'integrated development' as matters which require consent from Council and one or more approvals under related legislation. In these circumstances, prior to granting consent Council must obtain from each relevant approval body their General Terms of Approval (GTA) in relation to the development.

The site is within 40 metres of the 'bed' of Shepherds Bay, being waterfront land, and is therefore a controlled activity pursuant to the Water Management Act 2000. The works in this area primarily consist of landscaping.

This application is therefore classified as "integrated development."

5.3 Compliance with Relevant Strategic & Statutory Plans & Policies

This section addresses the consistency of this proposal with the relevant strategic and statutory plans and policies.

Relevant Strategies

The Concept Application (MP09_0216) and this application have been prepared with due regard for relevant strategies including the Metropolitan Strategy: City of Cities, the NSW State Plan, The Metropolitan Review and Draft Inner North Subregional Strategy. It is noted that the Draft Metropolitan Strategy has also recently been released. This application maintains the approved mixed use neighbourhood area which supports the transitional intent of the area for residential development with ancillary retail and service opportunities. This is achieved through the provision of residential dwellings and improvements to the public domain.

This proposal is in keeping with the strategic intent of the locality in line with the Ryde Local Environmental Plan 2010 and Ryde Development Control Plan 2010 including the Meadowbank Employment Area DCP which encourages the transition for mixed use land uses to transform this previously industrial precinct. The proposal is considered to provide a positive contribution to the transitioning character of Shepherds Bay which satisfies the objectives and directions of the relevant policies and strategies.

State Environmental Planning Policies

This application have been prepared with due regard for relevant State Environmental Planning Policies (SEPPs) as discussed below, including SEPP (Major Projects) 2005, SEPP (Infrastructure) 2007, SEPP 55 – Remediation of Land, SEPP (Sydney Harbour Catchment) 2005, SEPP 32 Urban Consolidation (Redevelopment of Urban Land), SEPP 65 Design Quality of Residential Flat Development and SEPP (BASIX) 2004. It is considered that this application continues to satisfy the objectives and requirements of the relevant SEPPs. Further consideration of these SEPPS is provided below.

State Environmental Planning Policy (Infrastructure) 2007

This SEPP provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

The need for a traffic report is outlined in Clause 104 (Traffic-generating development), which must address such issues as access and any parking or traffic impacts of the proposed development.

Residential Flat Building developments with 75 or more dwellings with access to a classified road, or a road that connects to a classified road, are required to be referred to the RTA for comment. Where no access to a classified road (or a road that connects to a classified road) is proposed, referral to the RTA is required where 300 or more dwellings are proposed.

The proposal meets all relevant Infrastructure SEPP requirements. The RMS provided comments with regard to the Concept Plan and did not raise any objections and provided conditions of approval. Ongoing discussions between Road Delay Solutions have also been held with RMS.

Consideration of the current traffic conditions of the site and locality is provided in the Infrastructure Assessment Report prepared by Road Delay Solutions and provided at **Appendix 12**. This report provides an analysis of the relevant existing and approved developments in the locality, as well as the traffic implications of the proposed development and confirms that the proposed parking provision is in accordance with the Concept Plan including the relevant conditions, and the wider road network will be able to cater for the additional, with intersections operating at satisfactory or better levels of service.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (SREP SHC) aims to establish a balance between promoting a prosperous working harbour, protecting and maintaining a healthy and sustainable waterway environment and promoting recreational access to the foreshore and waterways.

The SREP SHC land use map identifies that land along the foreshore adjacent to the site is zoned W2 - Environmental Protection. This zone provides for the protection, rehabilitation and long-term management of the natural and cultural values of the waterways adjoining the foreshores.

Land along the foreshore adjacent to site is also zoned W8 – Scenic Waters Passive Use Fringe. This zone aims to give effect to inter-tidal public access zones and gives priority to protecting the environment and scenic values of predominately natural shores and waters. The Passive Use Fringe Zone may adjoin residential land or public open space.

Refer to the Zoning Plan provided at **Figure 10** below.



Figure 10: SREP (Sydney Harbour Catchment) 2005 Zoning Plan

Through the retention and absence of impact on the mangrove communities and the retention of public access along the foreshore, it is considered that the proposed Concept is consistent with the land use objectives and provisions of the SREP.

This proposal is consistent with the Concept Plan. The proposal will enhance the natural environment and complement the existing vegetation. Remediation of the site will also significantly improve the environmental situation on the site. Given the substantial positive outcomes being delivered as a result of the proposed development, the proposal is considered to be clearly in the public good.

State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Urban Land)

Some of the key objectives of the policy, which apply to the site, are to promote urban consolidation; ensure that suitable urban land for multi-unit housing is made available and to provide a greater diversity of housing to meet demand generated by changing demographics and housing needs.

The proposal supports this policy in encouraging higher-density residential development in an existing urban area with good access to transport and services.

State Environmental Planning Policy No. 55 - Remediation of Land

SEPP 55 requires that prior to the granting of consent to any development that consideration be given to whether or not the land is suited to the intended use of the land with respect to potential soil and groundwater contamination.

To address this, the Concept Application was supported by a Preliminary Screening Contamination Assessment and a Preliminary Geotechnical and Groundwater Assessment dated October 2010 prepared by Douglas Partners in order to assess the likelihood and/or extent of potential soil and groundwater contamination, which may have resulted from past and present uses on or adjacent to the site. These reports did not raise significant concern with regard to the proposed works and residential use on this site.

Further detailed assessment of the soil and groundwater conditions of the site was undertaken by Environmental Investigations with the results provided in the Contaminated Land Report (RAP) provided at **Appendix 22**.

In summary, subject to the removal of localised contaminated soils, (which would largely be removed in place of excavated basements), and other recommendations made by Environmental Investigations, the site is considered to be suited to the proposed development and thereby satisfies the provisions of SEPP 55.

As a result of the above, a feasible and robust Remediation Action Plan (RAP) has been prepared at **Appendix 22** and considers that the site the subject of this DA can be made suitable for the approved residential and open space development following the implementation of the RAP, as endorsed by the Site Auditors Advice.

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

SEPP 65 sets out 10 design principles for residential flat development, which include context, scale, built form, density, landscape, amenity, resource energy and water efficiency, safety and security, social dimensions and aesthetics.

SEPP 65 and the supporting Residential Flat Code are considered to be the key guiding planning documents informing the assessment of this proposal.

Through the preparation of a detailed SEPP 65 Statement, a Design Report and a design verification statement (provided at **Appendix 3**), R+M has confirmed that the scheme is consistent with the Concept Plan and satisfies all relevant requirements of SEPP 65, and specifically having regard to Condition 21 of the Concept Modification.

Refer to **Appendix 3** for the SEPP 65 assessment prepared by R+M.

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

The Building Sustainability Index (BASIX) was introduced by the NSW Government to deliver equitable water and greenhouse gas reductions across the state. It sets water and energy reduction targets (as a percentage) for new houses and units, ensuring that dwellings are designed to use less potable water and emit less greenhouse gases.

A BASIX Assessment has been prepared in support of the DA by Integreco Consulting. This confirms that the proposal will meet, if not exceed all relevant BASIX requirements.

In addition, and to complement and augment the BASIX assessment, an ESD Guidelines and Report was prepared and submitted with the original concept application. The Strategy, prepared by Ecospecifier, outlined a roadmap to achieving “industry best practice” and beyond. The “base targets” provided (sourced from EnviroDevelopment) were designed to reflect industry best practice in Australia while the “stretch targets” (sourced from Green Star tools and/or an extension of EnviroDevelopment Targets) are designed to provide additional initiatives which will help the development exceed industry best practice and approach the realms of “world’s best practice”.

Condition 22 of the Concept Modification requires an ESD Report to be prepared that sets out those measures within the original Report that are to be integrated into the current proposal. Prepared by Integreco Consulting and located at **Appendix 18**, this advice states that the proposed project will commit to achieve include:

- "1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.*
- 2. Water scores (measured by BASIX) which exceed the targets by just under 10%.*
- 3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.*
- 4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report (“101117 Shepherds Bay Meadowbank - ESD Report”). "*

Refer to the ESD Report at **Appendix 18** for further information.

Ryde Local Environmental Plan 2014

Major Project Approval MP09_0216 was approved pursuant to Part 3A of the EP&A Act 1979, and remains the relevant Instrument for Approval for this site. Given these circumstances, the Ryde Local Environmental Plan (LEP) 2014 is relevant, however where there are any inconsistencies with the terms of the Concept Approval, the Concept Approval shall prevail.

Notwithstanding, the proposal continues to satisfy the objectives of the B4 Mixed Use zone and the objectives and development standards and relevant requirements of the LEP, as addressed in the table below:

RLEP 2014	Comment
<p>Zone B4 Mixed Use: Objectives</p> <ul style="list-style-type: none"> • To provide a mixture of compatible land uses. • To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling. 	<p>Notwithstanding that the uses have been approved as part of the Concept Approval, the proposal provides for residential uses as well as a cafe at lower ground level.</p> <p>The proposal also involves a dedicated community space at upper basement level, although the details of this space do not form part of this application, and are subject to separate negotiations with Council.</p>
<p>4.3 Height of buildings</p>	<p>The maximum height of the proposal has been established through the Concept Approval. In particular, approved plan ref. PPR 001-D provides maximum RL's for each of the proposed buildings.</p> <p>These maximum RL's are clearly detailed on the submitted architectural plans.</p> <p>The proposed buildings will not exceed these maximum RL's.</p>
<p>4.4 Floor space ratio</p>	<p>The Concept Approval did not provide an FSR for the site, instead setting a dwelling cap of 2,005 across the whole Concept Plan site. The proposal seeks approval for 453 dwellings, with the residual to be provided as part of future stages.</p>
<p>5.7 Development below mean high water mark</p> <p>(1) The objective of this clause is to ensure appropriate environmental assessment for development carried out on land covered by tidal waters.</p> <p>(2) Development consent is required to carry out development on any land below the mean high water mark of any body of water subject to tidal influence (including the bed of any such water).</p>	<p>Excavation is below the MHW.</p>
<p>5.9 Preservation of trees or vegetation</p> <p>(1) The objective of this clause is to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation.</p>	<p>As part of the original Concept Approval, and in particular the proponents response to Part B - Modification No.B1, the Department of Planning approved 'An Overall Concept and Public Domain Strategy' reference HOL02 Rev F and prepared by Place Design. The letter from the</p>

	<p>Department was dated 24 June 2013.</p> <p>The approved Strategy included the removal of all trees from the site.</p> <p>In support of the DA, a detailed landscape report has been prepared by Place Design which details extensive mature landscaping to be provided across the site in lieu of the tree removal.</p>
<p>6.1 Acid sulfate soils</p> <p>(1) The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.</p> <p>The site is Class 5.</p>	<p>A Remediation Action Plan has been prepared by Environmental Investigations, and is submitted with the DA (refer Appendix 22). This concludes that the:</p> <p><i>"Subject land lies within the map class description of No Known Occurrence. In such cases, acid sulfate soils (ASS) are not known or expected to occur and "land management activities are not likely to be affected by ASS materials</i></p> <p><i>Some ASS is likely to be present along the foreshores of Shepherds Bay but the development does not extend to this area"</i></p>
<p>6.2 Earthworks</p> <p>(1) The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.</p> <p>(3) Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters:</p> <p>(a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development,</p> <p>(b) the effect of the development on the likely future use or redevelopment of the land,</p> <p>(c) the quality of the fill or the soil to be excavated, or both,</p> <p>(d) the effect of the development on the existing and likely amenity of adjoining properties,</p>	<p>A Construction Management Plan has been Prepared in support of the DA (refer Appendix 21). This includes detailed erosion and sediment control measures to be adopted during construction.</p>

<p>(e) the source of any fill material and the destination of any excavated material,</p> <p>(f) the likelihood of disturbing relics,</p> <p>(g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,</p> <p>(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</p>	
<p>6.4 Stormwater management</p> <p>(1) The objective of this clause is to minimise the impacts of urban stormwater on land to which this clause applies and on adjoining properties, native bushland and receiving waters.</p> <p>(2) This clause applies to all land in residential, business and industrial zones.</p> <p>(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:</p> <p>(a) is designed to maximise the use of water permeable surfaces on the land having regard to the soil characteristics affecting on-site infiltration of water, and</p> <p>(b) includes, if practicable, on-site stormwater retention for use as an alternative supply to mains water, groundwater or river water, and</p> <p>(c) avoids any significant adverse impacts of stormwater runoff on adjoining properties, native bushland and receiving waters, or if that impact cannot be reasonably avoided, minimises and mitigates the impact.</p>	<p>Stormwater plans have been prepared by Harris Page, and are submitted with the DA.</p>

6. Non-Statutory Considerations

6.1 Ryde Development Control Plan

Both the original and modified Concept Approval (MP09_0216) as well as this application have been prepared with due regard for the relevant sections of the Ryde DCP.

The proposed development will provide a development which is integrated and compatible with the existing and intended built form of Shepherds Bay. The proposed residential development and associated public domain areas will provide a high level of public accessibility, in particular to the foreshore link and plaza area. The proposal will also contribute to the availability of housing choice in an area which is responsive to current and future market demand. The site is well serviced by public transport and will not result in adverse environmental impact.

An assessment of the proposal against the requirements of the relevant sections of the Ryde DCP is provided at **Appendix 2**. As this assessment demonstrates, the proposal largely satisfies the provisions of the DCP.

As detailed earlier in this report, Major Project Approval MP09_0216 was approved pursuant to Part 3A of the EP&A Act 1979, and remains the relevant Instrument for Approval for this site. As with the application of the Ryde LEP, the application of the Ryde DCP is relevant, but where there are inconsistencies between the Concept Approval and the DCP, the Concept Approval shall prevail.

Furthermore, the amalgamation of the land and ability of the proposal to deliver key public benefits warrants some flexibility in the application of the DCP to the proposal. Flexibility in the application of the DCP provisions is therefore considered appropriate subject to achieving the objectives of the Concept Approval.

This approach is one recently reinforced by the NSW Government's recent *Environmental Planning & Assessment Amendment Bill 2012* and as set out in Section 79C(3A)(b) of the EP&A Act, 1979:

"79C Evaluation

(3A) Development control plans

If a development control plan contains provisions that relate to the development that is the subject of a development application, the consent authority:

(a) if those provisions set standards with respect to an aspect of the development and the development application complies with those standards—is not to require more onerous standards with respect to that aspect of the development, and

(b) if those provisions set standards with respect to an aspect of the development and the development application does not comply with those standards—is to be flexible in applying those provisions and allow reasonable alternative solutions that achieve the objects of those standards for dealing with that aspect of the development, and

(c) may consider those provisions only in connection with the assessment of that development application.

In this subsection, standards include performance criteria."

CPS&D Emphasis

Refer to **Appendix 2** for the full compliance assessment

Part 7.1 Energy Smart, Water Wise

Part 7.1 of the City of Ryde DCP 2014 relates to provision of sustainable development. Objectives include encouraging the design of energy efficient buildings, optimising solar access, decreasing total energy consumption and generally to reduce green house gas emissions and natural resource consumption.

The proposal is accompanied by a BASIX Certificate and an ESD Target Letter prepared by Integreco Consulting (refer **Appendix 17 and 18** - in line with Condition 22 of the Concept Approval). This letter details the measures which will be implemented to minimise energy consumption and demonstrates how the intent of the DCP in relation to energy efficiency has been met.

Part 7.2 Waste Minimisation & Management

Part 7.2 of the City of Ryde DCP 2014 relates to waste minimisation and management during construction and the continued operation of proposed development. Objectives include minimising resource requirements and construction waste, maximising recycling and re-use opportunities and to minimise overall environmental impacts.

A Waste Management Plan prepared by Elephants Foot accompanies this application and addresses the objectives for Waste Minimisation and Management as set out within this Part.

The proposed development provides adequate space for the sorting and storage of waste receptacles within the basement area.

Part 8.1 Construction Activities

Part 8.1 of the City of Ryde DCP 2014 includes objectives which encourage consideration of Ecologically Sustainable Development and site management as well as those related to protection of the environment and local amenity during construction.

An Erosion and Sediment Control Plan has been prepared and has considered the provisions within clause 2.1.2 with regard to the proposed development. Site clearing, demolition activities, water diversion, gutter bunding, signage, amenities, vehicle access, road cleaning and safety can be adequately addressed within a Construction Management Plan and dealt with by way of appropriate conditions of consent.

Part 8.2 Stormwater Management

Part 8.2 of the City of Ryde DCP 2014 includes provisions relating to the management of stormwater associated with development. The subject application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's stormwater management requirements.

Part 8.3 Driveways

Part 8.3 of the City of Ryde DCP 2014 includes specific provisions concerning the design of driveways.

As the plans submitted with the DA demonstrate, vehicular access to the basement level is to be provided via a single access driveway connecting with Rothesay Avenue in the south-eastern corner of the site. The driveway is proposed to provide a 6m wide ingress laneway, separated from a 6m wide egress lane by a 1m wide median.

To address Council's requirements, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates (refer **Appendix 10**).

This Report assesses the proposed access arrangements against the relevant Australian Standards, being AS2890.1-2004 concluding that

"the proposed driveway design suitably accords with this Standard requirement and is therefore considered to be satisfactory."

Refer to the Internal Traffic Assessment for further information.

Part 8.4 Title Encumbrances

Part 8.4 of the City of Ryde DCP 2014 includes specific provisions concerning title encumbrances. The proposed through-site link between Stages 2 and 3 provides public access from Nancarrow Road to the foreshore. In line with the Concept Approval, it is expected that Council will impose a condition of consent requiring the registration of a right of carriageway created under Section 181A of the Conveyancing Act 1919 and registered on the title of the property at completion of the development.

Part 8.6 Floodplain management

Part 8.6 of the City of Ryde DCP 2014 includes specific provisions to guide development to ensure danger to life and property damage associated with flooding and overland flow are minimised in a manner consistent with the Policies of Council formulated under the NSW Flood Policy and Floodplain Development Manual (FDM).

A Flood Assessment has been prepared in support of the application by BG&E. This Report assesses the siting and levels of the driveways, concluding that:

" Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."

Part 9.1 Signage

Part 9.1 of the City of Ryde DCP 2014 includes specific provisions concerning the erection and display of signage to balance the distinctive urban character of the area and the need to advertise goods and services.

The proposal does not include signage. This will be the subject of subsequent development Applications.

Part 9.2 Access for People with Disabilities

The DCP requires that the residential flat buildings must provide an accessible path of travel to all units as well as the provision of 10% adaptable units. The application is accompanied by an Access Report prepared by Design Confidence which confirms that the required number of adaptable units from the DCP is complied with.

Part 9.3 Parking Control

The Car Parking DCP requires parking to be provided at the following rates for the residential component:

- 0.6 to 1 space per one bedroom dwelling
- 0.9 to 1.2 spaces per two bedroom dwelling

- 1.4 to 1.6 spaces per three bedroom dwelling
- 1 visitor space per 5 dwellings

In support of the application, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates (refer **Appendix 10**). Section 4 of this Report provides an assessment of the proposed car parking.

As detailed within this Report, the subject development is required to provide between 345 and 514 resident parking spaces and 91 visitor parking spaces. With reference to the submitted plans, the proposal will provide 605 spaces in total, split between 514 resident and 91 visitor parking spaces. The Report therefore concludes that the proposed parking is suitably compliant with Council's DCP.

Part 9.5 Tree Preservation

Part 9.5 of the City of Ryde DCP 2014 includes specific provisions concerning the effective management of trees as a natural resource and as part of the urban infrastructure to ensure the long term retention of existing trees, appropriate tree maintenance, protection of trees on development sites, and in relation to replacement trees, suitable tree location and considered species selection.

The Concept Approval (as modified) approved the removal of all existing trees on the site. The accompanying landscape plans prepared by Place Design demonstrate the provision or replacement trees and shrubs which integrate with the new residential landscape, including the new foreshore open space.

7. Environmental Impact Assessment

7.1 Overview

This section identifies and assesses the impacts of the development with specific reference to the heads of consideration under section 79C of the Act.

7.2 Context and Setting

The context and setting of the development site is described in Section 2.3 of this Statement. As discussed in detail in the Design Report prepared by R+M and provided at **Appendix 3**, the proposal is considered to be compatible within the context and built form of the character of the existing and future surrounding (former) industrial, warehousing, retail and residential developments. The built form also satisfies the relevant Conditions of Consent in the Concept Plan in relation to design and urban design. The proposal provides a built form and massing which is considered to positively contribute to the quality and transitioning identity of the locality.

7.3 Built Environment

7.3.1 Height, Bulk & Scale

Working within the layout of the site in accordance with the Concept Plan, the design of the proposal is considered to properly respond to site attributes and prevailing environmental conditions for the following reasons:

- The terms of the Concept Approval sets out the bulk and scale of the proposed buildings. This is established through an approved envelope as well as maximum RL's for each of the buildings. The proposal does not seek to vary the approval in this regard.
- The SEPP 65 analysis prepared by R+M concludes that the proposal maintains consistency with relevant design principles being, context, scale, built form density, landscaping and aesthetics and has the capability of demonstrating compliance with the "rules of thumb" in the RFDC;
- The landscape scheme for the site is generous and will significantly improve the amenity of the site's interface with the public domain as well as internally within the site. A series of significant replacement trees are proposed within the site and in the public domain which creates a treed environment which supports the new residential character of the locality; and
- The design allows for the delineation of the public and private spaces within the development to create a shared experience which welcomes the public which is balanced with respecting the privacy of future residents.

Overall, the proposal significantly improves the quality of the streetscape, transforms the old industrial sites and creates the neighbourhood of Shepherds Bay in accordance with the approved Concept Plan.

7.3.2 Setbacks

The terms of the Concept Approval sets out the bulk and scale of the proposed buildings. This is established through an approved envelope as well as maximum RL's for each of the buildings.

The proposal does not seek to vary the approval in this regard.

7.3.3 Design & Aesthetics

The redevelopment of the subject site is a unique opportunity to enhance and regenerate the former industrial area including its buildings and public domain areas. As discussed in detail in the SEPP 65 Design Verification Statement and RFDC Compliance Table prepared by R+M provided at **Appendix 3**, the proposal provides a contemporary built form which is appropriate in terms of bulk, density and scale in the local context. This is achieved by providing a mixed use development which cohesively integrates with the neighbouring ground floor non-residential spaces with residential apartments above which create the opportunity for future residents to enjoy the local outlook as well as enjoying and appropriate level of privacy. The built form incorporates a mixture of vertical and horizontal elements which are supplemented by ornamental landscaping and operable privacy screens which endorse activity between light and dark from within the building. This creates an interesting and lively relationship at the street boundaries which engages and connects with the public forum.

The proposal directly relates to the street, providing direct pedestrian access to the entry points of the site and to the terraces of the Ground Floor residential units which are demarcated by a raised wall structure and privacy fencing. In conjunction with the modulated building elevations the proposal results in a built form which responds to the human scale while also creating an independent roof line which strengthens the form of the building form the adjacent buildings.

As discussed in the SEPP 65 Design Verification Statement prepared by R+M provided at **Appendix 3**, the evolution of the design of the building has taken into consideration the concepts of good urban design and the comments provided by Council's Planning Officers. The proposal achieves adequate separation between the buildings, the opportunity to manage and define the level of privacy from each unit, direct relation to the street, and an aesthetically pleasing design and scale of development.

The design is sensitive to maintaining the amenity of current and future neighbouring developments by providing a floor plan layout which enables suitable building separation, placement of habitable rooms and windows and private open space. As discussed in detail in the SEPP 65 Statement prepared by R+M and provided at **Appendix 3**, the proposal is designed to enhance the privacy and amenity of the future occupants within the site and of neighbouring sites.

The adequacy of the design of the development is demonstrated by the following elements:

- The proposal provides a building form which addresses the boundaries of the site to create an active urban edge which activates the interface with the public domain;
- The height and density of the building is consistent with the outcomes contemplated in the Concept Approval;
- The siting of the Public Plaza provides a high level of accessibility and provides a usable and inviting space which connects with the public domain;
- The size and arrangement of the floor plates ensure that the internal amenity of apartments is maximised for natural light and cross ventilation;
- Apartments are provided with appropriately sized and located areas of private open space;
- Access between the private and communal areas within the complex is direct, safe and efficient; and

- The proposal provides a direct and efficient arrangement for vehicular ingress and egress, including a dedicated loading bay and waste storage and collection area which accommodates the needs of the commercial and residential occupants of the site, as well as their visitors and customers.

7.3.4 Solar Access & Ventilation

The proposed development has been carefully designed to achieve a high level of amenity with due consideration to the ability of each apartment to benefit from receiving solar access, adequate privacy and separation, natural ventilation along with providing floor plan layouts which are efficient and have a high level of liveability. Providing water views has been a key design criteria. This focus on achieving a high level of amenity is also balanced with the requirements to satisfy the RFDC Rules of Thumb as amended by Condition 21 of the Concept Approval.

Condition 21 of the Concept Approval MP09_0216 Mod 1 provides a dispensation in relation to solar access and reads:

"Future Development Applications shall demonstrate compliance with the provisions of the State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) and the accompanying Residential Flat Design Code 2002 (RFDC), except where modified below:

In particular, future application/s shall demonstrate that:

...(c) where less than 70% of apartments achieve 2 hours of solar access in mid winter, these apartments (beyond the first 30%) shall be designed to provide improved amenity by:

- *including extensive glazing (minimum 70% of the external façade) to living rooms;*
- *permitting cross-ventilation specifically to those apartments; and*
- *exceeding RFDC guidelines by at least 20 10% in at least one both of the following areas:*
 - *increased floor to ceiling height; or and*
 - *increased minimum apartment areas, being greater than 50sqm for 1 bedroom, 70sqm for 2 bedroom and 95sqm for 3 bedroom apartments."*

With reference to Section 3.11 of the RFDC Assessment undertaken by R+M, they advise that, in relation to daylight access that the

"Proposed development is consistent with Concept Approval MP 09-216 and subsequent Mod1 Approval"

In terms of cross ventilation, Windtech has prepared a Natural Ventilation Preliminary Assessment (refer Appendix 5). This statement assesses the performance of the proposal against the objective of the RFDC to provide cross ventilation to 60% of the units. This preliminary assessment initially concludes that the residential units will not comply with the natural ventilation requirements of the RFDC.

However, Windtech's preliminary assessment then sets out an alternative assessment for natural ventilation to include the provision of ventilation shafts within the proposal. To this end, Windtech conclude that:

"It is our expert opinion, based on our extensive experience and field testing of other developments, that the above-mentioned residential apartments are expected to demonstrate natural ventilation performance comparable to those that meet the requirements of SEPP65 if the recommended ventilation shafts and skylights are included. Verification through wind tunnel modelling is recommended at a more detailed design stage of the project (i.e. prior to CC) to accurately determine the precise dimensions and locations of the various ventilation shafts. It is currently considered that shafts in the order of one square metre in cross section connected to 2-3 apartments located on the same aspect would be satisfactory to appropriately address an issue such as this. Shafts of this size have been successfully utilised on other similar developments (eg Top Ryde development by Crown – designed by Robertson & Marks) which have been reviewed and approved by 3rd party consultants.

With these additional ventilation shafts and operable skylights, Windtech conclude that the proposal will meet the RFDC objective to provide cross ventilation to 60% of all units.

7.3.5 Internal Amenity

The proposed development has been produced with particular attention to the amenity of its future occupants, neighbouring properties and the public domain. As discussed at Section 3.1 of the RFDC Assessment prepared by R+M Architects, the proposal includes the following measures to maximise amenity levels within the units:

"All apartments have balconies or terraces.

Living spaces are orientated towards the primary outlook.

Screening will be provided where necessary to maximise privacy.

Natural ventilation and daylight access is provided where solar access is possible.

All apartments are provided with appropriate storage facilities (6 -10m³ per apartment)."

R+M consider that the design of the development results in a positive outcome with regard to residential amenity. Careful consideration has been undertaken to mitigate potential aspects of the design which could degrade the quality and liveability of the units both individually and for the development as a whole. R+M consider the amenity of the development to be of high quality and a desirable outcome.

7.3.6 Privacy

Section 2.9 of the RFDC Assessment prepared by R+M looks at privacy within the proposal, detailing that:

"Apartments have been orientated and appropriately separated to provide visual privacy. Screening is proposed to areas where there is potential for overlooking."

7.3.7 Public Domain

The proposal will make a positive compatible contribution to the public domain given:

- The publicly accessible 3,000 sq.m plaza area has been designed to invite the shared use of the space with the public with high quality design finishes so as to create a community feel;

- The proposed buildings will achieve a desirable interface with public areas in terms of the relationship between the Lower Ground and Upper Ground Levels and the adjoining footpaths;
- The buildings will address and integrate with all of its three street frontages through the inclusion of active facades with design elements that promote a visual relationship with public pedestrian areas adjacent to, and surrounding, those edges of the site;
- Vehicle access points have been consolidated and will provide simple and direct vehicular movements throughout the site;
- Service areas and plant rooms are integrated into the building design and do not visually dominate the streetscape or pedestrian areas adjoining the site. This includes the new electricity kiosk substation;
- Many apartments will enjoy a direct visual connection to enable the overlooking of the Foreshore Plaza thereby ensuring a high degree of passive surveillance which will encourage a sense of safety within the public spaces around the site;
- The apartments which have an easterly outlook have a substantial setback to the adjoining existing residences, the upper levels are gradually set back and privacy mitigation measures are provided to protect the privacy of neighbouring residents;
- The architectural treatment and landscaping elements will achieve a suitable streetscape presentation; and
- The landscape plans nominate an appropriate treatment for the public domain areas adjoining the site.

7.3.8 Heritage

The site is not a heritage item or within a heritage conversation area pursuant to the RLEP 2014.

7.3.9 Materials & Colour

Refer to R+Ms Schedule of External Colours and finishes and comment.

7.3.10 Building & Construction

This report provides a BCA compliance review (**Appendix 15**) of the proposal prepared by Vic Lilli. This sets out a number of recommendations to ensure that the proposed building is capable of achieving compliance with the requirements of the BCA and relevant adopted standards without undue modification to the design or appearance of the building.

A Construction Management Plan has also been prepared in support of the application. This sets out the construction methodology for the erection of the new buildings.

7.4 Natural Environment

7.4.1 Flora & Fauna

The existing physical condition of the site is such that it does not have any ecological attributes which, if lost, would impact upon any threatened species, population, ecological community or habitat.

7.4.2 Tree Removal

The Concept Approval (as modified) permitted the removal of all trees from the site.

7.4.3 Landscape

Concept Approval (as modified) was accompanied by an Overall Concept and Public Domain Plan.

The proposal is accompanied by a detailed landscape scheme and Landscape Design Statement, prepared Place Design and provided at **Appendix 7**.

7.4.4 Water Management

Water Drainage

Existing drainage conditions, proposed design and relevant impacts associated with development are contained in the Stormwater Concept Plans submitted with the DA.

7.4.5 Soil Management

Refer to **Section 4.2** for the SEPP 55 assessment with regard to potential soil contamination.

An Erosion and Sedimentation Control Plan is also provided as part of the Construction Management Plan at **Appendix 21**. This provides measures to ensure the development provides appropriate soil management and sedimentation control during construction.

7.4.6 Air & Microclimate

Some dust is anticipated during the construction period, particularly given demolition and excavation is involved. This impact can be managed through measures such as wetting down work areas/stockpiles, stabilising exposed areas, preventing material tracking out onto public roadways, covering loads on all departing trucks and working to weather conditions. The proposal is otherwise not expected to give rise to any long term or adverse impacts on local or regional air quality.

A final CMP will be provided by the builder, once appointed, prior to the issue of the Construction Certificate.

The proposal is otherwise not expected to give rise to any long term or adverse impacts on local or regional air quality.

7.4.7 Noise & Vibration

The application is accompanied by a Noise Impact Assessment report by DK Acoustics.

Construction noise & vibration

The proposed works have been assessed against criteria for resultant noise from construction which are aimed at maintaining comfort levels within the surrounding residential dwellings. The construction site will adhere to the noise control and regulation measures in accordance with AS 2436:2010 "*Guide to noise control on construction, maintenance and demolition sites.*" Furthermore, the works will adhere to the EPA Construction Noise Guidelines which require the proponent to take into consideration and employ all reasonable and feasible measures to ensure that the impact on noise receivers is minimised.

The works will not exceed the relevant vibration criteria to ensure that no architectural or structural damage to surrounding buildings occurs. Refer to the Noise Assessment at **Appendix 19** for further details.

Internal noise levels to residential areas

The report includes a schedule of requirements for glazing and acoustic seals to ensure that internal areas of the residential apartments achieve the necessary mitigation from road traffic noise.

In order to mitigate potential impacts from traffic noise appropriate acoustic measures are proposed, including glazed windows and doors, roof / ceiling treatment and external walls to be constructed of concrete masonry.

Operational noise

Potential noise sources from the development include noise generated by mechanical plant, commercial uses and public use of the Foreshore Plaza area.

The external mechanical plant will be selected post DA stage, at which point a fully detailed assessment of treatments will be conducted. This future assessment will determine if acoustic treatments to the mechanical plant are required.

The building layout and orientation of the building has been designed to ensure that the acoustic privacy of surrounding residents and future occupants is protected. This has been achieved through the careful consideration of the layout of the development including the significant setback of the building from the eastern boundary and the further gradual setback of the upper residential levels, the internal arrangement of the loading bay and commercial spaces which are directed away from neighbouring residences.

Moreover, the noise levels within the development will satisfy the requirements of the Ryde Council DCP and the relevant Australia Standards.

7.4.8 Energy

An ESD letter has been submitted in support of the DA. This letter is in response to Condition 22 of the Concept Modification (refer **Appendix 18**).

This advice states that the proposed project will commit to achieve include:

- "1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.*
- 2. Water scores (measured by BASIX) which exceed the targets by just under 10%.*
- 3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.*
- 4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report ("101117 Shepherds Bay Meadowbank - ESD Report"). "*

Refer to the ESD Report at **Appendix 18** for further information.

7.5 Movement & Access

7.5.1 Transport

The site is accessible by public transport being within close proximity to bus, train and ferry stations.

7.5.2 Roads & Traffic

The Infrastructure Assessment Report prepared by Road Delay Solutions and provided at **Appendix 12** has considered the existing and proposed traffic conditions as a result of the proposal.

The Report concludes that:

"Stages 2 and 3 propose construction of 453 high quality, architecturally designed, residential apartments generating some 131vph during the commuter peak travel periods.

The report assess the conditioned infrastructure necessary to sustain the level of development, in accordance with the Department of Planning & Infrastructure Concept Approval, MP09_0216 and proposes the relevant timing for each.

In support of the foregoing assessment, the following is considered relevant to the development Stages 2 and 3.

- *The site is ideally located in close proximity to a broad range of public transport alternatives, reducing dependence on use of private passenger vehicles.*
- *The site is located within easy walking/cycling distance of a range of shops and services (such as the local post office, TAFE College and primary schools).*
- *The site is located immediately adjacent to a shared pedestrian and bicycle path with links to Parramatta and the Sydney CBD.*
- *The planned Nancarrow Road extension will improve mobility and accessibility for pedestrians and cyclists.*
- *Construction of a roundabout at the intersection of Belmore Street and Rothesay Avenue should be designed, to Council specifications, prior to issue of the Occupation Certificate for Stage 2 of the development.*
- *Design and construction of a triangular, concrete, island in Yerong Street at Belmore Street to facilitate priority controlled left in/left out with construction to be completed prior to the issue of an Occupancy Certificate for Stage 2 of the development.*
- *No warrant exists for the signalisation of the Constitution Road intersection with Bowden Street.*
- *No warrant exists for the signalisation of the marked foot crossing in Railway Road, at this time."*

7.5.3 Car Parking

In support of the application, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates (refer **Appendix 10**). Section 4 of this Report provides an assessment of the proposed car parking.

As detailed within this Report, the subject development is required to provide between 345 and 514 resident parking spaces and 91 visitor parking spaces.

With reference to the submitted plans, the proposal will provide 605 spaces in total, split between 514 resident and 91 visitor parking spaces. The Report therefore concludes that the proposed parking is suitably compliant with Council's DCP.

Refer to the Internal Traffic Assessment at Appendix 10 for further information

Construction Waste

A Construction Waste Management Plan has been prepared by Bingo Group and is submitted as part of the Construction Management Plan at **Appendix 21**. This Plan sets out the waste management measures that will be adopted as part of the construction phase and to ensure that resources are conserved and waste is processed responsibly by minimising waste generation and maximising recycling of materials.

Operational waste

A Waste Management Plan prepared by Elephants Foot has been submitted with the DA. This assesses the operational waste measures that will be adopted post construction. Refer to the Plan at **Appendix 20** for further information.

7.5.4 Pedestrians & Accessibility

Accompanying the application is a BCA Report prepared by Vic Lilli, an Adaptable housing Report and an Access Review report prepared by Accessibility Solutions at **Appendices 13, 14 and 15**. All reports set out various detailed design recommendations to ensure the building meets applicable access codes and legislation.

It is considered that these recommendations are of a minor nature, and it would be reasonable for those outcomes to be ensured by means of suitable conditions within any Notice of Determination requiring compliance to be demonstrated with any Construction Certificate.

7.6 Site Suitability

7.6.1 Geotechnical

A Geotechnical Report has been prepared in support of the DA by Asset Geotechnical and provided at **Appendix 24**. This Report notes that: -

"The proposed basement level is at RL -0.81m over the northern part and RL -1.61m over the southern part. This is about 4m below the adjacent ground surface level at the south eastern corner of the site and about 20m below the adjacent ground surface level at the north western corner of the site.

The excavation for the proposed development is anticipated to be partially within fill and residual soil, and partially within bedrock. The rock is likely to be continuous across adjoining properties. Excavation requirements will be governed by the

presence of the rock, and the sensitivity of nearby residential structures and buried services to vibrations caused by the rock excavation.

The building constructions on the adjacent properties are sensitive to vibrations above certain threshold levels (regarding potential for cracking). Close controls by the excavation contractor over the rock excavation are necessary, and are recommended, so that excessive vibration effects are not generated.

Excavation methods should be adopted which limit ground vibrations at the adjoining developments to not more than 10mm/sec. Vibration monitoring will be required to verify that this is achieved. "

7.6.2 Contamination

Refer to Section 4.2 for a SEPP 55 assessment of the proposal.

As required by Conditions 38, 39 and 40 of the Concept Plan, detailed sampling and testing has been undertaken across the site by Environmental Investigations. The findings and recommendations of these investigations are provided in the Remediation Action Plan (RAP) (**Appendix 22**). The outcome of this RAP includes the minimisation of potential exposure to contaminants in soil, air and groundwater. The RAP identifies that there is a low risk of widespread groundwater contamination and that any groundwater impact is unlikely to prevent the redevelopment of the sites for residential and open space development.

This RAP addresses the relevant regulatory framework and establishes a sequential process of remedial works to assist the site in meeting the required residential and open space criteria.

7.6.3 Bushfire

The site is not within a Bushfire area.

7.6.4 Flooding

A Flood Assessment has been carried out by BG&E (refer **Appendix 25**). This report considers any potential impacts on the development as a result of flooding.

Section 5 of the Report sets out a number of flood recommendations, concluding that

"The flood assessment shows that Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."

7.6.5 Watertable

The development includes excavation which is below the watertable. As such, a Groundwater Investigation Report has been prepared by Environmental Investigations (refer **Appendix 23**).

This report concludes that the site would be suitable for the proposed residential development subject to the following recommendations:

- *"Provide evidence of the successful removal and validation of UST's present at the former BP service station located at 4 – 6 Constitution Road, and the former Renown & Pearlite industrial site located at 8 – 14 Constitution Road. If no evidence of validation is available, further detailed investigation may be required to confirm the contamination status of the property, and its suitability for residential land use.*

- *Preparation and implementation of a Remediation Action Plan to outline the removal of the Carcinogenic PAH exceedances identified within the northern and western corners of the site and any unexpected finds identified during construction.*
- *Any material being removed from site (including virgin excavated natural materials or VENM) be classified for off-site disposal in accordance the DECCW (2009) Waste Classification Guidelines.*
- *Any material being imported to the site should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM.*
- *Validate that the excavated areas are left free of contamination by comparing analytical results for excavation surfaces and any backfill material, against the respective DECC/EPA thresholds.*
- *Preparation of a final site validation report by a qualified environmental consultant, certifying site suitability for the proposed development."*

7.6.6 Services & Utilities

The site contains adequate facilities which will be retained / reused / upgraded where needed to cater for the proposed residential development. All installations will be capable of meeting the requirements under the Australian Standards and the Building Code of Australia.

7.6.7 Hazards (Other)

Natural Hazards

The subject is not affected by any known hazards. The Geotechnical Investigation prepared by Asset Geotechnical (**Appendix 24**) demonstrates that the conditions of the site are appropriate for the excavation and construction works proposed, and provides recommendations to protect the sub-surface conditions and neighbouring properties.

7.6.8 Conclusion

The Concept Approval (MP09_0216) assessed the suitability of the site for this form of development and concluded that this site is suitable for this form of development.

The subject site is not affected by any policy that restricts development because of the likelihood of land slip, bush fire, tidal inundation, subsidence, acid sulphate soils or any other risk.

An assessment under SEPP 55 has been carried out and is provided at Section 4.2 above. The SEPP 55 assessment provides sufficient environmental protection measures and do not indicate that there are any impediments to the proposed residential development.

The suitability of the site for this form of development is discussed in detail in the SEPP 65 and RFDC Statement prepared by R+M and provided at **Appendix 3**.

7.7 Social & Economic Effects

7.7.1 Social

The market demand for apartment types for a site of this form and type, the property market is currently characterised by buyer groups with a high level of demand for smaller

apartments. This is attributed to market demand for smaller studio, 1 bed and 2 bed apartments to a property market which values properties which deliver strong rental values and low vacancy rates. The proposed development satisfies this demand, which is specifically valuable due to proximity to transport, local employment, restaurants and retail amenity. The proposal provides a positive planning outcome and responds to demand for high quality residential apartments which deliver a desirable price point and rental demand.

The proposal provides tangible public benefits in the form of a publicly accessible foreshore open space bordered by a community space which suits the social needs of the community. Overall the proposal improves the presentation of the site and positively activates the public domain.

7.7.2 Crime & Safety

The proposal is for a mixed use development with a high level of amenity, casual surveillance and ultimately public safety within the building and surrounding area. The proposal will assist in revitalising and activating the premises and will provide appropriate lighting and security measures to protect the safety of neighbouring premises, residents and the local community.

Crime Prevention through Environmental Design (CPTED) is a recognised model which provides that if development is appropriately designed it can reduce the likelihood of crimes being committed. By introducing CPTED measures within the design of the development, it is anticipated that this will assist in minimising the incidence of crime and contribute to perceptions of increased public safety. The proposal has been designed to take into consideration these principles as follows:

Surveillance: This principle provides that crime targets can be reduced by effective surveillance, both natural and technical. In this regard, the development has been designed to directly front each of the road frontages with direct surveillance of the public domain from the non-residential units, pedestrian access points, the public domain areas and the upper level apartments.

The layout of the development also provides lines of sight between public and private spaces which will be maintained during the night by a suitable lighting scheme. The proposed development introduces 24 hour activity within the local footpath and road network and casual surveillance to ensure the safety of residents, staff, customers, neighbouring properties and the public.

Access Control: This principle provides that barriers to attract/restrict the movement of people minimises opportunities for crime and increases the effort required to commit crime. The non-residential premises benefits from designated access points which is clearly visible and overseen by staff members. The public foreshore plaza is publically accessible to the general public and benefits from casual surveillance from the public domain, the community space and residential units.

Territorial Reinforcement: This principle provides that well-used places reduce opportunities for crime and increase risk to criminals. There is a clear delineation between the public street and footpath verge, the non-residential units, public plaza and the private residential areas. The future occupants of the development benefit from direct access to encourage the connection of these spaces and neighbouring retail areas. In this regard the development provides for a commercial space, a public plaza and residential units which will create activity within the site and the wider local centre.

Space Management: This principle provides that space which is appropriately utilised and well cared for reduces the risk of crime and antisocial behaviour. Strategies to implement this principle include, site cleanliness, rapid repair of vandalism and graffiti, the quick replacement of broken light fixtures/globes and the removal or refurbishment of decayed

physical elements. The presentation of the non-residential elements of the development will be managed by Coles Management and/or Centre Management who will be responsible for maintaining its high quality standard. The Owners Corporation/Strata will have a management service able to co-ordinate and respond to such matters as necessary for the residential elements of the development.

The proposed works will assist in improving the presentation of the premise, which will improve the amenity, casual surveillance and ultimately public safety and sense of security within the site and surrounding area.

7.7.3 Economic & Employment

The proposed development will have a positive economic impact by providing a higher standard of architectural and urban design than the existing industrial buildings. The development will also offer additional housing choice, , whilst also creating jobs during the construction phase.

8. Conclusion

This application seeks approval for Shepherds Bay Stage 2 and 3 and comprises two residential flat buildings containing 453 residential units with basement parking for 653 vehicles, foreshore link, foreshore plaza, community space and cafe.

Having regard to the experts reports provided and attached to this SEE and the conclusions of those reports the proposal is generally consistent with the Concept Approval (as modified), the regional strategies and local planning controls for the site. It has few, if any, adverse impacts on the environment or amenity of the locality and therefore on balance is considered to be in the public interest.

The assessment of this application gives balanced consideration to the social benefits of this proposal in the form of redevelopment of the former light industrial area to provide a residential development with a high degree of accessibility and usability with consideration of any environmental impacts arising from its physical form and the resultant public benefit.

In summary the proposal is considered to:

- provide a built form which strengthens the neighbourhood's sense of identity, and visual appearance of the area. This includes maintaining an appropriate scale to the street frontages without adverse overshadowing or amenity impact on surrounding properties;
- provide an increase in housing choice to meet demand for small units within the area;
- provide high quality residential units which provide a high level of amenity and privacy to the future occupants;
- be an appropriate response to the context, setting, planning instruments and preliminary assessment as required under the heads of consideration under Section 79C(1) of the *Environmental Planning and Assessment Act, 1979*;
- redevelopment of this site will assist in achieving the desired regional objectives and especially contribute to the housing targets set by the Draft Subregional Strategy; and
- have no adverse environmental impacts on adjoining properties and is an innovative and appropriate response to the desired future character of the locality statements.

The benefits provided by the proposed development outweigh any potential impacts and is therefore in the public interest. The proposal will deliver a suitable and appropriate development and is worthy of approval.

Appendix 1

DA for Stages 2&3

Consistency with the Shepherds Bay Concept Approval MP09_0216 Mod 1

Condition	Comment
<p>SCHEDULE 2 PART A – ADMINISTRATIVE CONDITIONS</p>	
<p>Development Description</p> <p>A1 Concept approval is granted to the development as described below:</p> <p>Use of the site for a mixed use development including residential, retail, commercial and community uses incorporating:</p> <p>building envelopes for 12 buildings incorporating basement level parking;</p> <p>infrastructure works to support the development including:</p> <p>upgrades to the local road network;</p> <p>stormwater infrastructure works;</p> <p>publically accessible open space and through site links; and</p> <p>pedestrian and cycle pathways.</p>	<p>The proposal seeks consent for a mixed use development mainly comprising residential uses with a cafe proposed at lower ground floor level.</p> <p>The proposal also involves stormwater upgrade works, two publically accessible open spaces and associated pedestrian and cycle pathways.</p> <p>Refer to the attached architectural plans prepared by R+M and supporting documentation for further information which addresses this condition</p>
<p>Mod 1</p> <p>amendment to Building Storeys Plan to allow for additional storeys at ground level in Stages 1 to 3;</p> <p>expand/connect the basement building envelopes between Stage 2 and 3 and Stage 4 and 5;</p> <p>revision to the construction staging;</p> <p>revised timing of the delivery of the open space to be in conjunction with Stage 3 (rather than Stage 1);</p> <p>provision of an additional storey to provide a 6 storey element to the building on the corner of Belmore Street and Constitution Road;</p> <p>flexible application of the solar access requirement of the RFDC;</p>	<p>Noted - The proposal has been designed generally in accordance with the Concept Approval (as modified), including the approved drawings. Refer to the attached architectural plans and supporting documentation as well as this Table for further discussion.</p>

amendment of ESD measures; and

- amendments to terms of approval, future environmental assessment requirements and Statement of Commitments.

Development in Accordance with the Plans and Documentation

The development shall be undertaken generally in accordance with MP09_0216, as modified by MP09_0216 Mod 1, and:

the Environmental Assessment dated 7 January 2011 prepared by Robertson + Marks Architects and PLACE Design Group, except where amended by the Preferred Project Report dated July 2012, including all associated documents and reports;

the s75W Modification Application dated November 2013 prepared by R+M Architects and City Plan Services including all documents and reports, except where amended by the:

Response to Submissions report dated 28 March 2014 prepared by City Plan Services; and

Proponents Comments in Response to Council submission dated 29 April 2014 prepared by City Plan Services.

Drawings Prepared by Robertson + Marks Architects		
Drawing No	Name of Plan	Date
FIGURE 11 REV 2	PREFERRED CONCEPT PLAN	Jul-12
PPR 001-D	MAXIMUM HEIGHT WITH SETBACKS	2/11/2013
PPR 007-E	INDICATIVE STAGING	09/24/13
S 001/B	SLOPES ON SITE	03/25/2014
FIGURE 14 REV 4	STAGE 1 BUILDING ENVELOPE CONTROLS	28/06/2012
FIGURE 15 REV 4	STAGE 2 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 16 REV 4	STAGE 3 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 17 REV 4	STAGE 4 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 18 REV 4	STAGE 5 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 19 REV 4	STAGE 6 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 20 REV 4	STAGE 7 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 21 REV 4	STAGE 8 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 22 REV 4	STAGE 9 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 23 REV 4	STAGE 10 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 29 REV 2	LANDSCAPE PLAN	July 2012
FIGURE 30 REV 2	VEHICULAR ACCESS & PUBLIC TRANSPORT PLAN	July 2012
SK01 REV E	PEDESTRIAN & CYCLEWAY ROUTES	18 June 2013
FIGURE 32A REV 2	INDICATIVE ACCESSIBLE CIRCULATION PLAN	July 2012
FIGURE 33 REV 2	INDICATIVE COMMUNITY, RETAIL & / OR COMMERCIAL USES LOCATION MAP	July 2012
FIGURE 50 REV 1	CONCEPT PLAN LANDSCAPE PLAN	28/07/2014
PPR 003-5	OPEN SPACE AREA PLAN	11/01/13

except for as modified by the following pursuant to Section 75O(4) of the Act.

The proposal has been designed generally in accordance with the approved EA and PPR and the approval as modified, including the approved drawings. Refer to the attached architectural plans and supporting documentation as well as this Table for further discussion on the consistency of the proposal.

It is considered that the DA submission is consistent with the Concept Approval (as modified).

A3 Inconsistencies Between Documentation

In the event of any inconsistency between modifications

Noted.

<p>of the Concept Plan approval identified in this approval and the drawings/documents including Statement of Commitments referred to above, the modifications of the Concept Plan shall prevail.</p>	
<p>A4 Building Envelopes</p> <p>Building footprints and setbacks are to be generally consistent with the Concept Plan building envelope parameter diagrams for each site, except where amended by the Modifications in Part B of this Approval.</p>	<p>The proposal has been design to fit within the approved building envelopes.</p>
<p>A5 Maximum Gross Floor Area (GFA)</p> <p>1. The maximum GFA for commercial, retail or community uses shall not exceed 10,000m².</p> <p>2. The maximum number of dwellings shall not exceed 2,005.</p>	<p>The proposal provides a total GFA for community uses of 1,000 m², which satisfies this condition.</p> <p>The proposal is for 453 dwellings. The cumulative dwelling count, including 246 dwellings approved in the Stage 1 Project Approval MP09_0219, is 699 dwellings.</p> <p>The maximum number of dwellings will be satisfied.</p>
<p>A6 Publicly Accessible Open Space, Drainage Reserves and Through Site Links</p> <p>All public open spaces, drainage reserves and through site links shall be publicly accessible and maintained in private ownership by the future body corporate unless otherwise agreed by the Council.</p>	<p>The foreshore plaza and Stage 2/3 through site link will be dedicated to Council, unless Council does not accept dedication.</p>
<p>A7 Lapsing of Approval</p> <p>Approval of the Concept Plan shall lapse 5 years after the determination date shown on this Instrument of Approval, unless an application is submitted to carry out a project or development for which concept approval has been given.</p>	<p>Noted.</p>
<p>SCHEDULE 2 TERMS OF APPROVAL PART B - MODIFICATIONS</p>	
<p>B1 The Concept Plan shall be amended to:</p> <p>Comply with the modified maximum heights (as per plans in Schedule 5), setbacks etc. under this approval and the project application approval for Stage 1 (MP09_0219). The maximum building height applies to either the number of storeys or RL levels, whichever is the lower.</p>	<p>These items have been satisfies in accordance with the Department of Planning & Infrastructure's correspondence dated 24 June 2013.</p> <p>This condition has been satisfactorily discharged.</p>

<p>provide at least one contiguous open space, of a minimum of 3,000m², to accommodate both active and passive recreational needs. The open space shall include deep soil area and receive a minimum of 2 hours of sunlight to a minimum of 50% of the area on 21 June.</p> <p>Provide a public domain plan which illustrates the proposed public domain treatment including streets and setback areas, landscaping, lighting and public and communal open spaces and which is in accordance with Ryde City Council's Public Domain Technical Manual.</p> <p>increase the width of the proposed through site links/view corridors to a minimum width of 20m.</p> <p>provide an integrated water sensitive urban design (WSUD) strategy for the entire site</p> <p>include a pedestrian and cycle ways plan that demonstrates that the proposed routes are both viable and integrated with Council's plans for the surrounding area.</p>	
<p>B1A Amended Foreshore Link</p> <p>The delivery of the foreshore link shall be split between Stage 1 and Stage 2 in accordance with the Response to Submissions prepared by City Plan Services for MP09_0216 MOD1 dated 29 April 2014.</p>	<p>The foreshore link is to be delivered in accordance with this condition.</p> <p>Refer to the accompanying Landscape Plan prepared by Place Design.</p>
<p>B2 Sustainable Travel Plan</p> <p>Prior to issue of an Occupation Certificate for Stage 1 or prior to the submission of a DA for future stages (whichever occurs first), a Sustainable Travel Plan for the Concept Plan site shall be submitted to and approved by the Council.</p> <p>Options for provision of a Car Sharing Scheme for the site are to be explored and incorporated into the Sustainable Travel Plan as is a Parking Management Strategy.</p>	<p>The Sustainable Travel Plan accompanies this proposal at Appendix 11 and addresses each of these items.</p>
<p>B3 Amended Maximum Number of Storeys Above Ground Level (Finished) Plan</p> <p>The plan entitled Indicative Concept Plan Storeys Plan shall be amended to:</p> <p>(a) Change the title to "Maximum Number of Storeys Above Ground Level (Finished) Plan,' and</p> <p>The amended plan, demonstrating compliance with these modifications shall be submitted to, and approved</p>	<p>Submitted to the Department for approval on 6 November 2014.</p> <p>As per the correspondence from the Department of Planning & Environment, this condition has been satisfactorily discharged.</p>

<p>by, the Secretary within 1 month of the date of this approval.</p>	
<p>SCHEDULE 3 FUTURE ENVIRONMENTAL ASSESSMENT REQUIREMENTS</p>	
<p>1 Design Excellence</p> <p>Future DA/s for Stage A (the signature building fronting Church Street) shall demonstrate design excellence in accordance with the Director General’s Design Excellence Guidelines.</p>	<p>This condition will be satisfied in relation to the future DA/s for Stage A.</p>
<p>1A Dwelling Cap</p> <p>Future Development Applications shall provide for a total number of dwellings up to a maximum of 2,005 across the Concept Plan site (including Stage 1).</p> <p>Future Development Applications shall include a projected dwelling forecast for each remaining stage demonstrating that the total dwelling numbers will adhere to the dwelling cap.</p>	<p>The proposal is for 453 dwellings. The cumulative dwelling count, including 246 dwellings approved in the Stage 1 Project Approval MP09_0219, is 699 dwellings.</p> <p>The future DAs for Stages 4-9 and Stage A will not exceed 1,296, and therefore the maximum number of dwellings will be satisfied.</p>
<p>2 Design Excellence</p> <p>Future DAs shall demonstrate that the development achieves a high standard of architectural design incorporating a high level of modulation / articulation of the building and a range of high quality materials and finishes.</p>	<p>The pre-lodgement notes provided by the UDRP have been integrated into the design of this development where appropriate, and where generally consistent with the Concept Plan. Detailed consideration of these items is provided in the SEE and Design Report (Appendix 3).</p> <p>The attached Architectural Plans demonstrate the proposed buildings are generally in keeping with the Concept Approval, exhibit a high standard of architectural merit, including appropriate detail and modulation / articulation which will enhance the living environment of the future residents and the transitioning character of the locality. A mix of high quality materials and finishes are proposed.</p> <p>It is considered that the proposal exhibits design excellence.</p> <p>Refer to the Architects Design Statement provided as part of the SEPP 65 Assessment at Appendix 3 for further information.</p>

BUILT FORM	
<p>3 Notwithstanding the approved maximum building heights in RL, future DAs shall demonstrate that:</p> <p>buildings along Constitution Road are a maximum of 5 storeys, with the exception of the element of Stage 4 located on the corner of Constitution Road and Belmore Street (as shown on PPR 002-B), which is permitted to a maximum of 6 storeys; and</p> <p>the southern building element of Stage 8 is a maximum of 5 storeys.</p>	<p>Not relevant to this proposal.</p>
<p>3A Maximum Storeys on Steeply Sloping Topography</p> <p>Future Development Applications shall satisfy the 'Maximum Number of Storeys Above Ground Level (Finished) Plan'.</p> <p>An exception to the maximum storey height may be given to buildings within Stages 2 and 3 on steeply sloping topography (being at the locations indicated on drawing S 001/B not including the area shown within Stage 4) where it can be demonstrated that:</p> <p>the overall building height satisfies the maximum permitted RL;</p> <p>no more than 1 additional storey is provided;</p> <p>an acceptable level of amenity can be achieved for any additional apartment(s) provided in accordance with the requirements of Future Environmental Assessment Requirement 21; and</p> <p>the additional storey is required to appropriately activate the ground level.</p>	<p>As detailed at Section 5.2 of the SEE, the proposal seeks a minor variation to the approved number of storeys as detailed on the approved Building Envelope Control Diagram Figure 16 and Figure 19.</p> <p>However, this is in accordance with Condition 3A of the Modification which allows additional storeys on steeply sloping topography within Stages 2 and 3.</p> <p>It is considered that the DA submission is consistent with this element of the Concept Approval (as modified).</p>
<p>4 Future Development Applications shall ensure that basement parking levels do not encroach into street setback areas and do not exceed 1 metre above ground level (finished) and are located below the building footprint (with the exception of basements connecting Stages 2 and 3 and Stages 4 and 5) without encroachment into street setback areas.</p>	<p>As the submitted plans detail, this condition has been satisfied as part of this DA submission.</p>
<p>5 Future DAs shall demonstrate an appropriate interface with surrounding streets and public domain areas at pedestrian level, and an appropriate design treatment to provide an adequate level of privacy to ground level apartments</p>	<p>Access from the street/public domain will be provided for all apartments with direct access from the street which addresses this condition.</p>

<p>6 Future DA/s for Stage 3 shall provide the following minimum setbacks to the south-western boundary (common boundary with 12 Rothesay Avenue):</p> <p>6 metres up to 4 storeys; and</p> <p>9 metres above 4 storeys.</p>	<p>The proposal satisfies this condition, refer to the submitted Architectural Plans.</p>
<p>7 Future DA/s for Stage A shall provide the following minimum setbacks to Parsonage and Wells Streets:</p> <p>Podium – 4 metres</p> <p>Tower – 5 metres</p>	<p>Not relevant to this proposal.</p>
<p>8 Future DA/s for Stage 3 shall provide a minimum one metre setback to the existing Council owned pedestrian access way along the north-western boundary.</p>	<p>The proposal satisfies this condition, refer to the submitted Architectural Plans.</p>
<p>9 Future DA/s for Stage 9 shall provide a minimum 4 metre building setback to the single storey building fronting Bowden Street. Eaves, pergolas, outdoor seating areas or other unenclosed structures are permitted to encroach into the setback providing that the design does not result in unacceptable impacts to the streetscape or view lines.</p>	<p>Not relevant to this proposal.</p>
<p>10 Future DAs shall provide for utility infrastructure, including substations, within the building footprint, wherever possible. If this is not possible, infrastructure shall be located outside of the public domain and appropriately screened.</p>	<p>We are advised that Riz Engineering and DEP Consulting are currently investigating the utility requirements for the subject site.</p> <p>However, and notwithstanding this, any substations proposed will be appropriately screened.</p>
<p>11 Landscaping</p> <p>Future DAs shall include detailed landscape plans for public and private open space areas, street setbacks areas and for the landscape treatment of all adjoining public domain areas and road reserves in accordance with the approved Public Domain Plan.</p>	<p>Detailed Landscape Plans have been prepared by Place (Appendix 7) and reflect the requirements of the approved Public Domain Plan and address this condition</p>
<p>12 Public Domain</p> <p>Future DAs shall provide the detailed design for the upgrade of all road reserves adjacent to the development to the centre line of the carriageway, including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on</p>	<p>The detailed design of the public domain is provided in the landscape plans prepared by Place Design at Appendix 7. Which addresses this condition.</p>

<p>Constitution Road and Nancarrow Avenue, and any other necessary infrastructure in accordance with the approved Public Domain Plan. Where the detailed design necessitates an increase in the width of the road reserve, building setbacks are to be increased to retain the approved setback to the road reserve alignment. The road reserve works are to be completed by the proponent prior to occupation of each stage.</p>	
<p>13 Cycle Facilities</p> <p>Future DAs shall provide bicycle parking at the minimum rate of 1 space per 10 car parking spaces.</p>	<p>61 bicycle spaces are provided at basement level. As detailed in the Internal Traffic Assessment, this satisfies the rate of 1 per 10 parking space.</p>
<p>14 Cycle Facilities</p> <p>Future DAs shall demonstrate appropriate 'end of trip facilities' for cyclists within all non-residential developments in accordance with Council's requirements.</p>	<p>The non-residential components, being the cafe and the community facility, are capable of being with appropriate end of trip facilities such as change rooms and showers in accordance with Council's requirements.</p>
<p>15 Open Space/Public Access</p> <p>Future DAs shall include detailed landscape plans for the embellishment of publicly accessible open space areas. These areas shall include high quality landscaping and paved areas and a variety of recreation facilities which may include BBQs, seating, water features, grassed areas, paths, shade trees, bicycle racks and exercise equipment/games.</p>	<p>Detailed Landscape Plans have been prepared by Place (Appendix 7) and reflects these requirements.</p>
<p>15A Open Space Provision</p> <p>The contiguous open space required in Modification B1(b) shall be completed, delivered and handed over to Council prior to the issue of the first Occupation Certificate for Stage 3. The land is to be dedicated, at no cost, to Council. Arrangements for the dedication shall be finalised before the issue of the Occupation Certificate for Stage 3. If Council does not accept the dedication, the land shall remain provide access to the public and be in private ownership by the relevant body corporate and appropriately maintained.</p>	<p>Noted.</p>
<p>15B Foreshore Link Easement for Public Access</p> <p>Prior to the issue of an Occupation Certificate for Stage 2 an easement shall be registered over the foreshore link, which is located between Stage 1 and Stage 2 (in favour of Council) providing for public access. The terms of the easement are to be approved by Council.</p>	<p>Noted.</p>

<p>16 Open Space/Public Access</p> <p>Future DAs shall include detailed landscape plans which demonstrate accessible paths of travel for all persons for at least two of the north-south routes between Constitution Road and the Foreshore with one of the routes including the Lower Riparian linear park and a second path either along the Central Spine or the public pathway associated with Stage 1. Landscape plans will also include the detailed design of at least 1 north-south cycle path linking Constitution Road through the site to the existing foreshore cycleway.</p>	<p>Detailed Landscape Plans have been prepared by Place (Appendix 7) and reflects these requirements.</p>
<p>17 Open Space/Public Access</p> <p>Future DAs shall clearly set an appropriate legal mechanism for creating rights of public access to all publicly accessible areas of open space, drainage reserves and through site links, with the relevant instrument/s to be executed prior to the issue of the occupation certificate.</p>	<p>It is envisaged that the public rights of access will be created through dedicated easements across the open space, drainage reserves and through site links.</p> <p>In accordance with the requirements of this condition, details of the easements will be provided and executed prior to the issue of the Occupation Certificate.</p>
<p>18 Community Facilities</p> <p>Any future DA/s for the 1,000th dwelling shall include, at no cost to Council, the delivery of an appropriate community space within the development, which can be used by Council or members of the community for community purposes and related uses.</p> <p>The community floorspace must be a minimum of 1,000m² in area and be primarily located on ground level. The configuration of floorspace should be designed in consultation with Council or Council nominated community organisation(s).</p> <p>The primary use of the designated community floor space must be for community uses. A range of other activities, such as private functions, community markets and garage sales, may be undertaken within the community facility provided that they are subsidiary to the core community function.</p> <p>The designated community floor space must not be used for any other commercial, retail or residential use unless Council decides not to accept the designed floorspace.</p> <p>The provision of community floorspace is in addition to Council's Section 94 Contributions for future development.</p> <p>The facility to be delivered is to be located around the</p>	<p>The architectural plans submitted with the DA detail a two storey community space to be located at upper ground and upper basement level.</p> <p>The details of this space are the subject of separate discussions with Council. However, the size of the space will be as per the submitted plans and address this condition.</p>

<p>contiguous central public open space in either Stage 2 or 3.</p>	
<p>19 Public Art</p> <p>Future DAs shall provide the detailed design of public art in locations throughout open space areas generally in accordance with the Public Art Strategy submitted with the PPR.</p>	<p>A Public Art Plan, prepared by Black Beetle, has been prepared in support of the DA.</p> <p>Refer to Appendix 8 for further information.</p>
<p>20 Public Art</p> <p>Future DA/s for Stage 2 shall include a Arts and Cultural Plan developed by a professional public artist including consideration of:</p> <p>materials to be used, with particular attention to durability;</p> <p>location and dimension of artwork;</p> <p>public art themes to respond to site history and or social, cultural or natural elements;</p> <p>integration into the site and surrounds;</p> <p>budget and funding; and</p> <p>Council's Public Art Guide for Developers.</p>	<p>A Public Art Plan, prepared by Black Beetle, has been prepared in support of the DA and address this condition</p> <p>Refer to Appendix 8 for further information.</p>
<p>21 SEPP 65 and RFDC</p> <p>Future DAs shall demonstrate compliance with the provisions of the State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) and the accompanying Residential Flat Design Code 2002 (RFDC), except where modified below:</p> <p>In particular, future application/s shall demonstrate that:</p> <p>a minimum of 60% of apartments within each stage are capable of being cross ventilated; and</p> <p>a minimum of 70% of apartments within each stage receive a minimum of 2 hours solar access to living areas and balconies mid winter; and</p> <p>where less than 70% of apartments achieve 2 hours of solar access in mid winter, these apartments (beyond the first 30%) shall be designed to provide improved amenity by:</p>	<p>An assessment of the proposal against both SEPP 65 and the RFDC has been undertaken by R+M as part of their Design Report.</p> <p>Refer to Appendix 3 for further information.</p> <p>In addition, a Solar Access Report has been prepared by Windtech (refer Appendix 4). This concludes that less than 70% of apartments within Stages 2 and 3 receive a minimum of 70% solar access during midwinter.</p> <p>In accordance with the requirements of Condition 21, and in conjunction with the Natural Ventilation Preliminary Assessment also prepared by Windtech, R+M has provided a set of 'Amenity Plans' as part of their architectural plan set. These plans (ref</p>

<p>including extensive glazing (minimum 70% of the external façade) to living rooms;</p> <p>permitting cross-ventilation specifically to those apartments; and</p> <p>exceeding RFDC guidelines by at least 20% in both of the following areas:</p> <p>increased floor to ceiling height; and</p> <p>increased minimum apartment areas, being greater than 50sqm for 1 bedroom, 70sqm for 2 bedroom and 95sqm for 3 bedroom apartments.</p> <p>a minimum of 25% of open space area of the site is deep soil zone.</p> <p>the proposed landscape areas provide sufficient deep soil in accordance with the RFDC.</p>	<p>DA-23-801 - 8/A) detail those units that benefit from the increased amenity levels.</p> <p>With reference to these submitted plans and documentation, we are advised that the requirements of Condition 21 have been satisfied within the submitted DA.</p>
<p>22 ESD</p> <p>Future Development Applications shall demonstrate the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010. Where no base target is provided within this report, the development should strive to achieve the stretch target (where relevant and feasible).</p> <p>In accordance with the EnviroDevelopment philosophy, four of the categories will be targeted to show 'industry best practice'. Where the categories of water and energy are applied, BASIX will be used to test 'industry best practice' for water and energy, which will be treated as 10% better than the BASIX pass mark.</p>	<p>An ESD letter has been submitted in support of the DA. Prepared by Integreco, this letter is in response to Condition 22 (refer Appendix 18)</p> <p>This advice states that the proposed project will commit to achieve include:</p> <p><i>"1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.</i></p> <p><i>2. Water scores (measured by BASIX) which exceed the targets by just under 10%.</i></p> <p><i>3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.</i></p> <p><i>4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report ("101117 Shepherds Bay Meadowbank - ESD Report"). "</i></p> <p>Refer to the ESD Report at Appendix 18 for further information.</p>

<p>23 Car Parking</p> <p>Future DAs shall provide on-site car parking in accordance with Council’s relevant Development Control Plan, up to a maximum of 2,976 spaces across the Concept Plan site.</p> <p>Future Development Applications shall provide:</p> <p>a car parking rate which relates to the site-wide car parking provision and demonstrates that car parking may be provided for future stages within the total car parking figure of 2,976; and</p> <p>a projected car parking forecast for each remaining stage demonstrating that the total car parking provision can be adhered to.</p> <p>Provision shall also be made for adequate loading and unloading facilities for service vehicles, suitably sized and design for the proposed use.</p>	<p>In support of the application, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates. Section 4 of this Report provides an assessment of the proposed car parking.</p> <p>As detailed within this Report, the subject development is required to provide between 345 and 514 resident parking spaces and 91 visitor parking spaces.</p> <p>With reference to the submitted plans, the proposal will provide 605 spaces in total, split between 514 resident and 91 visitor parking spaces. The Report therefore concludes that the proposed parking is suitably compliant with Council’s DCP.</p> <p>Refer to the Internal Traffic Assessment at Appendix 10 for further information.</p>
<p>24 Nancarrow Road Extension and Road Reserve Upgrades</p> <p>Future DA/s for Stage 4 shall include the following infrastructure works:</p> <p>a) Nancarrow Avenue extension;</p> <p>b) Nancarrow Avenue Local Area Traffic Management (LATM) measures and all road reserve upgrades including associated pedestrian footpaths and cycleways;</p> <p>c) implementation of left-in/left-out arrangement at Belmore Street/Hamilton Crescent intersection.</p> <p>The detailed design is to be prepared by a suitably qualified engineer in accordance with Council’s requirements and to be approved by Council before the issue of the first Occupation Certificate for Stage 1. All works are to be completed by the proponent prior to the issue of the occupation certificate for Stage 4.</p>	<p>Although this is not relevant to this proposal, a detailed design for the Nancarrow Road extension was submitted to Council in November 2014.</p>
<p>24A Road and Pedestrian Infrastructure Upgrades</p> <p>Future Development Application/s for Stage 2 shall include the following Infrastructure works:</p> <p>a) installation of a temporary east/west pedestrian link, which connects the stairway at the northern end of the</p>	<p>As detailed on the Site Plan prepared by R+M, the location of the east/west pedestrian link has been clearly identified.</p> <p>We are advised that the detailed design of this link relies on agreement in</p>

<p>foreshore link between Stages 1 and 2 to Nancarrow Avenue along the northern boundary of Stage 2. The pedestrian link shall provide access to the public on a 24 hour basis and maintained until the provision of the Nancarrow Avenue extension.</p> <p>b) Underdale Lane Local Area Traffic Management (LATM) measures;</p> <p>c) installation of a pedestrian crossing facility at Bowden Street / Nancarrow Avenue; and</p> <p>d) installation of roundabout at Belmore Street / Rothesay Avenue.</p> <p>The detailed design is to be prepared by a suitably qualified engineer in accordance with Council's requirements and to be submitted to Council's for approval before the lodgement of any future development application for Stage 2. All works must be completed by the proponent prior to the issue of the occupation certificate for Stage 2.</p>	<p>relation to the Nancarrow Road extension as required under Condition 24 (refer above).</p> <p>Once agreement with Council has been reached in relation to the Nancarrow Road extension, the detailed design of the link will be submitted to Council.</p> <p>In terms of the associated traffic measures as set out in b), c), and d), we understand that b) and d) were included on the plans as submitted to Council in support of Condition 24 (and have been included within this DA submission), and c) forms part of the current DA submission.</p> <p>Further details of a) will follow Council's feedback on Condition 24 matters above. Holdmark have instructed CPSD to submit the DA notwithstanding this condition due to commercial imperatives and specifically not being able to wait for Council's response to these issues. We are instructed that conceptual designs have been provided to Council in November 2014 and details will follow council's formal response.</p> <p>These issues are further discussed in the Infrastructure Assessment Report provided at Appendix 12.</p>
<p>25 Yerong Street / Belmore Street Intersection Upgrade</p> <p>Future DA/s for the stage of development containing the 800th dwelling shall provide the detailed design for the implementation of left-in/left-out arrangement at Belmore Street/Yerong Street intersection. The works are to be completed prior to issue of the first occupation certificate of any building of this stage.</p>	<p>N/A The proposal is for 453 dwellings. The cumulative dwelling count, including 246 dwellings approved in the Stage 1 Project Approval MP09_0219, is 699 dwellings.</p> <p>This condition is therefore not triggered by the DA.</p>
<p>26 Roads and Maritime Services Requirements</p> <p>Future DA/s for each stage of development following the first two stages shall include a traffic study which includes figures on the current number of vehicles and pedestrians at the Railway Road pedestrian crossing at Meadowbank Station and at the Constitution Road / Bowden Street intersection. The traffic study is to be carried out to the RMS's and Council's satisfaction and shall model the impact of the anticipated increase in vehicle and pedestrian traffic for that stage. Where the</p>	<p>Refer to the Infrastructure Assessment Report at Appendix 12.</p>

<p>study reveals that RMS warrants would be met for the provision of signalisation at either of these locations, concept design of the upgrade of the intersection to Council's and RMS's satisfaction is to be included with the DA and the works are to be completed by the proponent prior to the issue of first occupation certificate of any building of that stage.</p>	
<p>27 Roads and Maritime Services Requirements</p> <p>Future application/s for Stage A shall demonstrate that the RMS requirements have been met in relation to access to RMS infrastructure on the adjoining land, including retention of existing access, parking and turning area for maintenance vehicles.</p>	<p>Not relevant to this proposal.</p>
<p>28 Site Specific Sustainable Travel Plan</p> <p>Future DAs for each stage shall include a site specific sustainable travel plan incorporating a workplace travel plan and/or travel access guide. The travel plan will be in accordance with the Concept Plan Sustainable Travel Plan required by Modification B2.</p>	<p>A Travel Plan for a Sustainable Future has been prepared in support of the DA by Road Delay Solutions and addresses this condition</p> <p>Refer to Appendix 11 for further information.</p>
<p>29 Heritage</p> <p>Future DA/s for Stage 6 involving the demolition of the existing heritage item at 37 Nancarrow Avenue shall include:</p> <p>a detailed heritage assessment of the site which includes a professionally written history of the site;</p> <p>a full photographic record; and</p> <p>(c) an interpretation strategy to display the heritage values of the existing building on the newly developed site.</p>	<p>Not relevant to this proposal.</p>
<p>30 Heritage</p> <p>Future DA/s for Stage A shall include a Statement of Heritage Impact providing an assessment of the impact of the development on the adjoining heritage listed Church Street Bridge. Applications are to demonstrate that the design of the building takes into account relevant recommendations of the heritage assessment.</p>	<p>Not relevant to this proposal.</p>
<p>31 Section 94 Contributions</p> <p>Future DAs shall be required to pay developer contributions to the Council towards the provision or improvement of public amenities and services. The</p>	<p>Noted.</p>

<p>amount of the contribution shall be determined by Council in accordance with the requirements of the Contributions Plan current at the time of approval.</p>	
<p>32 Noise and Vibration</p> <p>Future DA/s for Stage A shall provide an acoustic assessment which demonstrates that the internal residential amenity of the proposed apartments is not unduly affected by the noise and vibration impacts from Church Street, to comply with the requirements of Clause 102 of State Environmental Planning Policy (Infrastructure) 2007 and the Department of Planning's 'Development Near Rail Corridors and Busy Roads – Interim Guidelines'.</p>	<p>Not relevant to this proposal.</p>
<p>33 Adaptable Housing</p> <p>Future DAs shall provide a minimum of 10% of apartments as adaptable housing in accordance with Australian Standard 4229-1995.</p>	<p>The Access Report accompanying this DA confirms that the required number of adaptable apartments has been provided in the proposed development.</p>
<p>34 Stormwater Infrastructure Upgrades</p> <p>Future DAs for Stage 6, 7, 8 or 9 (whichever occurs first) shall provide the detailed design of the following infrastructure works:</p> <p>the piped drainage system and overland flow path from Ann Thorn Park to Parramatta River; and</p> <p>works to eliminate the risk of embankment failure of Constitution Road.</p> <p>The works will be required to be completed by the proponent prior to construction commencing for any residential buildings within these stages.</p>	<p>Not relevant to this proposal.</p>
<p>35 Flooding and Stormwater</p> <p>Future DAs for each stage of the development shall include flood assessments to determine the minimum floor levels, any required mitigation measures and evacuation strategy required.</p>	<p>A Flood Assessment has been prepared in support of the application by BG&E (refer Appendix 25). This Report assesses the siting and levels of the driveways, concluding that:</p> <p><i>" Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."</i></p>
<p>36 Flooding and Stormwater</p> <p>Future DAs for each stage of the development shall include a Stormwater Management Plan in accordance</p>	<p>The subject application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's</p>

with Council's requirements.	stormwater management requirements and addresses this condition
<p>37 Sydney Water Requirements</p> <p>Future DAs shall address Sydney Water's requirements in relation to:</p> <p>required amplification works to existing drinking water mains;</p> <p>required amplification works to the wastewater system;</p> <p>approval for discharge of trade wastewater (where necessary); and</p> <p>application for Section 73 certificates as necessary.</p>	<p>Greg Houston Plumbing has prepared a letter in response to this Condition. This letter can be found at Appendix 9.</p>
<p>38 Contamination, Acid Sulphate Soils and Salinity</p> <p>Future DAs shall include a detailed contamination assessment (involving sampling and testing of soil) including an assessment of the presence of acid sulphate soils and salinity.</p>	<p>Addressed in the accompanying RAP (Appendix 22).</p>
<p>39 Contamination, Acid Sulphate Soils and Salinity</p> <p>A groundwater assessment (involving sampling and testing of groundwater) shall be undertaken across the entire Concept Plan prior to the first DA being lodged for Stage 2 or any other stage of the development.</p>	<p>Addressed in the accompanying RAP (Appendix 22).</p>
<p>40 Contamination, Acid Sulphate Soils and Salinity</p> <p>Future DAs where necessary shall include a targeted groundwater assessment for the specific stage (based on the recommendations of the groundwater assessment undertaken for the entire Concept Plan).</p>	<p>Addressed in the accompanying RAP (Appendix 22).</p>

Consistency with the Shepherds Bay Concept Approval MP09_0216 Mod 1

Statement of Commitments dated March 2014

Commitment	Comment
<p>1 Staging of Development and Occupation</p> <p>The development is to be constructed in ten indicative stages as illustrated in Appendix 1 of MP09_0216 Mod 1.</p> <p>An updated Development Staging Plan will be submitted with each subsequent Project Application.</p>	<p>The staging plan as approved is still relevant.</p>
<p>2 Approval Conditions</p> <p>The proponent will ensure that all relevant parties engaged to carry out work are aware of and will comply with relevant conditions of consent issued under Concept Approval MP09_0216 (as amended).</p>	<p>Noted.</p>
<p>3 Accessibility</p> <p>The proponent commits to providing access to and within buildings within the Concept Plan site in accordance with the Building Code of Australia. Where topography permits, publicly accessible open spaces within the Concept Plan are to be designed to provide appropriate access to people of all mobility levels.</p>	<p>Accompanying the application is a BCA Report prepared by Vic Lilli, an Adaptable housing Report and an Access Review report prepared by Accessibility Solutions at Appendices 13, 14 and 15.</p> <p>All reports set out various detailed design recommendations to ensure the building meets applicable access codes and legislation.</p> <p>it is considered that these recommendations are of a minor nature, and it would be reasonable for those outcomes to be ensured by means of suitable conditions within any Notice of Determination requiring compliance to be demonstrated with any Construction Certificate.</p>
<p>4 Landscaping</p> <p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site detailed documentation and specifications will to be prepared for all landscape works and public space improvements.</p> <p>The landscaping is to be designed so that the view corridors identified on the Concept Plan are</p>	<p>A detailed Landscape and Public Domain Plan has been prepared by Place Design.</p> <p>Refer to Appendix 7 for further information.</p>

maintained.	
<p>5 Community Benefits</p> <p>The proponent will enter into discussions with the City of Ryde Council to establish a Voluntary Planning Agreement.</p>	<p>Council has indicated through its letter to the proponent dated 2/12/13 that it did not wish to enter into a VPA (refer Appendix 27).</p>
<p>6 Housing Choice</p> <p>A mix of apartment sizes will be provided including one bedroom units. The increased housing supply in the area and proposed apartment mix will increase housing choice and ease affordable housing issues in the area. The opportunity for locals to “downsize” together with the additional availability will promote affordability.</p>	<p>Satisfied.</p>
<p>7 Adaptable Housing</p> <p>The proponent commits to approximately 10% of apartments within the Concept Plan site being designed to be accessible. Pathways from development to communal areas and car parking will also to be designed to be accessible.</p>	<p>The accessibility report accompanying this DA demonstrates compliance.</p>
<p>8 Road verges and footpaths</p> <p>The proponent commits to providing and/or upgrading road verges and footpaths prior to the issue of the relevant occupation certificate for each Stage.</p>	<p>Satisfied.</p>
<p>PUBLICLY ACCESSIBLE OPEN SPACES</p>	
<p>9 The proponent commits to providing a total of 18,304 square metres of publicly accessible public domain with the Concept Plan site that will be owned and maintained by the various Owners’ Corporations. These areas will include four new publicly accessible open spaces, landscaped pedestrian connections and landscaped overland flow paths which will be owned and maintained by the relevant Owners Corporations. These will include:</p>	<p>Satisfied.</p>
<p>1. New Foreshore Link publicly accessible open space (Development Stage 2)</p> <p>2. New Upper Level Public Square (Development Stage 2, 3 & 5)</p> <p>3. New Central Spine (Development Stage 3)</p>	<p>Points 1, 2, 3 and 4 only are relevant to this DA and are detailed on the Landscape & Public Domain Plans prepared by Place Design (Appendix 7).</p>

<p>4. New Central Foreshore Plaza (Development Stage 3)</p> <p>5. New upper eastern pedestrian link (Development Stages 4 & 5)</p> <p>6. New Pedestrian Spine 2 publicly accessible open space (Development Stage 6)</p> <p>7. New Upper Riparian Foreshore Link publicly accessible open space (Development Stages 6 & 7)</p> <p>8. New Lower Riparian Foreshore Link publicly accessible open space (Development Stages 8 & 9)</p> <p>9. New Pedestrian Spine 1 South publicly accessible open space (Development Stage 8)</p> <p>10. Gateway Building Central Plaza and pedestrian link (Development Stage A)</p>	
<p>10 The following are to accompany all project or development applications within the concept plan site:</p> <p>A detailed landscape plan demonstrating the proposed landscape scheme is consistent with the landscape concept report prepared by PLACE Design Group.</p>	<p>A detailed landscape package has been prepared by Place Design and has been submitted in support of the DA (refer Appendix 7).</p> <p>It is considered that the landscaping proposed within is consistent with the landscape concept plans as approved by the Concept Plan.</p>
<p>11 ROAD WORKS</p>	
<p>1. Pedestrian signals replacing zebra crossing on Railway Road at Meadowbank railway station</p> <p>2. Signalling at Bowden Street and Constitution Road</p> <p>3. Roundabout at Rothesay Avenue/Belmore Street</p> <p>4. Yerong Street and Belmore Street left in/out</p> <p>5. Hamilton "Lane" and Nancarrow "Lane" LATM and two-way construction between Belmore and Bowden</p> <p>6. Underdale Lane LATM scheme</p> <p>7. Hamilton Lane/Belmore Street left in/out</p> <p>8. Introduction of a pedestrian facility on Bowden Street at Underdale Lane</p> <p>9. Lowering of Constitution Road</p>	<p>An Infrastructure Requirements Report has been prepared by Road Delay Solutions and is submitted with the DA.</p> <p>Page 9 of this Report sets out the various upgrading work that is required as part of this application.</p> <p>Refer to Appendix 10 for further information.</p>

<p>10. Re-grading works associated with the construction of the new Nancarrow Avenue Link Road</p>	
<p>12 Land to be Dedicated</p> <p>Land comprising the two-way road link to be constructed between Belmore and Bowden Streets, being the connection of Nancarrow Avenue to Hamilton Crescent to be dedicated to Council. This requires the dedication by the proponent an area of land of approximately 325m² to the council.</p>	<p>As detailed in the submitted plans, sufficient space has been allowed for this dedication.</p>
<p>13 Tree Management</p> <p>Tree protection measures will be implemented for trees to be retained as recommended in the Arborist Report at Annexure 23 to the submitted EA.</p>	<p>As part of the modified Concept Approval, a Concept Landscape Plan prepared by Place Design was approved.</p> <p>This approved plan proposed the removal of all trees from the site.</p>
<p>14 Crime Prevention Through Environmental Design</p> <p>The design of the public domain, landscaping and building design facilitates the achievement of CPTED principles. Prior to commencement of construction of any subsequent Project Applications CPTED Assessments will be provided.</p> <p>Planting near footpaths will need to be maintained on a regular basis to avoid concealment opportunities for criminals who may hide in dense shrubbery.</p>	<p>Refer to discussions in Section 7.7.2 of the SEE.</p>
<p>15 Environmentally Sustainable Development</p> <p>All Residential development within the Concept Plan site will meet the following Sustainability targets:</p> <p>The BASIX water consumption benchmark</p> <p>The BASIX energy consumption benchmark</p> <p>In addition, the proponent commits to further investigate the opportunity for including the following ESD principles:</p> <p>Design internal apartment layouts to maximise natural ventilation and to capture prevailing winds;</p> <p>Utilise roof forms to capture natural light and ventilation;</p> <p>Use of high thermal mass materials within apartments;</p>	<p>A BASIX Assessment has been prepared by Integreco Consulting.</p> <p>In addition, an ESD letter has been submitted in support of the DA. This letter is in response to Condition 22 of the Concept Modification (refer Appendix 17 and 18).</p> <p>This advice states that the proposed project will commit to achieve include:</p> <p><i>"1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.</i></p> <p><i>2. Water scores (measured by BASIX) which exceed the targets by just under 10%.</i></p> <p><i>3. Innovation – achieved by using the</i></p>

<p>Ensure natural light and ventilation is provided to common areas to minimise energy consumption;</p> <p>Divide the layout of the apartments into zones to reduce heat and cooling energy consumption;</p> <p>Utilise low water flow fixtures and tap ware;</p> <p>Harvesting of stormwater where feasible; and</p> <p>Recycling of water where feasible.</p>	<p><i>first ever Australian incorporation of the CT2000 car charging technology, in a residential context.</i></p> <p><i>4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report (“101117 Shepherds Bay Meadowbank - ESD Report”). "</i></p> <p>Refer to the ESD Report at Appendix 18 for further information.</p>
<p>16 Stormwater Management</p> <p>The Proponent is committed to providing the necessary stormwater upgrades, the details of which will be included in the final VPA when negotiated with Council.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site the Proponent commits to preparation of an Integrated Stormwater Management Plan for the relevant development stage.</p>	<p>Stormwater plans have been prepared by Harris Page, and are submitted with the DA.</p> <p>Note there is no VPA for this development.</p>
<p>17 Noise</p> <p>All Project or Development Applications within the Concept Plan site for all development Stages are to comply with the relevant acoustic standards and controls contained in the BCA.</p>	<p>An Acoustic Report has been prepared by DK Acoustics in support of the DA and addressing this condition.</p> <p>Refer to Appendix 19 for further information.</p>
<p>18 Site Contamination</p> <p>All Project or Development Applications within the Concept Plan site for all development stages will be required to comply with the requirements of SEPP 55 Remediation of Land.</p>	<p>As detailed at Section 4.2 of the SEE, the Concept Application was supported by a Preliminary Screening Contamination Assessment and a Preliminary Geotechnical and Groundwater to assess the likelihood and/or extent of potential soil and groundwater contamination, which may have resulted from past and present uses on or adjacent to the site.</p> <p>These reports did not raise significant concern with regard to the proposed works and residential use on this site.</p> <p>Further detailed assessment of the soil and groundwater conditions of the site was then undertaken by Environmental Investigations with the results provided in the Contaminated Land Report (RAP)</p>

	<p>provided at Appendix 22.</p> <p>In summary, subject to the removal of localised contaminated soils, (which would largely be removed in place of excavated basements), and other recommendations made by Environmental Investigations, the site is considered to be suited to the proposed development and thereby satisfies the provisions of SEPP 55.</p>
<p>19 Construction Management</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Construction Management Plan will be prepared by the proponent for each development stage and will be submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.</p> <p>All construction materials, vehicles, waste and the like will be stored within the site.</p> <p>All demolition and all construction and associated work will be restricted to between the hours of 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No work is to be carried out on Sunday or public holidays.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Traffic Management Plan (TMP) for the relevant development stage, which addresses construction access and egress to the site, including vehicle routes and parking for workers, staging and timing of construction of internal road network and other relevant issues, will be prepared and submitted to the satisfaction of Principal Certifying Authority. The TMP will be prepared in accordance with the RTA's guidance on TMP's.</p>	<p>In accordance with this condition a conceptual Construction Management Plan has been prepared in support of the application by Upright Builders (refer Appendix 21).</p> <p>This sets out the broad details of the construction methodology, construction traffic arrangements and construction waste management measures which will form the framework of the detailed CMP to be submitted to the PCA prior to any work commencing on the site, and in accordance with this Condition.</p> <p>Refer to Appendix 21 for further information.</p>
<p>20 Utilities</p> <p>A Section 73 Certificate from Sydney Water will be obtained as required.</p> <p>All existing aerial services (including low voltage Energy Australia electricity and subscriber television services) along the frontage of the Concept Plan Site are to be relocated underground prior to the</p>	<p>Greg Houston Plumbing (GHP) has been appointed by Holdmark as Water Services Coordinator.</p> <p>As such, Appendix 9 provides a letter from GHP confirming that they will be lodging applications to Sydney Water for all Section 73 Certificate releases.</p> <p>It is considered that the DA submission satisfies this element of the Concept</p>

<p>occupation of the development stages. The cost of this work is to be borne by the developer.</p>	<p>Approval (as modified).</p> <p>R+M has confirmed that all existing aerial services along the frontage of the Concept Plan site will be relocated underground.</p>
<p>21 Arborist Report</p> <p>All subsequent development stages will be required to comply with the requirements of the Arborist Report (Annexure 23 to the submitted Environmental Assessment).</p>	<p>The Concept Plan Modification approved the removal of all trees from the site (refer to the approved landscape plan prepared by Place Design).</p>
<p>22 Environmental Management Plan</p> <p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site, a development Stage-specific Environmental Management Plan (EMP) will be prepared and submitted to and approved by the Principal Certifying Authority. The EMP will comprise:</p> <ul style="list-style-type: none"> a. Hours of construction work; b. Sediment and Erosion Control; c. Waste Management; d. Noise and Vibration Management; e. Air Quality and dust control; f. Use of cranes, plant and machinery g. Use of ladders, tapes, scaffolding and plant /machinery of conductive material h. Excavation and boring i. Plant and vehicle movements including - ingress and egress of vehicles to the site, loading and unloading, including construction zones, transportation of material, including contaminated material, predicted traffic volumes, types and routes; j. TMP; k. Piling, sheet piling, batter and anchors. 	<p>In accordance with this condition, a detailed Environmental Management Plan will be prepared prior to construction.</p> <p>However, and notwithstanding this, a conceptual Construction Management Plan has been prepared in support of the application by Upright Builders (refer Appendix 21).</p> <p>This sets out the broad details of the construction methodology, construction traffic arrangements and construction waste management measures which will form the framework of the EMP.</p> <p>Refer to Appendix 21 for further information.</p>
<p>23 Flooding</p> <p>All Development or Project Applications for individual development stages within the Concept Plan site are to be accompanied by a detailed Flood Impact</p>	<p>A Flood Assessment has been prepared in support of the application by BG&E (refer Appendix 25).</p> <p>This Report assesses the siting and levels</p>

<p>Assessment Report using the Concept Plan Flood Study Report findings. These studies are to include such safety management measures as safe flood evacuation routes and refuge areas.</p>	<p>of the driveways, concluding that:</p> <p><i>" Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."</i></p> <p><i>Refer to Appendix 25 for further information.</i></p>
<p>24 Waste Management</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site, a Waste Management Plan will be prepared for the relevant development stage which includes demonstration of the fact that the road network is capable of being serviced by Council's Waste vehicles.</p>	<p>Waste Management Plans (WMP) relating to construction and operational phases of the development have been prepared in support of the DA and addressing this condition..</p> <p>Refer to Appendix 21 for the WMP in relation to the construction phase prepared by Bingo, and Appendix 20 for the WMP in relation to the construction phase, prepared by Elephants Foot.</p>
<p>25 Sustainable Travel Plan</p> <p>Prior to issue of Occupation Certificates for any habitable areas in any development within the Concept Plan site a Sustainable Travel Plan for the Concept Plan site will be submitted to and approved by the Department of Planning. Individual Project or Development Applications will be accompanied by Development stage - specific Sustainable Travel Plans that are consistent with the Concept Plan Sustainable Travel Plan.</p>	<p>A Travel Plan for a Sustainable Future has been prepared in support of the DA by Road Delay Solutions addressing this condition</p> <p>Refer to Appendix 11 for further information.</p>
<p>26 Ground water</p> <p>As required by the NSW Office of Water:</p> <p>Groundwater:</p> <p>Licences under Part V of the Water Act 1912 are required for the works for the purposes of temporary dewatering as part of the proposed construction.</p> <p>General and Administrative Issues</p> <p>Specific Conditions</p> <p>Formal Application Issues</p>	<p>Appropriate licenses from the NSW Office of Water will be obtained prior to the relevant Construction Certificate being issued.</p>

Appendix 2

DA for Stages 2&3

Consistency with the Ryde Development Control Plan

Ryde DCP Control	Comment
Part 4.2 Shepherds Bay - Waterfront Precinct	
4.1 Development and the Public Domain	
1. Mixed Use Development	
a. & b. Residential development with compatible employment related activity.	The proposal seeks approval for a mixture of uses including residential and a cafe and community facility. The mix of uses was approved as part of the original Concept Approval.
c. Home office accommodation is allowed throughout the area.	The proposal does not seek approval for any home accommodation uses.
d. Retail developments, restaurants and cafés are to be generally located at street level.	The proposal involves a cafe and community facility to be located at lower ground level. As detailed on both the architectural and landscape plans, the cafe will open out onto the foreshore plaza area.
e. Commercial uses are encouraged at the level immediately above street level	As per the Concept Approval, the development proposes residential uses aside from a cafe which is to be located at lower ground level and adjacent to the foreshore plaza area.
f. Ground floor apartments are to be of flexible design to facilitate change of use and ensure privacy for occupants.	As detailed on the submitted architectural plans, those units that are located at ground floor, have been designed to ensure privacy for occupants. Measures adopted to ensure privacy for these units include the provision of landscaping between courtyards and public footpaths, as well as operable privacy screens.
g. Where upper levels of development are used for either commercial or residential activity, the amenity of both uses must not conflict or be compromised by other uses in the development.	The proposal does not seek approval for any commercial uses at the upper levels. However, a two level community facility is proposed to be located at level upper basement and lower ground floor levels.

h. Private living spaces and communal or public spaces should be clearly identified and defined.	The architectural plans prepared by R+M and submitted with the DA clearly delineate between private living spaces and communal/public spaces where appropriate.
i. Pedestrian entry to the residential control of mixed-use developments should be i. separated from entry to other land uses in the building(s); and ii. have a clear address and presentation to the street.	Given that both buildings are almost exclusively residentially based, all entrances will be for the exclusive use of the residential tenants of the buildings.
j. Active streetscapes will be encouraged by the use of outdoor restaurant seating, whether on private or public land. Refer to Council's Outdoor Dinning Policy.	The proposal includes a cafe at lower ground level. The design and location of the cafe, being located immediately adjacent to the foreshore plaza area, will provide outdoor seating within the plaza area.
2. Public Domain, Access and Pedestrian/Cyclist Amenity	
a. The achievement of maximum heights and density is contingent on meeting the public domain provisions of this plan and all public domain items being provided by the proponent.	As detailed elsewhere in this report, the Concept Approval established the maximum height of the proposal. However, and notwithstanding this, the proposal seeks to provide extensive public domain areas across the site including a dedicated pedestrian link between the Stage 2 and Stage 3 buildings, leading to a public plaza area on the foreshore.
b. New developments must be provided with a minimum of one barrier free access point to the main entry.	An Accessibility Report has been prepared in support of the DA (refer Appendix 13) which addresses this requirement.
c. Publicly accessible pedestrian and cycle ways must be provided through large sites. (even if not envisioned by this plan) (refer to Figure 4.2.03)	As the submitted plans detail, the proposal involves a dedicated public link between Stage 2 and 3 linking the foreshore with Nancarrow Road. In addition, the proposal will also provide a foreshore plaza immediately south of the Stage 3 building.
d. New pedestrian and cycleway access points, gradients and linkages are to be designed to be fully accessible by all.	Refer to the accompanying Accessibility Report.
e. New commercial development should provide facilities, including showers, bike lockers etc, to encourage walking and cycling to work – refer to Part 9.3 - Parking.	The proposal is largely residentially based.
f. New roads, shared ways, pedestrian and cycle	In accordance with the terms of the Concept

<p>paths shall be provided in accordance with Figure 4.2.03.</p>	<p>Approval, the proposal will provide a pedestrian link between Stage 2 and 3, as well as a foreshore plaza area.</p>
<p>h. The design of new roads, shared ways footpaths and cycle paths shall be in accordance with Figure 4.2.03 to 4.2.07.</p>	<p>Refer above.</p>
<p>i. Shared pedestrian links, cycle ways, public roads and lanes are to be of a high standard and treated in a way which indicates their shared status. The selection of paving, street furniture, lighting, bollards, signage and paving should compliment the existing upgrade works to Shepherds Bay (refer to the Ryde Public Domain Technical Manual).</p>	<p>Where shared links are to be provided, we understand that these have been provided in accordance with the requirements of the Technical Manual.</p>
<p>j. The design and location of vehicle access to developments should minimise conflicts between pedestrian and vehicles on footpaths, particularly along high volume pedestrian streets.</p>	<p>As part of the recent modification to the Concept Approval, permission was granted to amalgamate the basements for Stages 2 and 3. As such, only one basement is proposed for both buildings.</p> <p>This enables the provision of one (1) dedicated access into the basement for both buildings. This access is to be facilitated via a single access driveway connecting with Rothesay Avenue in the south-eastern corner of the site. The driveway is proposed to provide a 6m wide ingress laneway, separated from a 6m wide egress lane by a 1m wide median.</p> <p>An Internal Traffic Assessment has been undertaken by Thompson Stanbury (refer Appendix 10). Section 3 of this assessment looks at the access into the site, concluding that:</p> <p><i>"The relatively consistent vertical and horizontal alignment of Rothesay Avenue at the proposed point of access is envisaged to result in adequate driver sight distance being provided to allow vehicles to safely observe other road users and undertaking ingress/egress movements in a safe manner."</i></p> <p>Refer to the Internal Traffic Assessment for further information.</p>
<p>k. Service vehicle access is to be combined with parking access and limited to a maximum of one</p>	<p>Refer to the waste management plan</p>

access point per building.	prepared by Elephant's Foot.
l. Wherever practicable, vehicle access is to be a single crossing, perpendicular to the kerb alignment.	A single vehicular driveway access for both Stages 2 & 3 accessed off Rothesay Avenue that is compliant to the Australian Standard and as per advice from Traffic Consultant. Refer to Traffic & Parking impact assessment report.
n. Vehicle entries are to have high quality finishes to walls and ceiling as well as high standard detailing. No service ducts or pipes are to be visible from the street.	The vehicular entry screened with a high quality recycled timber awning, clad with a sandstone finish and landscaped along the edges.
o. The ground floor of all development is to be flush with the street footpath for the predominant level of the street frontage and at the main entry to the building.	The footprint of the proposed buildings has been established through the Concept Approval. The proposal has been designed in accordance with the Concept Approval.
p. Recesses for roller doors and fire escapes are to be wide and shallow to provide for personal security. Narrow, deep recesses are to be avoided.	The proposal has been designed to ensure that any unnecessary recessed are avoided where practical.
q. Pedestrian links must be a minimum width of 3.5 m, clear of buildings and open 24 hours a day. Pedestrian links identified in Figure 4.2.03 must be dedicated to Council.	<p>The proposal involves the construction, and ultimately the dedication of, and easement over, a pedestrian link between Stages 2 and 3.</p> <p>This link will connect Nancarrow Road and the foreshore plaza and will be dedicated to Council prior to the issue of an Occupation Certificate for Stage 2.</p>
r. Developments must be setback from the corner on blocks with poor site lines. The setback distance will be at the discretion of Council.	The footprint of the proposed buildings was established through the Concept Approval. The proposal has been designed in accordance with the Concept Approval.
s. The Rothesay Avenue to Bowden Street pedestrian link must be a minimum width of 6 m.	This is not relevant to the subject DA.
3. Implementation - Infrastructure, Facilities & Public Domain Improvements	
a. The public land such as the road verge adjoining a development site is to be embellished and if required dedicated to Council as part of any new development. The design and construction of the works are to be undertaken in accordance with section Figure 4.2.03, Figure 4.2.04 to 4.2.07.	Any public land adjoining the proposal will be dedicated to Council if required.
c. S94 contributions still apply throughout area, notwithstanding any land dedications, public domain	Noted.

<p>improvements, infrastructure provision etc as required by this DCP.</p>	
<p>4. Views & Vistas</p>	
<p>a. Panoramic views of Parramatta River are to be maintained from Faraday Park, Settlers Park, Anderson Park, and Helene Park (refer to Figure 4.2.08)</p> <p>b. Development is to ensure that vistas towards Parramatta River are maintained (refer to Figure 4.2.08)</p> <p>c. Development must reflect the topography of the area taking into consideration views from the Rhodes Peninsula, Railway Bridge and Ryde Bridge.</p> <p>d. Maintain views for pedestrians and cyclists along the public open space to the Parramatta River.</p> <p>f. Maintain secondary views through the site from pedestrian and cycle links from Nancarrow Avenue to the Parramatta River.</p> <p>g. New buildings are to take into account the existing views on the subject site and adjoining sites.</p>	<p>The terms of the Concept Approval sets out the bulk and scale of the proposed buildings.</p> <p>This was established through an approved envelope as well as maximum RL's for each of the buildings.</p> <p>The impact of the approved built form in terms of view loss was addressed as part of the Concept Approval with view corridors to the water provided between Nancarrow and Rothesay Avenues.</p> <p>The proposal does not seek to vary the approval in this regard.</p>
<p>h. Orientate new development to take advantage of water views and vistas.</p>	<p>As the plans submitted with the DA demonstrate, the principal water views are to the south of the site.</p> <p>On this basis, and whilst the proposed building form was established through the Concept Approval, where possible, the internal layout and arrangement of the proposed units has been designed to ensure that as many units benefit from a water view.</p>
<p>i. New developments are not to materially compromise views of the northern ridgeline of Meadowbank.</p>	<p>Refer above.</p>
<p>j. Development applications will be required to include an assessment of views in accordance with the above controls.</p>	<p>The terms of the Concept Approval sets out the bulk and scale of the proposed buildings.</p> <p>This is established through an approved envelope as well as maximum RL's for each of the buildings.</p> <p>The proposal does not seek to vary the</p>

	<p>approval in this regard.</p> <p>The impact of the approved built form in terms of view loss was addressed as part of the Concept Approval.</p>
<p>5. Landscaping & Open Space</p>	
<p>a. All development proposals are to be accompanied by a Landscape Plan prepared by a qualified and suitably experienced landscape architect. This is to include an arborist's report on existing trees, and demonstrate how proposed landscaping will contribute to ecological sustainability. Management of construction impacts must also be addressed.</p>	<p>As part of the original Concept Approval, and in particular the proponents response to Part B - Modification No.B1, the Department of Planning approved 'An Overall Concept and Public Domain Strategy' reference HOL02 Rev F and prepared by Place Design. The letter from the Department was dated 24 June 2013.</p> <p>The approved Strategy included the removal of all trees from the site.</p> <p>In support of the DA, a detailed landscape report has been prepared by Place Design which details extensive mature landscaping to be provided across the site in lieu of the tree removal.</p>
<p>b. Roof gardens are encouraged and must be considered in any landscaping plan.</p>	<p>The proposal does not include and roof gardens.</p>
<p>c. Any development located adjacent to, or immediately across the road from open space is required to address the open space by way of design and orientation.</p>	<p>The proposal involves the creation of a foreshore plaza. The interface between this area and the proposed buildings is detailed on the landscape plans submitted with the DA. In particular, the proposal involves the creation of a cafe at lower ground level with outdoor seating within the plaza area.</p>
<p>d. All existing mature trees that enhance the quality of the area are to be retained.</p>	<p>As part of the original Concept Approval, and in particular the proponents response to Part B - Modification No.B1, the Department of Planning approved 'An Overall Concept and Public Domain Strategy' reference HOL02 Rev F and prepared by Place Design. The letter from the Department was dated 24 June 2013.</p> <p>The approved Strategy included the removal of all trees from the site.</p> <p>In support of the DA, a detailed landscape report has been prepared by Place Design which details extensive mature landscaping to be provided across the site in lieu of the</p>

	tree removal.
e. Provide adequate deep planting zones above car parking and other concrete or similar structures to allow sustainable planting.	As the Landscape Report prepared by Place Design details, and in accordance with the objectives of the Residential Flat Design Code, the proposal will provide 25% of the open space area as deep soil zones.
f. Provide at ground floor level, where possible, open space for dwelling units and contiguous open garden areas to create common large landscaped space.	As the Landscape Report and plans demonstrate, open space for units has been provided at ground level, with courtyards flowing into common landscaped areas where possible.
g. Construction of roof areas of multi unit developments is to make provision for useable roof gardens.	The proposal does not involve any useable roof gardens.
h. Where appropriate, developments should incorporate landscaping (such as planter boxes) integrated into the upper levels of building to soften building form.	The proposal does not involve any landscaping at the upper levels.
i. Building setbacks are to allow for landscaping/planting as in section 4.2.2 Setbacks.	As the Landscape Report prepared by Place Design clearly details, landscaping will be provided within the setbacks of both buildings.
j. For corner buildings a reduction of the landscape setback on one side will be considered on its merit. This reduction does not apply to foreshore setbacks.	The terms of the Concept Approval sets out the building form and scale. The proposal does not seek to vary the approved built form as approved.
k. Where a proposal involves redevelopment of a site the developer are to arrange for electricity and telecommunications utilities to be under grounded along the entire length of all street frontages. Such utility modifications will be carried out to the satisfaction of the responsible authority (e.g. Energy Australia). This is to improve the visual amenity of the area and allow street trees to grow unimpeded.	R+M has advised that this will be undertaken.
l. Permeable landscape surface materials is to be maximised, to allow maximum penetration of stormwater and urban runoff. Recommended permeable landscape materials include gravel, loosely fitting pavers, stepping stones, vegetative groundcover such as grass, creepers, and shrubs.	The Landscape Report details both permeable and non-permeable materials to sure an appropriate balance between the penetration of stormwater and urban runoff.
6. Street Furniture & Public Art	
a. All development proposals are to be accompanied	A Landscape Report has been prepared by

<p>by a landscape plan, prepared by a qualified and suitably experienced landscape architect, indicating how public domain improvements including paving, street furniture and lighting will be incorporated into the development.</p>	<p>Place Design and is submitted with the DA. This Report details the proposed public domain improvements across the site including the proposed link between Stage 2 and 4 as well as the Foreshore Plaza.</p>
<p>b. Public domain finishes including the style, colour and installation methods of street furniture, paving and street lighting shall be in accordance with Ryde Public Domain Technical Manual.</p>	<p>We understand that the Landscape Report includes public domain finishes in accordance with the Ryde Public Domain Technical Manual.</p>
<p>c. Public art is to be provided in accordance with Council's Public Art Policy.</p>	<p>A Public Art Plan has been prepared by Black Beetle (refer Appendix 8). This Plan explores the opportunities, processes and integration of artworks as part of the entire Concept Plan site and provides aims and objectives of Public artwork in relation to the wider precinct.</p>
<p>d. Embellishment of public places/spaces will be at developers' cost and the type and amount of embellishment will be negotiated with Council.</p>	<p>Noted.</p>
<p>7. Safety</p>	
<p>a. Public spaces need to be designed to meet Crime Prevention Through Environmental Design (CPTED) principles (DUAP 2001).</p>	<p>As set out in the Landscape Plan prepared by Place Design, the proposed landscape strategy will be designed to achieve CEPTED principles such as</p> <p><i>"Natural surveillance:</i></p> <p><i>The proposed andscape design will play an important role in Crime Prevention through Environmental Design. The landscape is designed to</i></p> <ul style="list-style-type: none"> ▪ <i>keep surveillance and pedestrian movement in consideration</i> ▪ <i>ensure with unimpeded sightlines to all areas and especially key areas of activation</i> ▪ <i>to avoid blind spots</i> ▪ <i>to ensure lighting for appropriate surveillance and avoid shadows and glare which might put people at risk.</i> <p><i>Natural Access Control:</i></p> <ul style="list-style-type: none"> ▪ <i>The landscape design utilizes the use</i>

	<p><i>of walkways, fences, lighting and signage to clearly guide people and vehicles to and from the entrances.</i></p> <ul style="list-style-type: none"> ▪ <i>The goal with this CPTED principle is not necessarily to keep intruders out, but to direct the flow of people while decreasing the opportunity for crime.</i> <p><i>Territoriality:</i></p> <ul style="list-style-type: none"> ▪ <i>The Landscape is designed to define desired movement areas, improve surveillance and delineate borders with help of change in materials, texture, planting, change in level, artwork, signage etc.</i> <p><i>Maintenance:</i></p> <ul style="list-style-type: none"> ▪ <i>A Maintenance and management plan has been produced for stages 2-3 that ensures CPTED principles are met. This includes maintenance of shrubs close to paths and suitable choices if species that allow passive surveillance . particular instructions will be given to the maintenance contractor in this regard."</i>
<p>b. Open sightlines and landscaping needs to be provided that allows for high levels of public surveillance by residents and visitors.</p>	<p>Refer above</p>
<p>c. Lighting is to be provided to all pedestrian ways, building entries, corridors, laundries, lifts, stairwells, driveways and car parks to ensure a high level of safety and security for residents and visitors at night. Further, external lighting including street lighting if necessary (in accordance with pedestrian lighting AS1158 is to be provided which makes visible potential hiding spots at night.</p>	<p>Landscape Report for details of the proposed lighting strategy.</p>
<p>d. Entrances to public open spaces will need to encourage pedestrian use and establish clear sightlines to improve visual security.</p>	<p>The public domain landscape plans prepared by Place Design include 'natural access control' which involves the utilisation of walkways, fences, lighting and signage to clearly guide people to and from the entrances, with the aim of directing people into the public open spaces.</p>
<p>e. The design of public domains must not result in</p>	<p>As the plans prepared by Place Design clearly detail, there will be no dead end</p>

<p>dead ends or similar design outcomes.</p>	<p>spaces created.</p> <p>Indeed, Place has undertaken their own CEPTED assessment of the proposal to ensure that the proposed landscape design plays an important role in maximising natural surveillance opportunities.</p>
<p>4.2 Architectural Characteristics</p> <p>1. Height</p>	
<p>a. The maximum building height is to comply with the heights shown in Ryde Local Environmental Plan 2014 Height of Buildings Map. Buildings must comply with the maximum number of stories shown in Figure 4.2.10.</p>	<p>Mod 1 of the Concept Plan sets out an approved RL for both the Stage 2 and Stage 3 buildings (plan ref: PPR 001-D). In addition, the modification also approved a building envelope plan for both Stage 2 and Stage 3 (plan ref: Figure 16, Rev 4 and Figure 19, Rev 4).</p> <p>The architectural plans submitted with the DA clearly illustrate the approved built form with a dotted red line with the proposal not exceeding the approved built form.</p>
<p>c. The ground floor height shall be 4 m floor to floor regardless of use.</p>	<p>The proposed design complies with the MP09_0216 Mod 1 Concept Plan Approval.</p>
<p>d. Any car parking above ground will have a minimum 3 metres (floor to underside ceiling) to allow for potential future conversion.</p>	<p>As the plans submitted with the DA clearly illustrate, all car parking will be provided at basement level.</p>
<p>e. Retail and commercial uses at ground floor are to have floor levels contiguous with finished footpath levels. On sloping sites the levels must be contiguous at entries.</p>	<p>The only non-residential use proposed is for a cafe to be located at lower ground level. Given that the cafe will be located immediately adjacent to the foreshore plaza area, the floor level will be contiguous with the finished footpath levels to ensure movement from the cafe into the plaza area and vice versa.</p>
<p>2. Setbacks</p>	<p>The building siting and setbacks are in accordance with the Concept Approval.</p>
<p>3. Roof Form</p>	
<p>a. Buildings below RL 15 must have articulated roofs, as they will be viewed from buildings above. Articulated roofs refer to well-designed roof zones with landscaping, useable areas and/or richly detailed roofs made of high quality materials.</p>	<p>The approved RL's for both Stage 2 and 3 are substantially in excess of RL 15. However, and notwithstanding this, the proposal includes articulated roof forms, achieved primarily through the use of high</p>

	<p>quality materials.</p> <p>Roof terraces to the top floor apartments will be private open spaces for the apartment the lower roofs and other non-trafficable extents of the roof will have high quality gravel patterned on.</p>
b. The use of solar panels on roofs is encouraged where possible.	The proposal does not include the use of solar panels.
4. Building Facades & Articulation	
a. Building facades should be articulated within a 3-metre zone to provide entries, external balconies, porches, glazed balcony enclosures, terraces, verandas, sun shading elements etc.	As the submitted plans demonstrate, the building facades have been sufficiently articulated across all elevations. This has been achieved using a mixture of architectural techniques. Refer to the submitted plans for further information.
b. Penthouses should be set a minimum of 4 metres from any building façade.	The built form was approved through the Concept Modification. The proposal does not involve any modifications to the approved built form.
c. Articulate buildings to respond to orientation, views, breezes, privacy, views, acoustic requirements, street widths and the relationship of the building to external garden spaces.	<p>Envelope configuration, orientation and height, was approved in Concept Approval MP 09-216 and subsequent Mod1 Approval.</p> <p>Where facades receive solar access, living rooms and private open space are orientated to capture the sun. Apartments on the upper floors have skylights incorporated to optimize solar access. Refer to the accompanying Solar Access and Natural Ventilation Assessment.</p> <p>Apartment layouts have been designed to promote separation between living areas and more quiet sleeping zones.</p> <p>Inter tenancy walls between adjoining apartments will be designed in accordance with BCA requirements and acoustic consultant's recommendations.</p>
d. Articulate buildings vertically and horizontally: materials and building setbacks on the upper storeys are to be used to reduce the perceived bulk of buildings.	Articulation of the building façade has been achieved by using both horizontal and vertical elements and differing materials and finishes. Strong horizontal bands (slab edges, balcony balustrades, rhythmic recycled timber posts and changes in cladding) promotes clear delineation

	<p>between the upper and lower levels.</p> <p>Recessed balconies and screened operable louvres give a sense of enclosure whilst also encouraging passive surveillance to the public links below.</p> <p>Wrap around balconies maximise capturing views around and assists in reducing the perceived building bulk and assists in widening the sense of space between the wings and public link corridors.</p>
e. Provide and denote entries along street frontages and public domain spaces where appropriate.	<p>The primary entry to Stage 3 will be directly from the foreshore plaza area, with the entry to Stage 2 also located directly off a landscaped courtyard.</p> <p>Refer to the architectural and public domain plans for further information.</p>
f. Buildings are to address streets, open spaces and the river foreshore. Street frontages are to be parallel with or aligned to the street alignment.	<p>Notwithstanding the fact that the bulk and scale of the proposal was approved as part of the Concept Modification, both Stage 2 and 3 have been designed to ensure that both buildings will address the proposed foreshore plaza area and foreshore area generally.</p>
g. Provide balconies and terraces, particularly where buildings overlook public spaces.	<p>As the plans submitted with the DA demonstrate, the primary outlook and view for both the Stage 2 and 3 buildings is south and towards the foreshore and the dedicated plaza area.</p> <p>As such, so as to maximise views and also provide an outlook over the foreshore plaza area, the majority of units have been oriented south with balconies that maximise this outlook.</p>
h. All facades visible from the public domain are to be durable, low maintenance and of high quality.	<p>The following has been provided by R+M:</p> <p>"The colour palate is thematic to the industrial past and water's edge coastal development with a range of blues, recycled timber and metal cladding.</p> <p>At street level, the façade is composed to hint at the urban edge and human scale with sandstone base, rhythmic vertical fins, deep horizontal slabs setting a human scale datum line and operable metal privacy</p>

	<p>screens that provide a rich kaleidoscope of beauty, luxury and understated style.</p> <p>The mid-section is highly articulated with horizontal and vertical metal cladding, glazed ribbon balconies and punchy windows references the former industrial buildings and their use of glazing.</p> <p>The top head is designed to maximise views to the water and the heartland through strong horizontal lines, continuous patterned screens and folded edges."</p>
i. External glass to be non-reflective and have a maximum of 20% tint.	Any external glass will be non-reflective.
5. Private & Communal Open Space	
a. Private open space with sunlight access, ventilation and privacy shall be provided for apartments in accordance with SEPP65.	Refer to the SEPP 65 Assessment prepared by R+M.
b. No more than 50% of communal open space provided at ground level shall be paved or of other non-permeable materials	Refer to the Landscape Design Report prepared by Place Design.
6. Residential Amenity	
<p>a. In considering compliance with SEPP65, regard will be given to:</p> <p>ii. sunlight access to adjoining balconies of living rooms; and</p> <p>iii. appropriate urban form, site orientation and other constraints.</p>	Refer to the SEPP 65 Assessment prepared by R+M.
b. Apartments below a sloping ground level shall apply the SEPP65 guideline for lightwells.	Refer to the SEPP 65 Assessment prepared by R+M.
4.3 Ecological Sustainability	
2. Energy Efficient Design	
<p>a. Residential development must be designed in accordance with principle outlined in the Building Sustainability Index (BASIX)</p> <p>b. The principles and properties of thermal mass, insulation and glazing are to be considered in the design of buildings to achieve a high level of energy</p>	<p>A BASIX Assessment has been prepared by Integreco Consulting.</p> <p>In addition, an ESD letter has been submitted in support of the DA. This letter is in response to Condition 22 of the Concept</p>

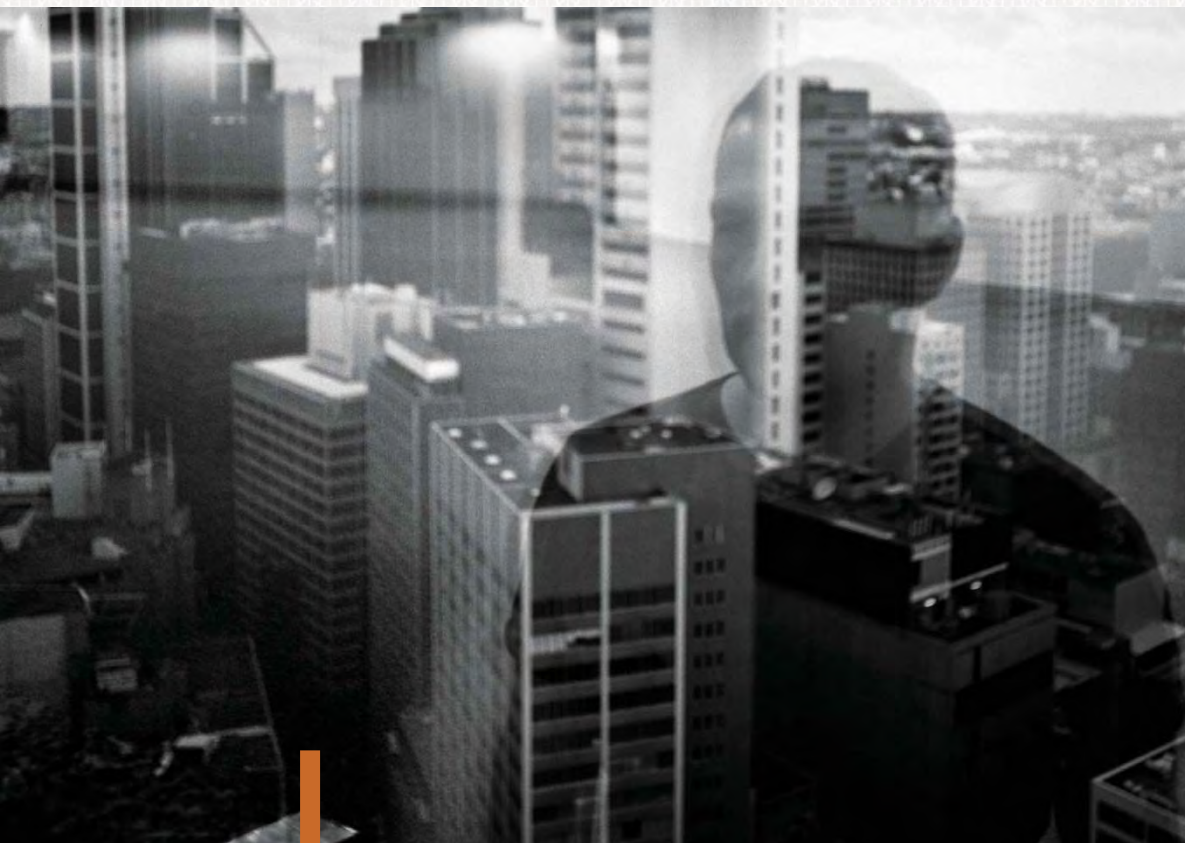
<p>efficiency</p>	<p>Modification (refer Appendix 18).</p> <p>This advice states that the proposed project will commit to achieve include:</p> <p><i>"1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.</i></p> <p><i>2. Water scores (measured by BASIX) which exceed the targets by just under 10%.</i></p> <p><i>3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.</i></p> <p><i>4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report ("101117 Shepherds Bay Meadowbank - ESD Report"). "</i></p> <p>Refer to the ESD Report at Appendix 18 for further information.</p>
<p>2. Noise & Vibration Attenuation</p>	
<p>Residential</p> <p>a. New residential developments, including those within a mixed-use building, are required to consider noise attenuation and acoustic treatment in their design. Particularly, the building layout, walls, windows, doors and roofs are to be designed and detailed to reduce intrusive noise levels.</p>	<p>An acoustic report has been prepared by DK Acoustics (refer Appendix 19).</p> <p>The Report concludes that the proposal is acceptable subject to various noise control recommendations as set out in Section 5 of the Report.</p>
<p>b. Development must have regard to "Interim Guidelines for Development Near Busy Road and Rail Corridors" NSW Planning & Infrastructure.</p>	<p>Sections 3.4 and 3.5 of the acoustic report provide an assessment of the proposal against these Guidelines.</p>
<p>c. Balconies and other external building elements are to be located, designed and treated to minimise infiltration of noise into the building and reflection of noise from the façade.</p>	<p>Section 3.1 of the acoustic report assesses the proposal against Council's controls.</p>
<p>d. New units are to be constructed in accordance with: i. Australian Standard 3671-1989 and 3671-1987.</p>	<p>R+M has confirmed that the proposal will be designed in accordance with this and all relevant Australian Standards.</p>
<p>Commercial</p>	<p>Section 5.4 of the acoustic report assesses the impact of the proposed cafe, and</p>

<p>b. The use of a premises, and any plant, equipment and building services associated with a premises must not: i. create an offensive noise.</p>	<p>provides a range of acoustic attenuation measures to reduce any noise impact on the adjoining residences.</p>
<p>f. Where development adjoins residential development, the use of mechanical plant equipment and building services will be restricted and must have acoustic insulation.</p>	<p>Section 4.3 of the Report assesses the impact of any mechanical plant associated with the proposed cafe, concluding that:</p> <p><i>"The mechanical plant, including the carpark ventilation plant and the Café kitchen exhaust fan, have not yet been selected for this development.</i></p> <p><i>It is recommended that the noise emission from the mechanical plant be assessed at the Construction Certificate stage and/or once the plant selection is finalised.</i></p> <p><i>The mechanical plant should be acoustically treated, if required, to reduce the noise emission level at the nearby residences to levels complying with the noise criteria in Section 3 of this report."</i></p> <p>Refer to the acoustic report for further information.</p>
<p>g. Loading and unloading facilities must not be located immediately adjacent to residential development.</p>	<p>It is envisaged that, given the minor nature of the loading and unloading arrangements required for the cafe, this will be done from the street.</p>
<p>h. Retail premises must limit any spruiking and the playing of amplified music or messages so as not to disturb the amenity of other public and private places.</p>	<p>There are no retail units proposed as part of this development.</p>
<p>i. Air conditioning ducts shall not be situated adjacent to residential development.</p>	<p>It is understood that mechanical plant has not yet been selected for the proposal.</p> <p>As such, the acoustic report concludes that:</p> <p><i>"the mechanical plant should be acoustically treated, if required, to reduce the noise emission level at the nearby residences to levels complying with the noise criteria in Section 3 of this report."</i></p> <p>Refer to the acoustic report for further</p>

	information.
j. Where development is situated adjacent to residential development, working hours shall generally be restricted to 7 am to 6 pm Monday to Friday and 8 am to 1 pm on Saturday, and nil on Sundays or public holidays. Activities in operation outside these hours must demonstrate that there will be no detrimental impact to residential amenity.	<p>A Construction Management Plan has been prepared in support of the DA by Upright Builders.</p> <p>This Statement concludes that the working hours will reflect those that are approved as part of the DA.</p>
4. Parking Access & Loading	
<p>a. All new buildings are required to provide on-site loading and unloading facilities.</p> <p>b. Loading docks shall be located in such a position that vehicles do not stand on any public road, footway, laneway or service road and vehicles entering and leaving the site move in a forward direction.</p> <p>c. Loading docks that extend more than 7.5 metres into a building, mechanical ventilation might be required.</p>	<p>An Internal Traffic Assessment has been prepared in support of the DA by Thompson Stanbury.</p> <p>In terms of loading, Section 5.2 of this report assesses service vehicle movements into and out of the site, concluding that:</p> <p><i>"The proposed internal servicing arrangements of Stages 2 & 3 are therefore considered to be satisfactory."</i></p> <p>In terms of mechanical ventilation, as stated previously in this report, details of ventilation have not yet been finalised.</p>
5. Flooding & Stormwater Drainage	
a. Development must comply with Part 8.6 Floodplain Management of this DCP.	A full stormwater and flooding assessment has been submitted with the DA. We understand that this has been designed to ensure that the proposal satisfies Part 8.6 and is clear of the 16m wide overland flow path to the west.
5.0 PRECINCT SPECIFIC DEVELOPMENT CONTROLS	
Precinct 3 - Waterfront	
<p>a. The impact of new buildings on views from the Parramatta River to the site and the treed ridgeline to the north are to be considered. Similarly, views from this precinct to the Parramatta River are to be optimised.</p> <p>b. Development near the waterfront is to respond to and consider views from the Parramatta River.</p>	<p>The terms of the modified Concept Approval sets out the bulk and scale of the proposed buildings.</p> <p>This was established through an approved envelope as well as maximum RL's for each of the buildings.</p> <p>The impact of the approved built form in terms of view loss was addressed as part of the Concept Approval with view corridors to</p>

	<p>the water provided between Nancarrow and Rothesay Avenues.</p> <p>The proposal does not seek to vary the approval in this regard.</p>
<p>c. Distances between buildings should take into account acoustic and privacy issues to protect the amenity for all residential units. Minimum distances should be in accordance with SEPP 65 principles.</p>	<p>An assessment of the proposal against the objectives of the Residential Flat Design Code (RFDC) has been undertaken by R+M (refer Appendix 3).</p> <p>In terms of separation, R+M have advised that Stage 2 and Stage 3 comply with the Concept Plan building envelopes. Separations range between 18 – 22m (18m is required).</p>
<p>d. Facades should be articulated within a zone of 3 metres and be built to street edge behind the required landscape setback.</p>	<p>An assessment of the proposal against the objectives of the Residential Flat Design Code (RFDC) has been undertaken by R+M (refer Appendix 3).</p> <p>Section 3.14 of this assessment describes the facade articulation stating that:</p> <p><i>"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. 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. 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 built environment."</i></p>
<p>e. Maintain all existing mature trees that add to the high landscape quality of the area.</p>	<p>As part of the Concept Plan Modification, approval was granted to remove all trees from the site.</p> <p>Notwithstanding this, the Public Domain Landscape Plans prepared by Place Design propose a high quality landscape treatment across the site.</p>

<p>f. Enhance street planting along Bowden Street to facilitate the perception of a boulevard providing direct access to the Parramatta River.</p>	<p>Appropriate street planting has been included within the Place Design Public Domain Landscape Plans.</p>
<p>g. Ensure that new developments are responsive to and add to the landscape quality by providing adequate deep planting zones above car parking to allow sustainable planting which takes into account solar access and views.</p>	<p>R+M confirms that there is sufficient depth to support a wide selection of native and exotic trees and shrubs above car parking that are of low maintenance and contribute to habitats of local fauna and also provide buffering/screen to residential areas.</p>
<p>i. Provide a new pocket park to the southern part of the precinct to ensure tree retention and enable passive activity with views to Parramatta River.</p>	<p>The proposal includes the creation and embellishment of a dedicated plaza area to be located adjacent to the foreshore. Refer to the submitted plans for further information.</p>
<p>k. Provide a 20-metre foreshore landscape setback with a high quality solution knitting with the Shepherds Bay foreshore upgrade.</p>	<p>The bulk and scale of the proposal was approved as part of the Concept Approval. However, and notwithstanding that, deep landscape setbacks to both buildings have been provided. Refer to the Landscape Plans prepared by Place Design for further information.</p>



Statement of Environmental Effects

Stages 4 & 5 - Residential Development

Shepherds Bay, Meadowbank

Submitted to Ryde Council
On Behalf of Shepherds Bay Urban Development Pty Ltd

Report Revision History

Revision	Date Issued	Prepared by	Reviewed by	Verified by
01 Draft	4/11/14	H Palmer <i>Senior Project Planner</i>	S Francis <i>Executive Director</i>	<i>C.J. Outtersides</i> Chris Outtersides Director
02 Draft	15/01/15	C Outtersides <i>Director</i>	S Francis <i>Executive Director</i>	Director
03 Final	16/01/15	C Outtersides <i>Director</i>	S Francis <i>Executive Director</i>	

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CERTIFICATION

This report has been authorised by City Plan Strategy & Development, with input from a number of other expert consultants (appended to this document), on behalf of the Client. City Plan Strategy & Development has relied on the accuracy of the information contained in each of the appended documents and takes no responsibility for any errors or faults in those reports. The comments herein have been based upon information and facts that were correct at the time of writing this report.

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Appendix	Document	Prepared By
1	Assessment against the Concept Plan (as approved) MP09_0216	CPSD
2	Assessment against the Ryde Development Control Plan	CPSD
3	Architectural Design Report	R+M
4	Direct Solar Access Report	Windtech
5	Natural Ventilation Preliminary Assessment	Windtech
6	Solar Light Reflectivity Analysis	Windtech
7	Detailed and Public Domain Landscape Plans	Place Design
8	Public Art Plan	Black Beetle
9	Sydney Water Requirements - Response to Condition 37	Greg Houston Plumbing
10	Internal Traffic Assessment	Thompson Stanbury
11	Travel Plan for a Sustainable Future	Road Delay Solutions
12	Infrastructure Assessment Report	Road Delay Solutions
13	Access Design Assessment Report	Design Confidence
14	Adaptable Housing Report	Design Confidence
15	BCA Report	Vic Lilli
16	Fire Safety Report	GN Consulting
17	BASIX Assessment Report BASIX Certificates	Integreco
18	ESD Strategy	Integreco
19	Acoustic Report	DK Acoustics
20	Operational Waste Management Report	Elephants Foot
21	Construction Management Plan	Upright Builders

22	Contamination Report and Remediation Action Plan	Environmental Investigations
23	Groundwater Investigation	Environmental Investigations
24	Geotechnical Investigation	Asset Geotechnical
25	Flood Assessment	BG&E
26	Council's Pre-Lodgement Meeting Minutes (Urban Design Review Panel)	City of Ryde Council
27	Letter from City of Ryde Council to Holdmark dated 2 December 2013	City of Ryde Council

1. Executive Summary

This Statement of Environmental Effects (SEE) has been prepared for Shepherds Bay Urban Development Pty Ltd by City Plan Strategy and Development Pty Ltd (“CPSD”) to accompany a Development Application (“DA”) to Ryde Council. The DA relates to Stages 4 and 5 of the 'Shepherds Bay' redevelopment, approved as part of Concept Plan MP09_0216 (as modified). The application relates to 18 Constitution Road and 7-9 Hamilton Crescent, Ryde.

In summary, this DA seeks approval for the following works:

- Excavation and site preparation works;
- The construction and occupation of two (2) residential flat buildings consisting of 511 residential units comprising with 124 x 1 bed, 217 x 1 bed plus studio, 107 x 2 bed, 27 x 2 bed plus studio, 13 x 3 bed, 11 x loft, 2 loft (2 bed) and 10 x studio units;
- The creation of one, amalgamated basement parking area which will service both Stages 4 and 5 with two points of access via Nancarrow Avenue, providing a total of 621 parking spaces;
- Landscaping works associated with the subject site; and
- Street upgrades to public roads and upgrade to stormwater and drainage systems associated with the subject site.

This (SEE) has been prepared pursuant to Section 78A of the *Environmental Planning and Assessment Act, 1979* and Clause 50 of the *Environmental Planning and Assessment Regulation, 2000* and will:

- describe the proposed development and its context;
- assess the proposal against the applicable planning controls and guidelines; and
- assess the potential environmental impacts and mitigation measures.

The site benefits from a Concept Plan Approval (MP09_0216) (as modified) for a mixed use development comprising up to twelve (12) buildings. This was originally approved by the Planning Assessment Commission (PAC) on 6 March 2013 and subsequently modified on 16 October 2014. The proposed development has been designed to be consistent with the terms of that Concept Approval (as modified) and to provide a built form and outcome that will connect and respect the intended future character of the Shepherds Bay locality as well as enhancing the public domain and delivering the infrastructure required.

2. Background

2.1 Concept Plan Approval

The Planning Assessment Commission (PAC) approved a Concept Plan for the Shepherds Bay Site on the 6 March 2013 (ref. MP09_0216). The Approval was for twelve (12) separate buildings to incorporate a mixed use residential, retail, commercial precinct and included:

“Use of the site for a mixed use development including residential, retail, commercial and community uses incorporating:

(a) building envelopes for 12 buildings incorporating basement level parking;

(b) infrastructure works to support the development including:

(c) upgrades to the local road network;

(d) stormwater infrastructure works;

(e) publically accessible open space and through site links; and

(f) pedestrian and cycle pathways.”

2.2 Modification to the Concept Approval

Pursuant to the Concept Approval, a subsequent Section 75W Modification Application (Mod 1) was approved by the PAC on 16 October 2014. This resulted in amendments to the Concept Approval specifically to allow for a more logical construction process and to improve the overall built form. This approval also included revising the indicative staging of the 10 buildings and the clarification of the delivery of certain infrastructure works at certain stages of the development process.

These modifications are reflected in the updated Draft Statement of Commitments dated March 2014.

This DA relates to two Stages originally referred to in the Concept Approval as Stages 2 and 4 but subsequently modified as part of Mod 1 to be known as Stages 4 and 5.

2.3 Application for Demolition

The site benefits from separate Development Consent for the demolition of all existing structures on the site and we understand that demolition of all structures on the site has occurred. To expedite the development of the site, there is also a concurrent DA currently under consideration by Council for the excavation of the site. For completeness, this application also seeks approval for the excavation of the site.

2.4 Pre lodgement Meeting

A pre-lodgement meeting was held with Council's senior officers and the Urban Design Review Panel (UDRP) on 19 December 2013. It is noted that this meeting was held prior to the most recent modification of the Concept Approval (approved on 16 October 2014) and therefore some of the issues raised in relation to bulk and scale were addressed as part of the S75W modification.

Notwithstanding this, the principal issues raised by the UDRP are summarised in the table below, along with an explanation from the project architect, Robertson & Marks (R&M) of how each item has been resolved / justified in the revised proposal.

Table 1: UDRP Comments and Responses

Item raised by UDRP	R&M Comment
General Comments	
<p>The apartments at the corners of the blocks within the deep courtyards are not acceptable. The apartments wrap into the wings of the building form and have no clear direct outlook for the bedrooms.</p>	<p><i>"Visual and acoustic privacy issues in the internal corners of the buildings addressed by:</i></p> <ul style="list-style-type: none"> ▪ <i>introducing vertical privacy fins/blades to bedroom windows</i> ▪ <i>introducing sliding/folding privacy screens to the balconies of the apartments living areas</i> ▪ <i>reducing the size and changing the location of the bedroom windows."</i>
<p>A number of the apartments have deep plan kitchens and spaces at the back of the units that will receive no light and are large enough to be used as habitable spaces on the upper basement levels.</p>	<ul style="list-style-type: none"> ▪ <i>"Apartments' living areas were designed as the open plan layouts consisting of lounge, dining and kitchen.</i> ▪ <i>Where functional depths of the open plan living areas are over the RFDC guidelines, the rear kitchen walls are between 8-9m from the glazing line (in most cases between 8-8.5m).</i> ▪ <i>Apartments with kitchen depths of more than 8m exceed RFDC guidelines in apartment size (area) and ceiling heights by 20%. In addition, extensive glazing is provided to the primary living space (more than 70% of the external facade)."</i>
<p>There are a significant number of single aspect units in these plans which are not likely to achieve satisfactory cross ventilation. Additional cores should be introduced to allow more through units and better cross ventilation as well as more entry points into the buildings.</p>	<ul style="list-style-type: none"> ▪ <i>"Natural ventilation shafts (1sqm area) are introduced as per specialist consultants advice to allow for natural ventilation of the single aspect apartments (please refer to Windtech's report).</i> ▪ <i>In addition to ventilation shafts, highly articulated façade of the buildings in relation to the prevailing winds' direction will allow for natural ventilation of some of the single aspect apartments (please refer to Windtech's report)."</i>

<p>No units are shown with any ground level access to the public domain. Ground floor units should have direct access to the street/footpath. There are many internalised studies with no windows. These are also not supported.</p>	<ul style="list-style-type: none"> ▪ <i>"Access from the street/public domain provided for all apartments with direct access from the street.</i> ▪ <i>Internalised studies/utility areas are typical for one bedroom apartments and are located in the middle of apartments' layout, less than 8m from the glazing line.</i> ▪ <i>Please refer to the revised landscape and architectural plans."</i>
<p>The shadow diagrams indicate that the units facing into the internal courtyards on all the buildings will have either no or very poor solar access. These units should be dual aspect units to increase light and sun penetration. Further, units and in particular their balconies should not be located over driveway entrances/exits due to amenity concerns.</p>	<ul style="list-style-type: none"> ▪ <i>"Non-compliant solar access was addressed by introducing additional amenity to satisfy Condition 21 of the modified Concept Approval (20% increased height, 20% increased apartment area, natural ventilation and increased glazing to living areas)</i>
<p>Include more dual aspect units and requisite additional cores to service dual aspect units</p>	<ul style="list-style-type: none"> ▪ <i>A review of the plans was undertaken to include more dual aspect units</i>
<p>Include more shallow units with wider frontage, which would improve daylight access and have less units at the building frontage</p>	<ul style="list-style-type: none"> ▪ <i>A review to improve daylight access to the maximum number of apartments has been undertaken.</i> ▪ <i>Additionally the requirement to increase 20% of the height requirement as per Condition 21 of the Modification Approval for adding to increased amenity (3.2m) has benefited 56% of total apartments in Stage 4 and 26% of apartments in Stage 5. This assists with increased ambient/diffused light entering the apartment which meets similar objectives to having a shallower unit with wider frontage.</i> ▪ <i>All units have full height glazing and excessive glazing to primary living areas (70% of the external facade).</i>
<p>Shallower units would also assist with eliminating inboard studies/bedrooms.</p>	<p><i>"Inboard" studies/utility spaces in stages 4&5 are located in the middle of the apartment layouts providing additional space of the main living area allowing for flexibility in the use and number of different furniture layouts.</i></p> <p><i>Spaces within the apartment layouts with depth greater than 8m relative to the glazing line are limited to non-habitable rooms such as bathroom,</i></p>

	<i>laundries, storage areas and entry foyers.</i>
Stage 4 & 5	
The blank walls of the car park to Nancarrow Avenue is not acceptable and results in a single isolated apartment at the corner of Belmore Street on basement level 2. A single unit would be left with no apparent lift access and isolated adjacent to the new Soho's. This unit should also be converted to a Soho.	<ul style="list-style-type: none"> ▪ <i>"Addressed on the latest architectural and landscape plans.</i> ▪ <i>Landscape design on the corner of Belmore St and Nancarrow Ave introduces terraced planter boxes and raised levels of the landscaping to screen blank carpark walls.</i> ▪ <i>Access to private courtyards along Belmore St and Nancarrow Ave is provided via stairs."</i>
It is not clear from the plans but it would appear on basement 1 and ground level that the driveway exits right next to bedrooms or balconies on the same level. This will result in acoustic and potentially privacy issues.	<ul style="list-style-type: none"> ▪ <i>"Apartment 4B07 private open space, located adjacent to the main car park entry on Nancarrow Ave is raised (RL 16.500) and screened (blade wall to the side of the driveway, landscaping) relative to the main entry drive way (highest point on the driveway RL 15.250).</i> ▪ <i>Main building lobby (RL 16.500) on Nancarrow Avenue is raised and screened relative to the car park entry."</i>
It would also appear that there are fragmented units with very poor entry sequence and no lift access such as on Basement Level 1 adjacent to Belmore Street.	<ul style="list-style-type: none"> ▪ <i>"Refer to the latest set of plans</i> ▪ <i>Lift access provided to all apartments."</i>
There are issues with privacy and amenity for units in the internal corners of the courtyards and where units protrude towards each other on the courtyard legs where separation appears to be only about 8 m.	<p><i>"Visual and acoustic privacy issues in the internal corners of the buildings addressed by:</i></p> <ul style="list-style-type: none"> ▪ <i>introducing vertical privacy fins/blades to bedroom windows</i> ▪ <i>introducing sliding/folding privacy screens to the balconies of the apartments living areas</i> ▪ <i>reducing the size and changing the location of the bedroom windows."</i>
In terms of the elevations the upper floors are poorly integrated architecturally.	<ul style="list-style-type: none"> ▪ <i>"Upper floors (pop-ups) of stages 4&5 are set back significantly relative to the main building envelope to reduce buildings' bulk and scale when viewed from the street.</i> ▪ <i>Pop-ups' envelope is consistent with the approved master plan envelope.</i>

	<ul style="list-style-type: none"> ▪ <i>Top floors are designed as compact and linear layouts with apartments accessed from the double loaded residential corridor.</i> ▪ <i>Massing of the pop-ups is simplified (reduced to simple rectangular prism look) to minimize the staggered appearance of the overall buildings' envelope and existing topography.</i> ▪ <i>Scale and massing of the pop-ups are further reduced visually by the use of the dark and recessive cladding colours."</i>
<p>The elevations on g-14 suggest some units are below ground and this would not provide appropriate amenity.</p>	<ul style="list-style-type: none"> ▪ <i>"Revised on the latest set of plans.</i> ▪ <i>There are no apartments located below ground level.</i> ▪ <i>Loft (maisonette) style apartments are introduced to the ground floor of stage 4, facing Belmore Street and Nancarrow Avenue. Double height living areas are accessed from the residential corridors/building lobbies on Basement 1 and from the street level via stairs integrated with raised landscaped private courtyards. Landscape treatment on the corner of Belmore and Nancarrow screens blank car park walls of the Basement 1 and 2."</i>
<p>G15 suggests exposed car parking walls but it is not clear how these will be treated.</p>	<ul style="list-style-type: none"> ▪ <i>"Addressed by landscape design.</i> ▪ <i>Exposed car park walls are screened by the raised landscaped areas.</i> ▪ <i>Landscaping is terraced to suit existing topography and connected to the raised private courtyards, screening blank car park walls (corner of Belmore St and Nancarrow Ave)"</i>
<p>The staggered building forms are disconnected in their architectural expressions and accentuate the upper levels and overall height and bulk see g-16 and g-17</p>	<ul style="list-style-type: none"> ▪ <i>"Refer to the current architectural plans.</i> ▪ <i>Proposed building envelope is consistent with approval.</i> ▪ <i>Massing and design of the pop-ups has been reviewed, minimizing the bulk and scale by simplifying the overall building shape and form."</i>

The proposal considers and addresses these aspects of the development identified for further improvement and the final design addresses each of these. Refer to the SEPP 65 Statement and RFDC Assessment against the Rules of Thumb prepared by R+M in relation to how the design satisfies the above items (**Appendix 3**).

2.5 Discussions with State Agencies

The preparation and assessment process for the Concept Plan has included consultation with several State Agencies, the interests of which have been included in the Concept Approval and this proposal. Following the approval of the Concept Plan and as outlined in the Statement of Commitments, the proponent has undertaken further consultation which has been incorporated into this proposal.

The following agencies have been consulted include:

- Roads and Maritime Services; and
- Sydney Water;

As detailed in the Traffic Report, the traffic and transport consultants, Road Delay Solutions, on behalf of the applicant, has been in continuing contact with RMS in relation to satisfying the Conditions of the Concept Plan and Statement of Commitments.

3. The Site and Context

3.1 The Concept Plan Site

The Shepherds Bay Concept Plan site is located approximately 14 kilometres north-west of the Sydney CBD and on the Shepherd's Bay Foreshore between Ryde and Meadowbank.

The principal portion of the Concept Plan site forms an amalgamated precinct bounded, and with direct frontage to, Bowden Street, Constitution Road, Belmore Street and Rothesay Avenue. The site is also dissected by Nancarrow Avenue and Hamilton Crescent.

Of relevance to the Concept Plan Approval, the site also consists of the 'Church Street Site'. This site is separate from the rest of the Concept Approval and is located to the south-east and bound by Church Street, Well Street, Waterview Street and The Loop Road. The total combined site area is approximately 6.7 hectares and is demonstrated in **Figure 1** below.

The Concept Plan site benefits from being in the vicinity of regular rail, ferry and bus services. The main portion of the site is within 350 metres to 1km walking distance from the Meadowbank Railway Station and the Village Plaza and 250 metres to 1km from the Meadowbank Ferry Wharf. The Church Street site is also within 200m of bus services on Church Street, and approximately 1km from the railway station and ferry wharf.

The site currently comprises part of the former Meadowbank Employment Area and is experiencing a period of transition from manufacturing and light industrial uses towards the development of a high density mixed use neighbourhood.



Figure 1: Extract from the Masterplan of the Shepherds Bay redevelopment site prepared by Place Planning dated June 2013 which identifies the boundary of the Concept Plan Site.

3.2 The Site

The site which is the subject of this DA comprises 18 Constitution Road and 7-9 Hamilton Crescent, Ryde. These sites were originally known as Stages 2 and 4, but were re-named

as Stages 4 and 5 pursuant to the most recent s75W application. The location of Stages 4 and 5 with respect to the Concept Plan site is detailed on Figure 2 below:



Figure 2 - Extract from Indicative Staging Plan prepared by R&M Architects detailing the location of the Stage 4 and Stage 5 buildings

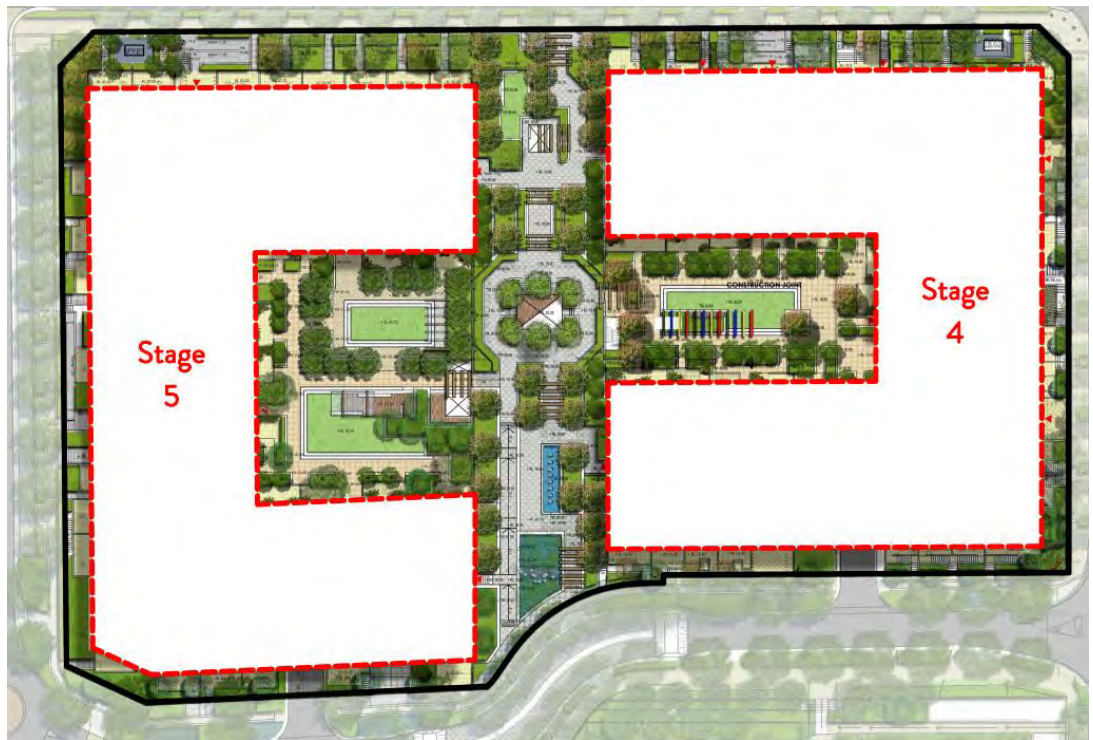


Figure 3: Extract from Site Plan prepared by R&M Architects detailing the building footprint of Stage 4 and Stage 5.

The previous light industrial nature of the site is illustrated in the following Figures. It is noted that these buildings are no longer on the site, and have been demolished in preparation for the proposal.



Figure 4: Existing light industrial building at No. 2 Constitution Road (Source: Google Maps)

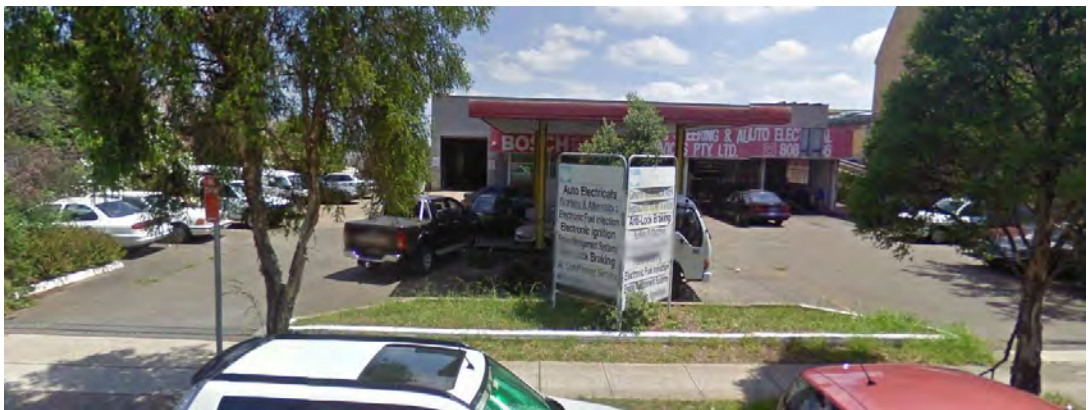


Figure 5: Existing light industrial building at No. 4-6 Constitution Road (Source: Google Maps)

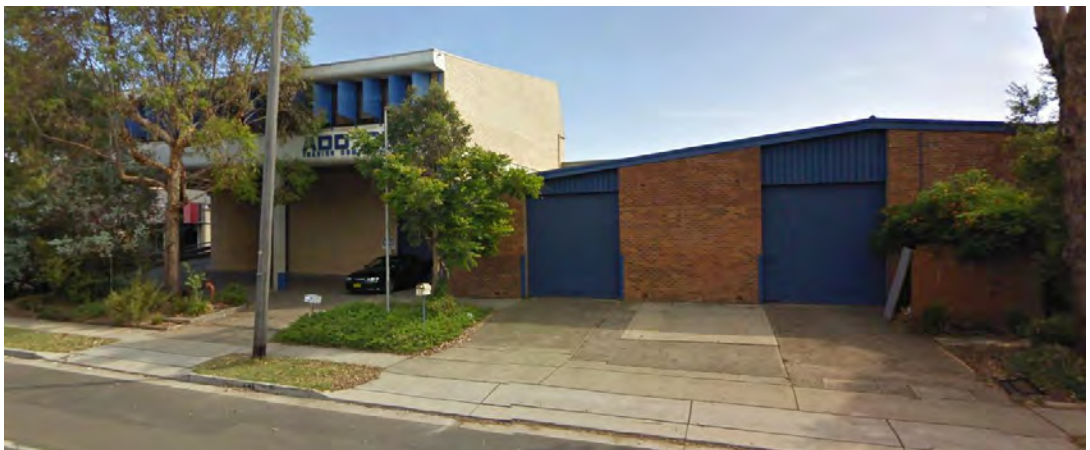


Figure 6: Existing light industrial building at No. 8-14 Constitution Road (Source: Google Maps)



Figure 7: Existing residential dwelling at No. 16 Constitution Road (left) and existing light industrial building at No. 18 Constitution Road (right) (Source: Google Maps)

3.3 Adjoining Development

The Shepherds Bay locality has historically been characterised as a light industrial and manufacturing area. More recently, the area has been transitioning to create a varied mix of land uses with an emphasis on residential and mixed use development.

The peninsula benefits from a foreshore location and a high level of connectivity with the surrounding road network and adjoining large scale residential precincts which have replaced the historic industrial land uses, which is representative of these foreshore areas, such as Rhodes and Breakfast Point.

Shepherds Bay benefits from local retail centres including the Meadowbank shops and West Ryde Marketplace, as well as major retail centres in Rhodes and Top Ryde. There are extensive existing parks and recreation facilities including Olympic Park and access to the Parramatta River.

The locality has historically been characterised by predominantly industrial and warehousing uses. As the area is the subject of ongoing and historical urban renewal, the character of the area is currently transitioning to predominantly provide residential development.

4. Description of the Development

4.1 General Description

This Integrated Development Application seeks consent from Ryde Council for the construction and occupation of 2 residential flat buildings comprising a total of 511 residential units with a shared basement arrangement (refer to the Architectural Drawings).

In summary, the DA consists of the following components:

- The construction and occupation of 2 Residential Flat Buildings consisting of 511 dwellings. Stage 4 comprises 59 x 1 bed, 85 x 1 bed plus studio, 54 x 2 bed, 10 x 2 bed plus studio, 7 x 3 bed, 11 x loft, 2 x loft (2 bed) and 6 x studio apartments with Stage 5 comprising 65 x 1 bed, 132 x 1 bed plus studio, 53 x 2 bed, 17 x 2 bed plus studio, 6 x 3 bed and 4 x studio apartments;
- A shared basement parking arrangement with two separate vehicular entries and exit points off Nancarrow Avenue which provides 621 basement parking spaces including accessible parking spaces, storage areas and waste storage and collection;
- Upgrades to the adjoining streets and public domain works which supports pedestrian and cycle networks within the site.
- Maintenance/augmentation of the services and infrastructure on the site including upgrades to the stormwater and drainage systems.
- The removal of trees on the site and replacement with appropriate landscaping.

We understand demolition of all structures on the site has occurred and the site is now essentially cleared.

4.2 Design Principles

The Architect's design principles which are integrated into the proposal provides a residential character which is responsive to the transitioning context of the site and surrounds and the topography of the site in accordance with the Concept Plan. As detailed in the Architect's Design Report provided at **Appendix 3**, the proposal optimises the quality of the public domain and achieves a high level of amenity for the future occupants and neighbouring properties. The proposal creates a sense of connectivity which contributes to creating a strong sense of character and community.

The design principles apply suitable characteristics in relation to the street and waterfront characters to which they relate, which are interspersed with legible pedestrian network, passive recreation areas, private courtyards and balconies, plantings and views to Shepherds Bay. The proposed development is the result of a carefully considered design approach with input from multiple disciplines which provides a high level of amenity and architectural merit.

R+M have provided further details of the design principles in the architectural drawings, SEPP 65 Design Verification Statement and RFDC Assessment, photomontages, shadow diagrams and Schedule of External Finishes which accompany this application at Appendices 3 and 4.

4.3 Development Statistics

The key statistics and elements of the project are shown in the **Table 2** below:

Table 2: Development statistics

Element	Proposal
Height	<p>Mod 1 of the Concept Plan sets out an approved RL for both the Stage 2 and Stage 3 buildings (plan ref: PPR 001-D). In addition, the modification also approved a building envelope plan for both Stage 4 and Stage 5 (plan ref: Figure 15, Rev 4 and Figure 17, Rev 4).</p> <p>The architectural plans submitted with the DA clearly illustrate the approved built form with a dotted red line with the proposal not exceeding the approved built form.</p>
Setbacks and Separation	<p>As per the requirements of the RFDC and the approved 'Maximum Height with Setbacks' Plan reference PPR 001_D dated 2/11/13 and the Concept Plan. Refer to further discussion in the Architect's Statement.</p>
Dwelling Yield and Mix	<p>Stage 4 - 234 units comprising:</p> <ul style="list-style-type: none"> 6 x studio units (2.5%) 59 x 1 bed units (25%) 85 x 1 bed plus studio (36%) 54 x 2 bed (23%) 10 x 2 bed plus studio (4.3%) 7 x 3 bed (3%) 11 x loft (4.7%) 2 x loft (2 bed) (0.9%) <p>Stage 5 - 277 apartments</p> <ul style="list-style-type: none"> 4 x studio (1.4%) 65 x 1 bed (23%) 132 x 1 bed plus studio (48%) 53 x 2 bed (19%) 17 x 2 bed plus studio (6%) 6 x 3 bed (2.2%) <p>Total Units for Stage 4 and 5: 511</p>
Car Parking	<p>A shared basement parking area</p>

	<p>621 total spaces split between:</p> <ul style="list-style-type: none"> - 517 residential spaces - 104 visitor spaces - 52 accessible spaces - 2 car wash bays - 68 bicycle spaces
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4.4 Indicative Staging

The indicative construction staging of the development is as follows:

Table 3: Indicative staging/phasing of the development

Stage	Phased Works
Stages 4 and 5	As per separate approval – demolition of all existing structures
Stages 4 and 5	Excavation Works - 'early works' as per separate DA
Stages 4 and 5	Further Site Preparation Works Basement Construction Works
Stages 4 and 5 concurrently	Construction of the residential component of the development for Stage 4 and Stage 5.
Stages 4 and 5 concurrently	Completion of works and issue of separate Occupation Certificates for the residential components of Stage 4 and Stage 5.

The overall construction phasing of the development will be undertaken in an efficient and logical manner.

The proposal also seeks to provide the payment of the Section 94 Contributions in accordance with the issue of the staged construction certificates for the residential components of the development.

4.5 Development Plans & Supporting Documentation

The SEE has been prepared and relies on the accuracy and factual integrity of the architectural drawings prepared by R+M which accompany this application.

The SEE has been prepared and relies on the accuracy and factual integrity of the following technical reports which accompany the application:

- Design Verification Statement, SEPP 65 Design Statement and Residential Flat Design Code Assessment prepared by R+M;

- Direct Solar Access Report prepared by Windtech;
- Natural Ventilation Statement prepared by Windtech;
- Solar Light Reflectivity Analysis prepared by Windtech;
- Detailed and Public Domain Landscape Plans prepared by Place Design;
- Public Art Plan prepared by Black Beetle;
- Hydrology Report and Hydraulic Engineering Plans prepared by Harris Page;
- Parking Impact Assessment Report prepared by Thompson Stanbury;
- Travel Plan for a Sustainable Future prepared by Road Delay Solutions;
- Access Report and Adaptable Report prepared by Design Confidence;
- BCA Report prepared by Vic Lilli;
- Fire Safety Report prepared by GN Consulting;
- Energy Efficiency Report, BASIC Report and BASIX Certificates prepared by Integreco; and
- Operational Waste Management Report prepared by Elephants Foot;

CPSD has wholly relied on the technical information, professional opinion and supporting justification in these reports, as prepared by professionals in their field, for the preparation of this SEE and the satisfaction of the technical conditions of consent.

4.6 Future Subdivision

The future Strata Subdivision of the development will be the subject of a separate Development Application(s).

4.7 Cost of Construction

The cost of construction of the project is estimated at \$126,928,086. Refer to the QS Report prepared by Altus Page Kirkland and submitted with the DA.

5. Statutory Planning Considerations

5.1 Overview

The relevant statutory framework considered in the preparation of this report comprises:

- Environmental Planning and Assessment Act, 1979;
- Environmental Planning and Assessment Regulation 2000;
- State Environmental Planning Policy No. 32;
- State Environmental Planning Policy No. 55;
- State Environmental Planning Policy No. 65;
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (State and Regional Development) 2011;
- Sydney Regional Environmental Planning Policy (Sydney Harbour Catchment) 2005; and
- Ryde Local Environmental Plan 2014.

Where relevant, these controls are addressed below.

5.2 Environmental Planning & Assessment Act 1979

Section 6A of the EP&A Act 1979 provides transitional arrangements for the repeal of Part 3A. In the case of Concept Plans, Clause 3B of Schedule 6A sets out the provisions to be addressed. Clause 3B(2) provides the following provisions which are relevant to developments assessed under Part 4:

- (a) *if Part 4 applies to the carrying out of the development, the development is taken to be development that may be carried out with development consent under Part 4 (despite anything to the contrary in an environmental planning instrument),*
- (b) *if Part 5 applies to the carrying out of the development, the development is taken to be development that may be carried out without development consent under Part 4 (despite anything to the contrary in an environmental planning instrument),*
- (c) *any development standard that is within the terms of the approval of the concept plan has effect,*
- (d) *a consent authority must not grant consent under Part 4 for the development unless it is satisfied that the development is generally consistent with the terms of the approval of the concept plan,*
- (e) *a consent authority may grant consent under Part 4 for the development without complying with any requirement under any environmental planning instrument relating to a master plan,*

- (f) the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan,*
- (g) any order or direction made under section 75P (2) when the concept plan was approved continues to have effect.*

These provisions set out that the Concept Plan continues to have effect. In the event of any inconsistency between the Concept Plan approval and any Environmental Planning Instrument or Development Control plan, the approved Concept Plan prevails.

Part 3A Consistency with the Concept Plan

This section addresses the consistency of the proposal with the modified Concept Plan (MP09_0216). A detailed assessment of the proposal against the Conditions and Statement of Commitments is provided at **Appendix 1** of this Report.

Part A – Terms of Approval

This application is generally consistent with the administrative conditions of the Concept Plan (as modified in MP09_0216 Mod 1) including the approved plans and documentation.

In accordance with Condition A6, all public open spaces, drainage reserves and through site links will be publicly accessible and maintained in private ownership by the future body corporate unless otherwise agreed by the Council.

Part B – Modifications

On 24 June 2013, The Department of Planning and Infrastructure discharged Condition B1 of the Concept Plan. This proposal maintains consistency with Condition B1 taking into account further amendments approved in MP09_0216 Mod 1.

The proposal maintains consistency with the requirements of Part B – Modifications Condition B1, including satisfying the maximum RLs, providing a public domain plan, providing a site wide WSUD strategy, and allowing for pedestrian and cycleways. This application is also accompanied by a Sustainable Travel Plan prepared by Road Delay Solutions and provided at **Appendix 11**.

Schedule 3 – Future Environmental Assessment Requirements

This application addresses all of the Conditions of Consent in accordance with the Concept Plan (MP09_0216) and provides assessment and recommendations from suitably qualified consultants which confirm that the proposal complies and/or is capable of providing a development which satisfies the relevant objectives and development controls applicable to this site. Refer to further discussion below and the supporting reports which accompany this DA.

Detailed consideration of the consistency of the proposal with the Conditions of Consent in Schedule 3 – Future Environmental Assessment Requirements is provided at **Appendix 1**.

Section 91 – Integrated Development

This section of the Act defines ‘integrated development’ as matters which require consent from Council and one or more approvals under related legislation. In these circumstances,

prior to granting consent Council must obtain from each relevant approval body their General Terms of Approval (GTA) in relation to the development.

The site is within 40 metres of the 'bed' of Shepherds Bay, being waterfront land, and is therefore a controlled activity pursuant to the Water Management Act 2000. The works in this area primarily consist of landscaping.

This application is therefore classified as "integrated development."

5.3 Compliance with Relevant Strategic & Statutory Plans & Policies

This section addresses the consistency of this proposal with the relevant strategic and statutory plans and policies.

Relevant Strategies

The Concept Application (MP09_0216) and this application have been prepared with due regard for relevant strategies including the Metropolitan Strategy: City of Cities, the NSW State Plan, The Metropolitan Review and Draft Inner North Subregional Strategy. It is noted that the Draft Metropolitan Strategy has also recently been released. This application maintains the approved mixed use neighbourhood area which supports the transitional intent of the area for residential development with ancillary retail and service opportunities. This is achieved through the provision of residential dwellings and improvements to the public domain.

This proposal is in keeping with the strategic intent of the locality in line with the Ryde Local Environmental Plan 2010 and Ryde Development Control Plan 2010 including the Meadowbank Employment Area DCP which encourages the transition for mixed use land uses to transform this previously industrial precinct. The proposal is considered to provide a positive contribution to the transitioning character of Shepherds Bay which satisfies the objectives and directions of the relevant policies and strategies.

State Environmental Planning Policies

This application have been prepared with due regard for relevant State Environmental Planning Policies (SEPPs) as discussed below, including SEPP (Major Projects) 2005, SEPP (Infrastructure) 2007, SEPP 55 – Remediation of Land, SEPP (Sydney Harbour Catchment) 2005, SEPP 32 Urban Consolidation (Redevelopment of Urban Land), SEPP 65 Design Quality of Residential Flat Development and SEPP (BASIX) 2004. It is considered that this application continues to satisfy the objectives and requirements of the relevant SEPPs. Further consideration of these SEPPS is provided below.

State Environmental Planning Policy (Infrastructure) 2007

This SEPP provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

The need for a traffic report is outlined in Clause 104 (Traffic-generating development), which must address such issues as access and any parking or traffic impacts of the proposed development.

Residential Flat Building developments with 75 or more dwellings with access to a classified road, or a road that connects to a classified road, are required to be referred to the RTA for comment. Where no access to a classified road (or a road that connects to a

classified road) is proposed, referral to the RTA is required where 300 or more dwellings are proposed.

The proposal meets all relevant Infrastructure SEPP requirements. The RMS provided comments with regard to the Concept Plan and did not raise any objections and provided conditions of approval. Ongoing discussions between Road Delay Solutions have also been held with RMS.

Consideration of the current traffic conditions of the site and locality is provided in the Infrastructure Assessment Report prepared by Road Delay Solutions and provided at **Appendix 12**. This report provides an analysis of the relevant existing and approved developments in the locality, as well as the traffic implications of the proposed development and confirms that the proposed parking provision is in accordance with the Concept Plan including the relevant conditions, and the wider road network will be able to cater for the additional, with intersections operating at satisfactory or better levels of service.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (SREP SHC) aims to establish a balance between promoting a prosperous working harbour, protecting and maintaining a healthy and sustainable waterway environment and promoting recreational access to the foreshore and waterways.

The SREP SHC land use map identifies that land along the foreshore adjacent to the site is zoned W2 - Environmental Protection. This zone provides for the protection, rehabilitation and long-term management of the natural and cultural values of the waterways adjoining the foreshores.

Land along the foreshore adjacent to site is also zoned W8 – Scenic Waters Passive Use Fringe. This zone aims to give effect to inter-tidal public access zones and gives priority to protecting the environment and scenic values of predominately natural shores and waters. The Passive Use Fringe Zone may adjoin residential land or public open space.

Refer to the Zoning Plan provided at **Figure 8** below.



Figure 8: SREP (Sydney Harbour Catchment) 2005 Zoning Plan

Through the retention and absence of impact on the mangrove communities and the retention of public access along the foreshore, it is considered that the proposed Concept is consistent with the land use objectives and provisions of the SREP.

This proposal is consistent with the Concept Plan. The proposal will enhance the natural environment and complement the existing vegetation. Remediation of the site will also significantly improve the environmental situation on the site. Given the substantial positive outcomes being delivered as a result of the proposed development, the proposal is considered to be clearly in the public good.

State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Urban Land)

Some of the key objectives of the policy, which apply to the site, are to promote urban consolidation; ensure that suitable urban land for multi-unit housing is made available and to provide a greater diversity of housing to meet demand generated by changing demographics and housing needs.

The proposal supports this policy in encouraging higher-density residential development in an existing urban area with good access to transport and services.

State Environmental Planning Policy No. 55 - Remediation of Land

SEPP 55 requires that prior to the granting of consent to any development that consideration be given to whether or not the land is suited to the intended use of the land with respect to potential soil and groundwater contamination.

To address this, the Concept Application was supported by a Preliminary Screening Contamination Assessment and a Preliminary Geotechnical and Groundwater Assessment dated October 2010 prepared by Douglas Partners in order to assess the likelihood and/or extent of potential soil and groundwater contamination, which may have resulted from past and present uses on or adjacent to the site. These reports did not raise significant concern with regard to the proposed works and residential use on this site.

Further detailed assessment of the soil and groundwater conditions of the site was undertaken by Environmental Investigations with the results provided in the Contaminated Land Report (RAP) provided at **Appendix 22**.

In summary, subject to the removal of localised contaminated soils, (which would largely be removed in place of excavated basements), and other recommendations made by Environmental Investigations, the site is considered to be suited to the proposed development and thereby satisfies the provisions of SEPP 55.

As a result of the above, a feasible and robust Remediation Action Plan (RAP) has been prepared at **Appendix 22** and considers that the site the subject of this DA can be made suitable for the approved residential and open space development following the implementation of the RAP, as endorsed by the Site Auditors Advice.

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

SEPP 65 sets out 10 design principles for residential flat development, which include context, scale, built form, density, landscape, amenity, resource energy and water efficiency, safety and security, social dimensions and aesthetics.

SEPP 65 and the supporting Residential Flat Code are considered to be the key guiding planning documents informing the assessment of this proposal.

Through the preparation of a detailed SEPP 65 Statement, an Architects Design Report and provision of a design verification statement (provided at **Appendix 3**), R+M has confirmed that the scheme is consistent with the Concept Plan and satisfies all relevant

requirements of SEPP 65, and specifically having regard to Condition 21 of the Concept Modification.

Refer to **Appendix 3** for the SEPP 65 assessment prepared by R&M.

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

The Building Sustainability Index (BASIX) was introduced by the NSW Government to deliver equitable water and greenhouse gas reductions across the state. It sets water and energy reduction targets (as a percentage) for new houses and units, ensuring that dwellings are designed to use less potable water and emit less greenhouse gases.

A BASIX Assessment has been prepared in support of the DA by Integreco Consulting. This confirms that the proposal will meet, if not exceed all relevant BASIX requirements.

In addition, and to complement and augment the BASIX assessment, an ESD Guidelines and Report was prepared and submitted with the original concept application. The Strategy, prepared by Ecospecifier, outlined a roadmap to achieving “industry best practice” and beyond. The “base targets” provided (sourced from EnviroDevelopment) were designed to reflect industry best practice in Australia while the “stretch targets” (sourced from Green Star tools and/or an extension of EnviroDevelopment Targets) are designed to provide additional initiatives which will help the development exceed industry best practice and approach the realms of “world’s best practice”.

Condition 22 of the Concept Modification requires an ESD Report to be prepared that sets out those measures within the original Report that are to be integrated into the current proposal. Prepared by Integreco Consulting and located at **Appendix 18**, this advice states that the proposed project will commit to achieve include:

- "1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.*
- 2. Water scores (measured by BASIX) which exceed the targets by just under 10%.*
- 3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.*
- 4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report (“101117 Shepherds Bay Meadowbank - ESD Report”). "*

Refer to the ESD Report at **Appendix 18** for further information.

Ryde Local Environmental Plan 2014

Major Project Approval MP09_0216 was approved pursuant to Part 3A of the EP&A Act 1979, and remains the relevant Instrument for Approval for this site. Given these circumstances, the Ryde Local Environmental Plan (LEP) 2014 is relevant, however where there are any inconsistencies with the terms of the Concept Approval, the Concept Approval shall prevail.

Notwithstanding, the proposal continues to satisfy the objectives of the B4 Mixed Use zone and the objectives and development standards and relevant requirements of the LEP, as addressed in the table below:

Table 4: RLEP 2014 Compliance Table

RLEP 2014	Comment
<p>Zone B4 Mixed Use: Objectives</p> <ul style="list-style-type: none"> • To provide a mixture of compatible land uses. • To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling. 	<p>Notwithstanding that the uses have been approved as part of the Concept Approval, the proposal provides for residential uses.</p>
<p>4.3 Height of buildings</p>	<p>The maximum height of the proposal has been established through the Concept Approval. In particular, approved plan ref. PPR 001-D provides maximum RL's for each of the proposed buildings.</p> <p>These maximum RL's are clearly detailed on the submitted architectural plans.</p> <p>The proposed buildings will not exceed these maximum RL's.</p> <p>In addition, it is noted that the Concept Modification approved various 'popups' across both Stage 4 and 5. The extent of these 'popups' are detailed on approved plan references Figure 15 Rev 4 and Figure 17 Rev 4. These 'popups' permit additional storeys on top of the maximum RL's, so long as they do not exceed 60% of the footprint of the typical floor plate below.</p> <p>We are advised that the proposed 'popups' as detailed on the submitted architectural plans meets this requirement and therefore the proposal is consistent with the Concept Approval as modified.</p>
<p>4.4 Floor space ratio</p>	<p>The Concept Approval did not provide an FSR for the site, instead setting a dwelling cap of 2,005 across the whole Concept Plan site. The proposal seeks approval for 511 dwellings, with the residual to be provided as part of future stages.</p>
<p>5.7 Development below mean high water mark</p> <p>(1) The objective of this clause is to ensure</p>	<p>Excavation proposed is above MHWM.</p>

<p>appropriate environmental assessment for development carried out on land covered by tidal waters.</p> <p>(2) Development consent is required to carry out development on any land below the mean high water mark of any body of water subject to tidal influence (including the bed of any such water).</p>	
<p>5.9 Preservation of trees or vegetation</p> <p>(1) The objective of this clause is to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation.</p>	<p>In accordance with the requirements of the original Arborist's Report prepared by Redgum, Trees Reference 132 and 133 will be retained as part of the proposal.</p> <p>In support of the DA, detailed Public Domain Landscape Plans have been prepared by Place Design. These detail the landscape treatment across the site, including the provision of additional trees.</p>
<p>6.1 Acid sulfate soils</p> <p>(1) The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.</p> <p>The site is Class 5.</p>	<p>A Remediation Action Plan has been prepared by Environmental Investigations, and is submitted with the DA (refer Appendix 22). This concludes that the:</p> <p><i>"Subject land lies within the map class description of No Known Occurrence. In such cases, acid sulfate soils (ASS) are not known or expected to occur and "land management activities are not likely to be affected by ASS materials"</i></p> <p><i>Some ASS is likely to be present along the foreshores of Shepherds Bay but the development does not extend to this area"</i></p>
<p>6.2 Earthworks</p> <p>(1) The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.</p> <p>(3) Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters:</p> <p>(a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development,</p>	<p>A Construction Management Plan has been Prepared in support of the DA. This includes detailed erosion and sediment control measures to be adopted during construction.</p>

<p>(b) the effect of the development on the likely future use or redevelopment of the land,</p> <p>(c) the quality of the fill or the soil to be excavated, or both,</p> <p>(d) the effect of the development on the existing and likely amenity of adjoining properties,</p> <p>(e) the source of any fill material and the destination of any excavated material,</p> <p>(f) the likelihood of disturbing relics,</p> <p>(g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,</p> <p>(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</p>	
<p>6.4 Stormwater management</p> <p>(1) The objective of this clause is to minimise the impacts of urban stormwater on land to which this clause applies and on adjoining properties, native bushland and receiving waters.</p> <p>(2) This clause applies to all land in residential, business and industrial zones.</p> <p>(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:</p> <p>(a) is designed to maximise the use of water permeable surfaces on the land having regard to the soil characteristics affecting on-site infiltration of water, and</p> <p>(b) includes, if practicable, on-site stormwater retention for use as an alternative supply to mains water, groundwater or river water, and</p> <p>(c) avoids any significant adverse impacts of stormwater runoff on adjoining properties, native bushland and receiving waters, or if that impact cannot be reasonably avoided, minimises and mitigates the impact.</p>	<p>Stormwater plans have been prepared by Harris Page, and are submitted with the DA.</p>

6. Non-Statutory Considerations

6.1 Ryde Development Control Plan

Both the original and modified Concept Approval (MP09_0216) as well as this application have been prepared with due regard for the relevant sections of the Ryde DCP.

The proposed development will provide a development which is integrated and compatible with the existing and intended built form of Shepherds Bay. The proposed residential development and associated public domain areas will provide a high level of public accessibility, in particular to the foreshore link and plaza area. The proposal will also contribute to the availability of housing choice in an area which is responsive to current and future market demand. The site is well serviced by public transport and will not result in adverse environmental impact.

An assessment of the proposal against the requirements of the relevant sections of the Ryde DCP is provided at **Appendix 2**. As this assessment demonstrates, the proposal largely satisfies the provisions of the DCP.

As detailed earlier in this report, Major Project Approval MP09_0216 was approved pursuant to Part 3A of the EP&A Act 1979, and remains the relevant Instrument for Approval for this site. As with the application of the Ryde LEP, the application of the Ryde DCP is relevant, but where there are inconsistencies between the Concept Approval and the DCP, the Concept Approval shall prevail.

Furthermore, the amalgamation of the land and ability of the proposal to deliver key public benefits warrants some flexibility in the application of the DCP to the proposal. Flexibility in the application of the DCP provisions is therefore considered appropriate subject to achieving the objectives of the Concept Approval.

This approach is one recently reinforced by the NSW Government's recent *Environmental Planning & Assessment Amendment Bill 2012* and as set out in Section 79C(3A)(b) of the EP&A Act, 1979:

"79C Evaluation

(3A) Development control plans

If a development control plan contains provisions that relate to the development that is the subject of a development application, the consent authority:

(a) if those provisions set standards with respect to an aspect of the development and the development application complies with those standards—is not to require more onerous standards with respect to that aspect of the development, and

(b) if those provisions set standards with respect to an aspect of the development and the development application does not comply with those standards—is to be flexible in applying those provisions and allow reasonable alternative solutions that achieve the objects of those standards for dealing with that aspect of the development, and

(c) may consider those provisions only in connection with the assessment of that development application.

In this subsection, standards include performance criteria."

Refer to **Appendix 2** for the full compliance assessment

Part 7.1 Energy Smart, Water Wise

Part 7.1 of the City of Ryde DCP 2014 relates to provision of sustainable development. Objectives include encouraging the design of energy efficient buildings, optimising solar access, decreasing total energy consumption and generally to reduce green house gas emissions and natural resource consumption.

The proposal is accompanied by a BASIX Certificate and an ESD Target Letter prepared by Integreco Consulting (refer **Appendix 17 and 18** - in line with Condition 22 of the Concept Approval). This letter details the measures which will be implemented to minimise energy consumption and demonstrates how the intent of the DCP in relation to energy efficiency has been met.

Part 7.2 Waste Minimisation & Management

Part 7.2 of the City of Ryde DCP 2014 relates to waste minimisation and management during construction and the continued operation of proposed development. Objectives include minimising resource requirements and construction waste, maximising recycling and re-use opportunities and to minimise overall environmental impacts.

A Waste Management Plan prepared by Elephants Foot accompanies this application and addresses the objectives for Waste Minimisation and Management as set out within this Part.

The proposed development provides adequate space for the sorting and storage of waste receptacles within the basement area.

Part 8.1 Construction Activities

Part 8.1 of the City of Ryde DCP 2014 includes objectives which encourage consideration of Ecologically Sustainable Development and site management as well as those related to protection of the environment and local amenity during construction.

An Erosion and Sediment Control Plan has been prepared and has considered the provisions within clause 2.1.2 with regard to the proposed development. Site clearing, demolition activities, water diversion, gutter bunding, signage, amenities, vehicle access, road cleaning and safety can be adequately addressed within a Construction Management Plan and dealt with by way of appropriate conditions of consent.

Part 8.2 Stormwater Management

Part 8.2 of the City of Ryde DCP 2014 includes provisions relating to the management of stormwater associated with development. The subject application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's stormwater management requirements.

Part 8.3 Driveways

Part 8.3 of the City of Ryde DCP 2014 includes specific provisions concerning the design of driveways.

As the plans submitted with the DA demonstrate, vehicular access to the basement level is to be provided via two driveways connecting with Nancarrow Avenue to the south-eastern and south western corners of the site.

To address Council's requirements, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates (refer **Appendix 10**).

This Report assesses the proposed access arrangements against the relevant Australian Standards, being AS2890.1-2004 concluding that whilst the proposed arrangement therefore constitutes a variance with respect to the Australian Standard, the driveway designs are considered satisfactory.

Refer to Section 3 of the Internal Traffic Assessment for further information.

Part 8.6 Floodplain management

Part 8.6 of the City of Ryde DCP 2014 includes specific provisions to guide development to ensure danger to life and property damage associated with flooding and overland flow are minimised in a manner consistent with the Policies of Council formulated under the NSW Flood Policy and Floodplain Development Manual (FDM).

A Flood Assessment has been prepared in support of the application by BG&E. This Report assesses the siting and levels of the driveways, concluding that:

" Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."

Part 9.1 Signage

Part 9.1 of the City of Ryde DCP 2014 includes specific provisions concerning the erection and display of signage to balance the distinctive urban character of the area and the need to advertise goods and services.

The proposal does not include signage. This will be the subject of subsequent development Applications.

Part 9.2 Access for People with Disabilities

The DCP requires that the residential flat buildings must provide an accessible path of travel to all units as well as the provision of 10% adaptable units. The application is accompanied by an Access Report prepared by Design Confidence. This report advises that 52 adaptable units are required within the development. As the submitted plans demonstrate, the proposal will meet this requirement.

Part 9.3 Parking Control

The Car Parking DCP requires parking to be provided at the following rates for the residential component:

- 0.6 to 1 space per one bedroom dwelling
- 0.9 to 1.2 spaces per two bedroom dwelling
- 1.4 to 1.6 spaces per three bedroom dwelling
- 1 visitor space per 5 dwellings

In support of the application, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates. Section 4 of this Report provides an assessment of the proposed car parking.

As detailed within this Report, the subject development is required to provide between 360 and 547 resident parking spaces and 103 visitor parking spaces. With reference to the submitted plans, the proposal will provide 621 spaces in total, split between 517 resident and 104 visitor parking spaces. The Report therefore concludes that the proposed parking is suitably compliant with Council's DCP.

Part 9.5 Tree Preservation

Part 9.5 of the City of Ryde DCP 2014 includes specific provisions concerning the effective management of trees as a natural resource and as part of the urban infrastructure to ensure the long term retention of existing trees, appropriate tree maintenance, protection of trees on development sites, and in relation to replacement trees, suitable tree location and considered species selection.

In accordance with the requirements of the original Arborist's Report prepared by Redgum, Trees Reference 132 and 133 will be retained as part of the proposal.

In support of the DA, detailed Public Domain Landscape Plans have been prepared by Place Design. These detail the landscape treatment across the site, including the provision of additional trees.

7. Environmental Impact Assessment

7.1 Overview

This section identifies and assesses the impacts of the development with specific reference to the heads of consideration under section 79C of the Act.

7.2 Context and Setting

The context and setting of the development site is described in Section 2.3 of this Statement. As discussed in detail in the Architects Design Report prepared by R+M and provided at **Appendix 3**, the proposal is considered to be compatible within the context and built form of the character of the existing and future surrounding (former) industrial, warehousing, retail and residential developments. The built form also satisfies the relevant Conditions of Consent in the Concept Plan in relation to design and urban design. The proposal provides a built form and massing which is considered to positively contribute to the quality and transitioning identity of the locality.

7.3 Built Environment

7.3.1 Height, Bulk & Scale

Working within the layout of the site in accordance with the Concept Plan, the design of the proposal is considered to properly respond to site attributes and prevailing environmental conditions for the following reasons:

- The terms of the Concept Approval sets out the bulk and scale of the proposed buildings. This is established through an approved envelope as well as maximum RL's and 'popup' allowances for each of the buildings. The proposal does not seek to vary the approval in this regard.
- The SEPP 65 analysis prepared by R&M concludes that the proposal maintains consistency with relevant design principles being, context, scale, built form density, landscaping and aesthetics and has the capability of demonstrating compliance with the "rules of thumb" in the RFDC;
- The landscape scheme for the site is generous and will significantly improve the amenity of the site's interface with the public domain as well as internally within the site. A series of significant replacement trees are proposed within the site and in the public domain which creates a treed environment which supports the new residential character of the locality; and
- The design allows for the delineation of the public and private spaces within the development to create a shared experience which welcomes the public which is balanced with respecting the privacy of future residents.

Overall, the proposal significantly improves the quality of the streetscape, transforms the old industrial sites and creates the neighbourhood of Shepherds Bay in accordance with the approved Concept Plan.

7.3.2 Setbacks

The terms of the Concept Approval sets out the bulk and scale of the proposed buildings. This is established through an approved envelope as well as maximum RL's for each of the buildings.

The proposal does not seek to vary the approval in this regard.

7.3.3 Design & Aesthetics

The redevelopment of the subject site is a unique opportunity to enhance and regenerate the former industrial area including its buildings and public domain areas. As discussed in detail in the Design Report prepared by R+M and provided at **Appendix 3**, the proposal provides a contemporary built form which is appropriate in terms of bulk, density and scale in the local context. This is achieved by providing a mixed use development which cohesively integrates with the neighbouring ground floor non-residential spaces with residential apartments above which create the opportunity for future residents to enjoy the local outlook as well as enjoying an appropriate level of privacy. The built form incorporates a mixture of vertical and horizontal elements which are supplemented by ornamental landscaping and operable privacy screens which endorse activity between light and dark from within the building. This creates an interesting and lively relationship at the street boundaries which engages and connects with the public forum.

The proposal directly relates to the street, providing direct pedestrian access to the entry points of the site and to the terraces of the Ground Floor residential units which are demarcated by a raised wall structure and privacy fencing. In conjunction with the modulated building elevations the proposal results in a built form which responds to the human scale while also creating an independent roof line which strengthens the form of the building from the adjacent buildings.

As discussed in the Design Report prepared by R+M provided at **Appendix 3**, the evolution of the design of the building has taken into consideration the concepts of good urban design and the comments provided by Council's Planning Officers. The proposal achieves adequate separation between the buildings, the opportunity to manage and define the level of privacy from each unit, direct relation to the street, and an aesthetically pleasing design and scale of development.

The design is sensitive to maintaining the amenity of current and future neighbouring developments by providing a floor plan layout which enables suitable building separation, placement of habitable rooms and windows and private open space. As discussed in detail in the Design Report prepared by R+M and provided at **Appendix 3**, the proposal is designed to enhance the privacy and amenity of the future occupants within the site and of neighbouring sites.

The adequacy of the design of the development is demonstrated by the following elements:

- The proposal provides a building form which addresses the boundaries of the site to create an active urban edge which activates the interface with the public domain;
- The height and density of the building is consistent with the outcomes contemplated in the Concept Approval;
- The siting of the Public Plaza provides a high level of accessibility and provides a usable and inviting space which connects with the public domain;
- The size and arrangement of the floor plates ensure that the internal amenity of apartments is maximised for natural light and cross ventilation;
- Apartments are provided with appropriately sized and located areas of private open space;
- Access between the private and communal areas within the complex is direct, safe and efficient; and

- The proposal provides a direct and efficient arrangement for vehicular ingress and egress, including a dedicated loading bay and waste storage and collection area which accommodates the needs of the commercial and residential occupants of the site, as well as their visitors and customers.

7.3.4 Solar Access & Ventilation

The proposed development has been carefully designed to achieve a high level of amenity with due consideration to the ability of each apartment to benefit from receiving solar access, adequate privacy and separation, natural ventilation along with providing floor plan layouts which are efficient and have a high level of liveability. Providing water views has been a key design criteria. This focus on achieving a high level of amenity is also balanced with the requirements to satisfy the RFDC Rules of Thumb as amended by Condition 21 of the Concept Approval.

Condition 21 of the Concept Approval MP09_0216 Mod 1 provides a dispensation in relation to solar access and reads:

"Future Development Applications shall demonstrate compliance with the provisions of the State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) and the accompanying Residential Flat Design Code 2002 (RFDC), except where modified below:

In particular, future application/s shall demonstrate that:

...(c) where less than 70% of apartments achieve 2 hours of solar access in mid winter, these apartments (beyond the first 30%) shall be designed to provide improved amenity by:

- *including extensive glazing (minimum 70% of the external façade) to living rooms;*
- *permitting cross-ventilation specifically to those apartments; and*
- *exceeding RFDC guidelines by at least 20 10% in at least one both of the following areas:*
 - *increased floor to ceiling height; or and*
 - *increased minimum apartment areas, being greater than 50sqm for 1 bedroom, 70sqm for 2 bedroom and 95sqm for 3 bedroom apartments."*

With reference to Section 3.11 of the RFDC Assessment undertaken by R&M, they advise that, in relation to daylight access that the

"Proposed development is consistent with Concept Approval MP 09-216 and subsequent Mod1 Approval"

In terms of cross ventilation, Windtech has prepared a Natural Ventilation Preliminary Assessment (refer Appendix 5). This statement assesses the performance of the proposal against the objective of the RFDC to provide cross ventilation to 60% of the units. This preliminary assessment initially concludes that the residential units will not comply with the natural ventilation requirements of the RFDC.

However, Windtech's preliminary assessment then sets out an alternative assessment for natural ventilation to include the provision of ventilation shafts within the proposal. To this end, Windtech conclude that:

"It is our expert opinion, based on our extensive experience and field testing of other developments, that the above-mentioned residential apartments are expected to demonstrate natural ventilation performance comparable to those that meet the requirements of SEPP65 if the recommended ventilation shafts and skylights are included. Verification through wind tunnel modelling is recommended at a more detailed design stage of the project (i.e. prior to CC) to accurately determine the precise dimensions and locations of the various ventilation shafts. It is currently considered that shafts in the order of one square metre in cross section connected to 2-3 apartments located on the same aspect would be satisfactory to appropriately address an issue such as this. Shafts of this size have been successfully utilised on other similar developments (eg Top Ryde development by Crown – designed by Robertson & Marks) which have been reviewed and approved by 3rd party consultants.

With these additional ventilation shafts and operable skylights, Windtech conclude that the proposal will meet the RFDC objective to provide cross ventilation to 60% of all units.

7.3.5 Internal Amenity

The proposed development has been produced with particular attention to the amenity of its future occupants, neighbouring properties and the public domain. As discussed at Section 3.1 of the RFDC Assessment prepared by R+M Architects, the proposal includes the following measures to maximise amenity levels within the units:

- *"All apartments have balconies or terraces.*
- *Living spaces are orientated towards the primary outlook.*
- *Screening will be provided where necessary to maximise privacy.*
- *Natural ventilation and daylight access is provided where solar access is possible.*
- *All apartments are provided with appropriate storage facilities (6 -10m³ per apartment).*
- *Generally all apartments living, dining, bedrooms and kitchens are within 8m from the glazing line to allow for daylight access and natural ventilation.*
- *In instances where minor variations to 8m layout depth occur:*

The distance is generally between 8 and 9 m, occurring in dual aspect apartments, apartments with 20% increased area (to satisfy condition 21 of Mod 1 Approval) and in mezzanine type apartments with double storey ceiling height to the living areas.

Spaces within the apartment layouts with depth greater than 8m relative to the glazing line are limited to non-habitable rooms such as bathroom, laundries, storage areas and entry foyers."

R&M consider that the design of the development results in a positive outcome with regard to residential amenity. Careful consideration has been undertaken to mitigate potential aspects of the design which could degrade the quality and liveability of the units both individually and for the development as a whole. R&M consider the amenity of the development to be of high quality and a desirable outcome.

7.3.6 Privacy

Section 2.9 of the RFDC Assessment prepared by R&M looks at privacy within the proposal, detailing that:

"Apartments have been orientated and appropriately separated to provide visual privacy. Screening is proposed to areas where there is potential for overlooking."

7.3.7 Public Domain

The proposal will make a positive compatible contribution to the public domain given:

- The proposed buildings will achieve a desirable interface with public areas in terms of the relationship between Ground level and the adjoining footpaths;
- The buildings will address and integrate with all of its four street frontages through the inclusion of active facades with design elements that promote a visual relationship with public pedestrian areas adjacent to, and surrounding, those edges of the site;
- Vehicle access points have been consolidated and will provide simple and direct vehicular movements throughout the site;
- Service areas and plant rooms are integrated into the building design and do not visually dominate the streetscape or pedestrian areas adjoining the site. This includes the new electricity kiosk substation;
- The apartments which have an easterly outlook have a substantial setback to the adjoining existing residences, the upper levels are gradually set back and privacy mitigation measures are provided to protect the privacy of neighbouring residents;
- The architectural treatment and landscaping elements will achieve a suitable streetscape presentation; and
- The landscape plans nominate an appropriate treatment for the public domain areas adjoining the site.

7.3.8 Heritage

The site is not a heritage item or within a heritage conversation area pursuant to the RLEP 2014.

7.3.9 Materials & Colour

Refer to R+Ms Schedule of External Colours and finishes and comment.

7.3.10 Building & Construction

This report provides a BCA compliance review (**Appendix 15**) of the proposal prepared by Vic Lilli. This sets out a number of recommendations to ensure that the proposed building is capable of achieving compliance with the requirements of the BCA and relevant adopted standards without undue modification to the design or appearance of the building.

A Construction Management Plan has also been prepared in support of the application. This sets out the construction methodology for the erection of the new buildings.

7.4 Natural Environment

7.4.1 Flora & Fauna

The existing physical condition of the site is such that it does not have any ecological attributes which, if lost, would impact upon any threatened species, population, ecological community or habitat.

7.4.2 Tree Removal

The Concept Approval (as modified) permitted the removal of all trees from the site.

7.4.3 Landscape

Concept Approval (as modified) was accompanied by an Overall Concept and Public Domain Plan.

The proposal is accompanied by a detailed landscape scheme and Landscape Design Statement, prepared Place Design and provided at **Appendix 7**.

7.4.4 Water Management

Water Drainage

Existing drainage conditions, proposed design and relevant impacts associated with development are contained in the Stormwater Concept Plans submitted with the DA.

7.4.5 Soil Management

Refer to **Section 4.2** for the SEPP 55 assessment with regard to potential soil contamination.

An Erosion and Sedimentation Control Plan is also provided as part of the Construction Management Plan at **Appendix 21**. This provides measures to ensure the development provides appropriate soil management and sedimentation control during construction.

7.4.6 Air & Microclimate

Some dust is anticipated during the construction period, particularly given demolition and excavation is involved. This impact can be managed through measures such as wetting down work areas/stockpiles, stabilising exposed areas, preventing material tracking out onto public roadways, covering loads on all departing trucks and working to weather conditions. The proposal is otherwise not expected to give rise to any long term or adverse impacts on local or regional air quality.

A final CMP will be provided by the builder, once appointed, prior to the issue of the Construction Certificate.

The proposal is otherwise not expected to give rise to any long term or adverse impacts on local or regional air quality.

7.4.7 Noise & Vibration

The application is accompanied by a Noise Impact Assessment report by DK Acoustics.

Construction noise & vibration

The proposed works have been assessed against criteria for resultant noise from construction which are aimed at maintaining comfort levels within the surrounding residential dwellings. The construction site will adhere to the noise control and regulation measures in accordance with AS 2436:2010 "*Guide to noise control on construction, maintenance and demolition sites.*" Furthermore, the works will adhere to the EPA Construction Noise Guidelines which require the proponent to take into consideration and employ all reasonable and feasible measures to ensure that the impact on noise receivers is minimised.

The works will not exceed the relevant vibration criteria to ensure that no architectural or structural damage to surrounding buildings occurs. Refer to the Noise Assessment at **Appendix 19** for further details.

Internal noise levels to residential areas

The report includes a schedule of requirements for glazing and acoustic seals to ensure that internal areas of the residential apartments achieve the necessary mitigation from road traffic noise.

In order to mitigate potential impacts from traffic noise appropriate acoustic measures are proposed, including glazed windows and doors, roof / ceiling treatment and external walls to be constructed of concrete masonry.

Operational noise

Potential noise sources from the development include noise generated by mechanical plant and commercial uses.

The external mechanical plant will be selected post DA stage, at which point a fully detailed assessment of treatments will be conducted. This future assessment will determine if acoustic treatments to the mechanical plant are required.

The building layout and orientation of the building has been designed to ensure that the acoustic privacy of surrounding residents and future occupants is protected. This has been achieved through the careful consideration of the layout of the development including the significant setback of the building from the eastern boundary and the further gradual setback of the upper residential levels, the internal arrangement of the loading bay and commercial spaces which are directed away from neighbouring residences.

Moreover, the noise levels within the development will satisfy the requirements of the Ryde Council DCP and the relevant Australia Standards.

7.4.8 Energy

An ESD letter has been submitted in support of the DA. This letter is in response to Condition 22 of the Concept Modification (refer **Appendix 18**).

This advice states that the proposed project will commit to achieve include:

- "1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.*
- 2. Water scores (measured by BASIX) which exceed the targets by just under 10%.*
- 3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.*

4. *Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report (“101117 Shepherds Bay Meadowbank - ESD Report”).* "

Refer to the ESD Report at **Appendix 18** for further information.

7.5 Movement & Access

7.5.1 Transport

The site is accessible by public transport being within close proximity to bus, train and ferry stations.

7.5.2 Roads & Traffic

The Infrastructure Assessment Report prepared by Road Delay Solutions and provided at **Appendix 12** has considered the existing and proposed traffic conditions as a result of the proposal.

The Report concludes that:

"Stages 4 and 5 propose construction of 511 high quality, architecturally designed, residential apartments generating some 148vph during the commuter peak travel periods.

The report assess the conditioned infrastructure necessary to sustain the level of development, in accordance with the Department of Planning & Infrastructure Concept Approval, MP09_0216 and proposes the relevant timing for each.

In support of the foregoing assessment, the following is considered relevant to Stages 4 and 5.

- *The site is ideally located in close proximity to a broad range of public transport alternatives, reducing dependence on use of private passenger vehicles.*
- *The site is located within easy walking/cycling distance of a range of shops and services (such as the local post office, TAFE College and primary schools).*
- *The site is located immediately adjacent to a shared pedestrian and bicycle path with links to Parramatta and the Sydney CBD.*
- *Design and construction of the Nancarrow Road extension will improve mobility and accessibility for pedestrians and cyclists. The extension is to incorporate a defined area of high pedestrian activity. The use of raised thresholds, signposting and a coloured and/or textured pavement treatment, to Council specifications, is to be incorporated.*
- *Design and construction of raised thresholds, signposting and a coloured and/or textured pavement treatment, to Council specifications, in Underdale Lane.*
- *Construction of a splitter central island in Hamilton Crescent at Belmore Street to affect left in/left out priority control.*
- *Design and construction of a pedestrian refuge in Bowden Street between Nancarrow Avenue and Underdale Lane.*

- *Design and construction of a triangular, concrete, island in Yerong Street at Belmore Street to facilitate priority controlled left in/left out with construction to be completed prior to the issue of an Occupancy Certificate for Stage 2 of the development.*
- *No warrant exists for the signalisation of the Constitution Road intersection with Bowden Street.*
- *No warrant exists for the signalisation of the marked foot crossing in Railway Road, at this time."*

7.5.3 Car Parking

An Internal Traffic Assessment has been prepared by Thompson Stanbury Associates. This assesses the internal parking, access and delivery arrangements, concluding that the proposal is considered acceptable.

Construction Waste

A Construction Waste Management Plan has been prepared by Bingo Group and is submitted as part of the Construction Management Plan at **Appendix 21**. This Plan sets out the waste management measures that will be adopted as part of the construction phase and to ensure that resources are conserved and waste is processed responsibly by minimising waste generation and maximising recycling of materials.

Operational waste

A Waste Management Plan prepared by Elephants Foot has been submitted with the DA. This assesses the operational waste measures that will be adopted post construction. Refer to the Plan at **Appendix 20** for further information.

7.5.4 Pedestrians & Accessibility

Accompanying the application is a BCA Report prepared by Vic Lilli, an Adaptable housing Report and an Access Review report prepared by Accessibility Solutions at **Appendices 13, 14 and 15**. All reports set out various detailed design recommendations to ensure the building meets applicable access codes and legislation.

it is considered that these recommendations are of a minor nature, and it would be reasonable for those outcomes to be ensured by means of suitable conditions within any Notice of Determination requiring compliance to be demonstrated with any Construction Certificate.

7.6 Site Suitability

7.6.1 Geotechnical

A Geotechnical Report has been prepared in support of the DA by Asset Geotechnical and provided at **Appendix 24**. This Report notes that: -

"The excavation for the proposed development is anticipated to be partially within fill and residual soil, and partially within bedrock. The rock is likely to be continuous across adjoining properties. Excavation requirements will be governed by the presence of the rock, and the sensitivity of nearby residential structures buried services to vibrations caused by the rock excavation.

The building constructions on the adjacent properties are sensitive to vibrations above certain threshold levels (regarding potential for cracking). Close controls by the excavation contractor over the rock excavation are necessary, and are recommended, so that excessive vibration effects are not generated.

Excavation methods should be adopted which limit ground vibrations at the adjoining developments to not more than 10mm/sec. Vibration monitoring will be required to verify that this is achieved. However, if the contractor adopts methods and / or equipment in accordance with the recommendations in Table 1 for a ground vibration limit of 5mm/sec, vibration monitoring may not be required.

Refer to Section 4.2 for a SEPP 55 assessment of the proposal.

As required by Conditions 38, 39 and 40 of the Concept Plan, detailed sampling and testing has been undertaken across the site by Environmental Investigations. The findings and recommendations of these investigations are provided in the Remediation Action Plan (RAP) (**Appendix 22**). The outcome of this RAP includes the minimisation of potential exposure to contaminants in soil, air and groundwater. The RAP identifies that there is a low risk of widespread groundwater contamination and that any groundwater impact is unlikely to prevent the redevelopment of the sites for residential and open space development.

This RAP addresses the relevant regulatory framework and establishes a sequential process of remedial works to assist the site in meeting the required residential and open space criteria.

7.6.2 Bushfire

The site is not within a Bushfire area.

7.6.3 Flooding

A Flood Assessment has been carried out by BG&E (refer **Appendix 25**). This report considers any potential impacts on the development as a result of flooding.

Section 5 of the Report sets out a number of flood recommendations, concluding that

"The flood assessment shows that Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."

7.6.4 Watertable

The development includes excavation which is below the watertable. As such, a Groundwater Investigation Report has been prepared by Environmental Investigations (refer **Appendix 23**).

This report concludes that the site would be suitable for the proposed residential development subject to the following recommendations:

- *"Provide evidence of the successful removal and validation of UST's present at the former BP service station located at 4 – 6 Constitution Road, and the former Renown & Pearlite industrial site located at 8 – 14 Constitution Road. If no evidence of validation is available, further detailed investigation may be required to confirm the contamination status of the property, and its suitability for residential land use.*

- *Preparation and implementation of a Remediation Action Plan to outline the removal of the Carcinogenic PAH exceedances identified within the northern and western corners of the site and any unexpected finds identified during construction.*
- *Any material being removed from site (including virgin excavated natural materials or VENM) be classified for off-site disposal in accordance the DECCW (2009) Waste Classification Guidelines.*
- *Any material being imported to the site should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM.*
- *Validate that the excavated areas are left free of contamination by comparing analytical results for excavation surfaces and any backfill material, against the respective DECC/EPA thresholds.*
- *Preparation of a final site validation report by a qualified environmental consultant, certifying site suitability for the proposed development."*

7.6.5 Services & Utilities

The site contains adequate facilities which will be retained / reused / upgraded where needed to cater for the proposed residential development. All installations will be capable of meeting the requirements under the Australian Standards and the Building Code of Australia.

7.6.6 Hazards (Other)

Natural Hazards

The subject is not affected by any known hazards. The Geotechnical Investigation prepared by Asset Geotechnical (**Appendix 24**) demonstrates that the conditions of the site are appropriate for the excavation and construction works proposed, and provides recommendations to protect the sub-surface conditions and neighbouring properties.

7.6.7 Conclusion

The Concept Approval (MP09_0216) assessed the suitability of the site for this form of development and concluded that this site is suitable for this form of development.

The subject site is not affected by any policy that restricts development because of the likelihood of land slip, bush fire, tidal inundation, subsidence, acid sulphate soils or any other risk.

An assessment under SEPP 55 has been carried out and is provided at **Section X** above. The SEPP 55 assessment provides sufficient environmental protection measures and do not indicate that there are any impediments to the proposed residential development.

The suitability of the site for this form of development is discussed in detail in the Design Report prepared by R+M and provided at **Appendix 3**.

7.7 Social & Economic Effects

7.7.1 Social

The market demand for apartment types for a site of this form and type, the property market is currently characterised by buyer groups with a high level of demand for smaller

apartments. This is attributed to market demand for smaller studio, 1 bed and 2 bed apartments to a property market which values properties which deliver strong rental values and low vacancy rates. The proposed development satisfies this demand, which is specifically valuable due to proximity to transport, local employment, restaurants and retail amenity. The proposal provides a positive planning outcome and responds to demand for high quality residential apartments which deliver a desirable price point and rental demand.

The proposal provides tangible public benefits in the form of a publicly accessible foreshore open space bordered by a community space which suits the social needs of the community. Overall the proposal improves the presentation of the site and positively activates the public domain.

7.7.2 Crime & Safety

The proposal is for a mixed use development with a high level of amenity, casual surveillance and ultimately public safety within the building and surrounding area. The proposal will assist in revitalising and activating the premises and will provide appropriate lighting and security measures to protect the safety of neighbouring premises, residents and the local community.

Crime Prevention through Environmental Design (CPTED) is a recognised model which provides that if development is appropriately designed it can reduce the likelihood of crimes being committed. By introducing CPTED measures within the design of the development, it is anticipated that this will assist in minimising the incidence of crime and contribute to perceptions of increased public safety. The proposal has been designed to take into consideration these principles as follows:

Surveillance: This principle provides that crime targets can be reduced by effective surveillance, both natural and technical. In this regard, the development has been designed to directly front each of the road frontages with direct surveillance of the public domain from the non-residential units, pedestrian access points, the public domain areas and the upper level apartments.

The layout of the development also provides lines of sight between public and private spaces which will be maintained during the night by a suitable lighting scheme. The proposed development introduces 24 hour activity within the local footpath and road network and casual surveillance to ensure the safety of residents, staff, customers, neighbouring properties and the public.

Access Control: This principle provides that barriers to attract/restrict the movement of people minimises opportunities for crime and increases the effort required to commit crime. The non-residential premises benefits from designated access points which is clearly visible and overseen by staff members. The public foreshore plaza is publically accessible to the general public and benefits from casual surveillance from the public domain, the community space and residential units.

Territorial Reinforcement: This principle provides that well-used places reduce opportunities for crime and increase risk to criminals. There is a clear delineation between the public street and footpath verge, the non-residential units, public plaza and the private residential areas. The future occupants of the development benefit from direct access to encourage the connection of these spaces and neighbouring retail areas. In this regard the development provides for a commercial space, a public plaza and residential units which will create activity within the site and the wider local centre.

Space Management: This principle provides that space which is appropriately utilised and well cared for reduces the risk of crime and antisocial behaviour. Strategies to implement this principle include, site cleanliness, rapid repair of vandalism and graffiti, the quick replacement of broken light fixtures/globes and the removal or refurbishment of decayed

physical elements. The presentation of the non-residential elements of the development will be managed by Coles Management and/or Centre Management who will be responsible for maintaining its high quality standard. The Owners Corporation/Strata will have a management service able to co-ordinate and respond to such matters as necessary for the residential elements of the development.

The proposed works will assist in improving the presentation of the premise, which will improve the amenity, casual surveillance and ultimately public safety and sense of security within the site and surrounding area.

7.7.3 Economic & Employment

The proposed development will have a positive economic impact by providing a higher standard of architectural and urban design than the existing industrial buildings. The development will also offer additional housing choice, , whilst also creating jobs during the construction phase.

8. Conclusion

This application seeks approval for Shepherds Bay Stage 4 and 5 and comprises two residential flat buildings containing 511 residential units with basement parking for 621 vehicles.

Having regard to the experts reports provided and attached to this SEE and the conclusions of those reports the proposal is generally consistent with the Concept Approval (as modified), the regional strategies and local planning controls for the site. It has few, if any, adverse impacts on the environment or amenity of the locality and therefore on balance is considered to be in the public interest.

The assessment of this application gives balanced consideration to the social benefits of this proposal in the form of redevelopment of the former light industrial area to provide a residential development with a high degree of accessibility and usability with consideration of any environmental impacts arising from its physical form and the resultant public benefit.

In summary the proposal is considered to:

- provide a built form which strengthens the neighbourhood's sense of identity, and visual appearance of the area. This includes maintaining an appropriate scale to the street frontages without adverse overshadowing or amenity impact on surrounding properties;
- provide an increase in housing choice to meet demand for small units within the area;
- provide high quality residential units which provide a high level of amenity and privacy to the future occupants;
- be an appropriate response to the context, setting, planning instruments and preliminary assessment as required under the heads of consideration under Section 79C(1) of the *Environmental Planning and Assessment Act, 1979*;
- redevelopment of this site will assist in achieving the desired regional objectives and especially contribute to the housing targets set by the Draft Subregional Strategy; and
- have no adverse environmental impacts on adjoining properties and is an innovative and appropriate response to the desired future character of the locality statements.

The benefits provided by the proposed development outweigh any potential impacts and is therefore in the public interest. The proposal will deliver a suitable and appropriate development and is worthy of approval.

Appendix 1

DA for Stages 4 and 5

Consistency with the Shepherds Bay Concept Approval MP09_0216 Mod 1

Condition	Comment
SCHEDULE 2 PART A – ADMINISTRATIVE CONDITIONS	
<p>Development Description</p> <p>A1 Concept approval is granted to the development as described below:</p> <p>Use of the site for a mixed use development including residential, retail, commercial and community uses incorporating:</p> <p>building envelopes for 12 buildings incorporating basement level parking;</p> <p>infrastructure works to support the development including:</p> <p>upgrades to the local road network;</p> <p>stormwater infrastructure works;</p> <p>publically accessible open space and through site links; and</p> <p>pedestrian and cycle pathways.</p>	<p>The proposal seeks consent for a residential development in accordance with the Concept Approval (as modified)</p> <p>The proposal also involves stormwater upgrade works and associated pedestrian and cycle pathways.</p> <p>Refer to the attached architectural plans prepared by R+M and supporting documentation for further information which addresses this condition</p>
<p>Mod 1</p> <p>amendment to Building Storeys Plan to allow for additional storeys at ground level in Stages 1 to 3;</p> <p>expand/connect the basement building envelopes between Stage 2 and 3 and Stage 4 and 5;</p> <p>revision to the construction staging;</p> <p>revised timing of the delivery of the open space to be in conjunction with Stage 3 (rather than Stage 1);</p> <p>provision of an additional storey to provide a 6 storey element to the building on the corner of Belmore Street and Constitution Road;</p> <p>flexible application of the solar access requirement of the RFDC;</p>	<p>Noted - The proposal has been designed generally in accordance with the Concept Approval (as modified), including the approved drawings. Refer to the attached architectural plans and supporting documentation as well as this Table for further discussion.</p>

amendment of ESD measures; and

- amendments to terms of approval, future environmental assessment requirements and Statement of Commitments.

Development in Accordance with the Plans and Documentation

The development shall be undertaken generally in accordance with MP09_0216, as modified by MP09_0216 Mod 1, and:

the Environmental Assessment dated 7 January 2011 prepared by Robertson + Marks Architects and PLACE Design Group, except where amended by the Preferred Project Report dated July 2012, including all associated documents and reports;

the s75W Modification Application dated November 2013 prepared by R+M Architects and City Plan Services including all documents and reports, except where amended by the:

Response to Submissions report dated 28 March 2014 prepared by City Plan Services; and

Proponents Comments in Response to Council submission dated 29 April 2014 prepared by City Plan Services.

Drawings Prepared by Robertson + Marks Architects		
Drawing No	Name of Plan	Date
FIGURE 11 REV 2	PREFERRED CONCEPT PLAN	Jul-12
PPR 001-D	MAXIMUM HEIGHT WITH SETBACKS	2/11/2013
PPR 007-E	INDICATIVE STAGING	09/24/13
S 001/B	SLOPES ON SITE	03/25/2014
FIGURE 14 REV 4	STAGE 1 BUILDING ENVELOPE CONTROLS	28/06/2012
FIGURE 15 REV 4	STAGE 2 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 16 REV 4	STAGE 3 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 17 REV 4	STAGE 4 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 18 REV 4	STAGE 5 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 19 REV 4	STAGE 6 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 20 REV 4	STAGE 7 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 21 REV 4	STAGE 8 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 22 REV 4	STAGE 9 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 23 REV 4	STAGE 10 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 29 REV 2	LANDSCAPE PLAN	July 2012
FIGURE 30 REV 2	VEHICULAR ACCESS & PUBLIC TRANSPORT PLAN	July 2012
SK01 REV E	PEDESTRIAN & CYCLEWAY ROUTES	18 June 2013
FIGURE 32A REV 2	INDICATIVE ACCESSIBLE CIRCULATION PLAN	July 2012
FIGURE 33 REV 2	INDICATIVE COMMUNITY, RETAIL & / OR COMMERCIAL USES LOCATION MAP	July 2012
FIGURE 50 REV 1	CONCEPT PLAN LANDSCAPE PLAN	28/07/2014
PPR 003-5	OPEN SPACE AREA PLAN	11/01/13

except for as modified by the following pursuant to Section 75O(4) of the Act.

The proposal has been designed generally in accordance with the approved EA and PPR and the approval as modified, including the approved drawings. Refer to the attached architectural plans and supporting documentation as well as this Table for further discussion on the consistency of the proposal.

It is considered that the DA submission is consistent with the Concept Approval (as modified).

<p>A3 Inconsistencies Between Documentation</p> <p>In the event of any inconsistency between modifications of the Concept Plan approval identified in this approval and the drawings/documents including Statement of Commitments referred to above, the modifications of the Concept Plan shall prevail.</p>	<p>Noted.</p>
<p>A4 Building Envelopes</p> <p>Building footprints and setbacks are to be generally consistent with the Concept Plan building envelope parameter diagrams for each site, except where amended by the Modifications in Part B of this Approval.</p>	<p>The proposal has been design to fit within the approved building envelopes.</p>
<p>A5 Maximum Gross Floor Area (GFA)</p> <p>1. The maximum GFA for commercial, retail or community uses shall not exceed 10,000m².</p> <p>2. The maximum number of dwellings shall not exceed 2,005.</p>	<p>The proposal is for 511 dwellings. The cumulative dwelling count, including 246 dwellings approved in the Stage 1 Project Approval MP09_0219, and 453 dwellings as proposed as part of Stages 2 and 3 is 1210 dwellings.</p> <p>The maximum number of dwellings will be satisfied.</p>
<p>A6 Publicly Accessible Open Space, Drainage Reserves and Through Site Links</p> <p>All public open spaces, drainage reserves and through site links shall be publicly accessible and maintained in private ownership by the future body corporate unless otherwise agreed by the Council.</p>	<p>Where appropriate, all public open spaces will be privately maintained unless Council expresses a desire otherwise.</p>
<p>A7 Lapsing of Approval</p> <p>Approval of the Concept Plan shall lapse 5 years after the determination date shown on this Instrument of Approval, unless an application is submitted to carry out a project or development for which concept approval has been given.</p>	<p>Noted.</p>
<p>SCHEDULE 2 TERMS OF APPROVAL PART B - MODIFICATIONS</p>	
<p>B1 The Concept Plan shall be amended to:</p> <p>Comply with the modified maximum heights (as per plans in Schedule 5), setbacks etc. under this approval and the project application approval for Stage 1 (MP09_0219). The maximum building height applies to either the number of storeys or RL levels, whichever is the lower.</p>	<p>These items have been satisfies in accordance with the Department of Planning & Infrastructure's correspondence dated 24 June 2013.</p> <p>This condition has been satisfactorily discharged.</p>

<p>provide at least one contiguous open space, of a minimum of 3,000m², to accommodate both active and passive recreational needs. The open space shall include deep soil area and receive a minimum of 2 hours of sunlight to a minimum of 50% of the area on 21 June.</p> <p>Provide a public domain plan which illustrates the proposed public domain treatment including streets and setback areas, landscaping, lighting and public and communal open spaces and which is in accordance with Ryde City Council's Public Domain Technical Manual.</p> <p>increase the width of the proposed through site links/view corridors to a minimum width of 20m.</p> <p>provide an integrated water sensitive urban design (WSUD) strategy for the entire site</p> <p>include a pedestrian and cycleways plan that demonstrates that the proposed routes are both viable and integrated with Council's plans for the surrounding area.</p>	
<p>B1A Amended Foreshore Link</p> <p>The delivery of the foreshore link shall be split between Stage 1 and Stage 2 in accordance with the Response to Submissions prepared by City Plan Services for MP09_0216 MOD1 dated 29 April 2014.</p>	<p>Not relevant to this DA.</p>
<p>B2 Sustainable Travel Plan</p> <p>Prior to issue of an Occupation Certificate for Stage 1 or prior to the submission of a DA for future stages (whichever occurs first), a Sustainable Travel Plan for the Concept Plan site shall be submitted to and approved by the Council. Options for provision of a Car Sharing Scheme for the site are to be explored and incorporated into the Sustainable Travel Plan as is a Parking Management Strategy.</p>	<p>The Sustainable Travel Plan accompanies this proposal at Appendix 11 and addresses each of these items.</p>
<p>B3 Amended Maximum Number of Storeys Above Ground Level (Finished) Plan</p> <p>The plan entitled Indicative Concept Plan Storeys Plan shall be amended to:</p> <p>(a) Change the title to "Maximum Number of Storeys Above Ground Level (Finished) Plan," and</p> <p>The amended plan, demonstrating compliance with these modifications shall be submitted to, and approved by, the Secretary within 1 month of the date of this</p>	<p>Submitted to the Department for approval on 6 November 2014.</p> <p>As per the correspondence from the Department of Planning & Environment, this condition has been satisfactorily discharged.</p>

approval.	
SCHEDULE 3 FUTURE ENVIRONMENTAL ASSESSMENT REQUIREMENTS	
<p>1 Design Excellence</p> <p>Future DA/s for Stage A (the signature building fronting Church Street) shall demonstrate design excellence in accordance with the Director General’s Design Excellence Guidelines.</p>	<p>This condition will be satisfied in relation to the future DA/s for Stage A.</p>
<p>1A Dwelling Cap</p> <p>Future Development Applications shall provide for a total number of dwellings up to a maximum of 2,005 across the Concept Plan site (including Stage 1).</p> <p>Future Development Applications shall include a projected dwelling forecast for each remaining stage demonstrating that the total dwelling numbers will adhere to the dwelling cap.</p>	<p>The proposal is for 511 dwellings. The cumulative dwelling count, including 246 dwellings approved in the Stage 1 Project Approval MP09_0219, and 453 dwellings as proposed as part of Stages 2 and 3 is 1210 dwellings.</p> <p>The maximum number of dwellings will be satisfied.</p>
<p>2 Design Excellence</p> <p>Future DAs shall demonstrate that the development achieves a high standard of architectural design incorporating a high level of modulation / articulation of the building and a range of high quality materials and finishes.</p>	<p>The pre-lodgement notes provided by the UDRP have been integrated into the design of this development where appropriate, and where generally consistent with the Concept Plan. Detailed consideration of these items is provided in the SEE and Design Report (Appendix 3).</p> <p>The attached Architectural Plans demonstrate the proposed buildings are generally in keeping with the Concept Approval, exhibit a high standard of architectural merit, including appropriate detail and modulation / articulation which will enhance the living environment of the future residents and the transitioning character of the locality. A mix of high quality materials and finishes are proposed.</p> <p>The proposal exhibits design excellence.</p>
BUILT FORM	
<p>3 Notwithstanding the approved maximum building heights in RL, future DAs shall demonstrate that:</p> <p>buildings along Constitution Road are a maximum of 5 storeys, with the exception of the element of Stage 4</p>	<p>Not relevant to this proposal.</p>

<p>located on the corner of Constitution Road and Belmore Street (as shown on PPR 002-B), which is permitted to a maximum of 6 storeys; and</p> <p>the southern building element of Stage 8 is a maximum of 5 storeys.</p>	
<p>3A Maximum Storeys on Steeply Sloping Topography</p> <p>Future Development Applications shall satisfy the 'Maximum Number of Storeys Above Ground Level (Finished) Plan'. An exception to the maximum storey height may be given to buildings within Stages 2 and 3 on steeply sloping topography (being at the locations indicated on drawing S 001/B not including the area shown within Stage 4) where it can be demonstrated that:</p> <p>the overall building height satisfies the maximum permitted RL;</p> <p>no more than 1 additional storey is provided;</p> <p>an acceptable level of amenity can be achieved for any additional apartment(s) provided in accordance with the requirements of Future Environmental Assessment Requirement 21; and</p> <p>the additional storey is required to appropriately activate the ground level.</p>	<p>Not relevant to this application.</p>
<p>4 Future Development Applications shall ensure that basement parking levels do not encroach into street setback areas and do not exceed 1 metre above ground level (finished) and are located below the building footprint (with the exception of basements connecting Stages 2 and 3 and Stages 4 and 5) without encroachment into street setback areas.</p>	<p>As the submitted plans detail, this condition has been satisfied as part of this DA submission.</p>
<p>5 Future DAs shall demonstrate an appropriate interface with surrounding streets and public domain areas at pedestrian level, and an appropriate design treatment to provide an adequate level of privacy to ground level apartments</p>	<p>Access from the street/public domain will be provided for all apartments with direct access from the street which addresses this condition.</p>
<p>6 Future DA/s for Stage 3 shall provide the following minimum setbacks to the south-western boundary (common boundary with 12 Rothesay Avenue):</p> <p>6 metres up to 4 storeys; and</p> <p>9 metres above 4 storeys.</p>	<p>The proposal satisfies this condition, refer to the submitted Architectural Plans.</p>

<p>7 Future DA/s for Stage A shall provide the following minimum setbacks to Parsonage and Wells Streets:</p> <p>Podium – 4 metres</p> <p>Tower – 5 metres</p>	<p>Not relevant to this proposal.</p>
<p>8 Future DA/s for Stage 3 shall provide a minimum one metre setback to the existing Council owned pedestrian access way along the north-western boundary.</p>	<p>The proposal satisfies this condition, refer to the submitted Architectural Plans.</p>
<p>9 Future DA/s for Stage 9 shall provide a minimum 4 metre building setback to the single storey building fronting Bowden Street. Eaves, pergolas, outdoor seating areas or other unenclosed structures are permitted to encroach into the setback providing that the design does not result in unacceptable impacts to the streetscape or view lines.</p>	<p>Not relevant to this proposal.</p>
<p>10 Future DAs shall provide for utility infrastructure, including substations, within the building footprint, wherever possible. If this is not possible, infrastructure shall be located outside of the public domain and appropriately screened.</p>	<p>We are advised that Riz Engineering and DEP Consulting are currently investigating the utility requirements for the subject site.</p> <p>However, and notwithstanding this, any substations proposed will be appropriately screened.</p>
<p>11 Landscaping</p> <p>Future DAs shall include detailed landscape plans for public and private open space areas, street setbacks areas and for the landscape treatment of all adjoining public domain areas and road reserves in accordance with the approved Public Domain Plan.</p>	<p>Detailed Landscape Plans have been prepared by Place (Appendix 7) and reflect the requirements of the approved Public Domain Plan and address this condition.</p>
<p>12 Public Domain</p> <p>Future DAs shall provide the detailed design for the upgrade of all road reserves adjacent to the development to the centre line of the carriageway, including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on Constitution Road and Nancarrow Avenue, and any other necessary infrastructure in accordance with the approved Public Domain Plan. Where the detailed design necessitates an increase in the width of the road reserve, building setbacks are to be increased to retain the approved setback to the road reserve alignment. The road reserve works are to be completed by the proponent prior to occupation of each stage.</p>	<p>The detailed design of the public domain is provided in the landscape plans prepared by Place Design at Appendix 7. Which addresses this condition</p>

<p>13 Cycle Facilities</p> <p>Future DAs shall provide bicycle parking at the minimum rate of 1 space per 10 car parking spaces.</p>	<p>68 bicycle spaces are provided at basement level. As detailed in the Internal Traffic Assessment, this satisfies the rate of 1 per 10 parking space.</p>
<p>14 Cycle Facilities</p> <p>Future DAs shall demonstrate appropriate 'end of trip facilities' for cyclists within all non-residential developments in accordance with Council's requirements.</p>	<p>Refer above.</p>
<p>15 Open Space/Public Access</p> <p>Future DAs shall include detailed landscape plans for the embellishment of publicly accessible open space areas. These areas shall include high quality landscaping and paved areas and a variety of recreation facilities which may include BBQs, seating, water features, grassed areas, paths, shade trees, bicycle racks and exercise equipment/games.</p>	<p>Detailed Landscape Plans have been prepared by Place (Appendix 7) and reflects these requirements.</p>
<p>15A Open Space Provision</p> <p>The contiguous open space required in Modification B1(b) shall be completed, delivered and handed over to Council prior to the issue of the first Occupation Certificate for Stage 3. The land is to be dedicated, at no cost, to Council. Arrangements for the dedication shall be finalised before the issue of the Occupation Certificate for Stage 3. If Council does not accept the dedication, the land shall remain provide access to the public and be in private ownership by the relevant body corporate and appropriately maintained.</p>	<p>Noted.</p>
<p>15B Foreshore Link Easement for Public Access</p> <p>Prior to the issue of an Occupation Certificate for Stage 2 an easement shall be registered over the foreshore link, which is located between Stage 1 and Stage 2 (in favour of Council) providing for public access. The terms of the easement are to be approved by Council.</p>	<p>Noted.</p>
<p>16 Open Space/Public Access</p> <p>Future DAs shall include detailed landscape plans which demonstrate accessible paths of travel for all persons for at least two of the north-south routes between Constitution Road and the Foreshore with one of the routes including the Lower Riparian linear park and a second path either along the Central Spine or the public pathway associated with Stage 1. Landscape plans will</p>	<p>Detailed Landscape Plans have been prepared by Place (Appendix 7) and reflects these requirements.</p>

<p>also include the detailed design of at least 1 north-south cycle path linking Constitution Road through the site to the existing foreshore cycleway.</p>	
<p>17 Open Space/Public Access</p> <p>Future DAs shall clearly set an appropriate legal mechanism for creating rights of public access to all publicly accessible areas of open space, drainage reserves and through site links, with the relevant instrument/s to be executed prior to the issue of the occupation certificate.</p>	<p>It is envisaged that the public rights of access will be created through dedicated easements across any publically accessible open space, drainage reserves and through site links.</p> <p>In accordance with the requirements of this condition, details of the easements will be provided and executed prior to the issue of the Occupation Certificate.</p>
<p>18 Community Facilities</p> <p>Any future DA/s for the 1,000th dwelling shall include, at no cost to Council, the delivery of an appropriate community space within the development, which can be used by Council or members of the community for community purposes and related uses.</p> <p>The community floorspace must be a minimum of 1,000m² in area and be primarily located on ground level. The configuration of floorspace should be designed in consultation with Council or Council nominated community organisation(s).</p> <p>The primary use of the designated community floor space must be for community uses. A range of other activities, such as private functions, community markets and garage sales, may be undertaken within the community facility provided that they are subsidiary to the core community function.</p> <p>The designated community floor space must not be used for any other commercial, retail or residential use unless Council decides not to accept the designed floorspace.</p> <p>The provision of community floorspace is in addition to Council's Section 94 Contributions for future development.</p> <p>The facility to be delivered is to be located around the contiguous central public open space in either Stage 2 or 3.</p>	<p>Not relevant to this application.</p>
<p>19 Public Art</p> <p>Future DAs shall provide the detailed design of public art in locations throughout open space areas generally in accordance with the Public Art Strategy submitted with</p>	<p>A Public Art Plan, prepared by Black Beetle, has been prepared in support of the DA.</p> <p>Refer to Appendix 8 for further</p>

<p>the PPR.</p>	<p>information.</p>
<p>20 Public Art</p> <p>Future DA/s for Stage 2 shall include a Arts and Cultural Plan developed by a professional public artist including consideration of:</p> <p>materials to be used, with particular attention to durability;</p> <p>location and dimension of artwork;</p> <p>public art themes to respond to site history and or social, cultural or natural elements;</p> <p>integration into the site and surrounds;</p> <p>budget and funding; and</p> <p>Council's Public Art Guide for Developers.</p>	<p>A Public Art Plan, prepared by Black Beetle, has been prepared in support of the DA and address this condition</p> <p>Refer to Appendix 8 for further information.</p>
<p>21 SEPP 65 and RFDC</p> <p>Future DAs shall demonstrate compliance with the provisions of the State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) and the accompanying Residential Flat Design Code 2002 (RFDC), except where modified below:</p> <p>In particular, future application/s shall demonstrate that:</p> <p>a minimum of 60% of apartments within each stage are capable of being cross ventilated; and</p> <p>a minimum of 70% of apartments within each stage receive a minimum of 2 hours solar access to living areas and balconies mid winter; and</p> <p>where less than 70% of apartments achieve 2 hours of solar access in mid winter, these apartments (beyond the first 30%) shall be designed to provide improved amenity by:</p> <p>including extensive glazing (minimum 70% of the external façade) to living rooms;</p> <p>permitting cross-ventilation specifically to those apartments; and</p> <p>exceeding RFDC guidelines by at least 20% in both of the following areas:</p>	<p>An assessment of the proposal against both SEPP 65 and the RFDC has been undertaken by R+M as part of their Design Report.</p> <p>Refer to Appendix 3 for further information.</p> <p>In addition, a Solar Access Report has been prepared by Windtech (refer Appendix 4). This concludes that less than 70% of apartments within Stages 2 and 3 receive a minimum of 70% solar access during midwinter.</p> <p>In accordance with the requirements of Condition 21, and in conjunction with the Natural Ventilation Preliminary Assessment also prepared by Windtech, R+M has provided a set of 'Amenity Plans' as part of their architectural plan set. These plans (ref DA-23-801 - 8/A) detail those units that benefit from the increased amenity levels.</p> <p>With reference to these submitted plans and documentation, we are advised that the requirements of Condition 21 have been satisfied within the submitted DA.</p>

<p>increased floor to ceiling height; and</p> <p>increased minimum apartment areas, being greater than 50sqm for 1 bedroom, 70sqm for 2 bedroom and 95sqm for 3 bedroom apartments.</p> <p>a minimum of 25% of open space area of the site is deep soil zone.</p> <p>the proposed landscape areas provide sufficient deep soil in accordance with the RFDC.</p>	
<p>22 ESD</p> <p>Future Development Applications shall demonstrate the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010. Where no base target is provided within this report, the development should strive to achieve the stretch target (where relevant and feasible).</p> <p>In accordance with the EnviroDevelopment philosophy, four of the categories will be targeted to show 'industry best practice'. Where the categories of water and energy are applied, BASIX will be used to test 'industry best practice' for water and energy, which will be treated as 10% better than the BASIX pass mark.</p>	<p>An ESD letter has been submitted in support of the DA. Prepared by Integreco, this letter is in response to Condition 22 (refer Appendix 18)</p> <p>This advice states that the proposed project will commit to achieve include:</p> <p><i>"1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.</i></p> <p><i>2. Water scores (measured by BASIX) which exceed the targets by just under 10%.</i></p> <p><i>3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.</i></p> <p><i>4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report ("101117 Shepherds Bay Meadowbank - ESD Report"). "</i></p> <p>Refer to the ESD Report at Appendix 18 for further information.</p>
<p>23 Car Parking</p> <p>Future DAs shall provide on-site car parking in accordance with Council's relevant Development Control Plan, up to a maximum of 2,976 spaces across the Concept Plan site.</p> <p>Future Development Applications shall provide:</p> <p>a car parking rate which relates to the site-wide car parking provision and demonstrates that car parking may</p>	<p>In support of the application, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates. Section 4 of this Report provides an assessment of the proposed car parking.</p> <p>As detailed within this Report, the subject development is required to provide between 360 and 547 resident parking spaces and 103 visitor parking</p>

<p>be provided for future stages within the total car parking figure of 2,976; and</p> <p>a projected car parking forecast for each remaining stage demonstrating that the total car parking provision can be adhered to.</p> <p>Provision shall also be made for adequate loading and unloading facilities for service vehicles, suitably sized and design for the proposed use.</p>	<p>spaces. With reference to the submitted plans, the proposal will provide 621 spaces in total, split between 517 resident and 104 visitor parking spaces. The Report therefore concludes that the proposed parking is suitably compliant with Council's DCP.</p> <p>Refer to the Internal Traffic Assessment at Appendix 10 for further information.</p>
<p>24 Nancarrow Road Extension and Road Reserve Upgrades</p> <p>Future DA/s for Stage 4 shall include the following infrastructure works:</p> <p>a) Nancarrow Avenue extension;</p> <p>b) Nancarrow Avenue Local Area Traffic Management (LATM) measures and all road reserve upgrades including associated pedestrian footpaths and cycleways;</p> <p>c) implementation of left-in/left-out arrangement at Belmore Street/Hamilton Crescent intersection.</p> <p>The detailed design is to be prepared by a suitably qualified engineer in accordance with Council's requirements and to be approved by Council before the issue of the first Occupation Certificate for Stage 1. All works are to be completed by the proponent prior to the issue of the occupation certificate for Stage 4.</p>	<p>We are advised that a detailed design for the Nancarrow Road extension was submitted to Council in November 2014.</p> <p>In terms of b), the submitted landscape plans, overlaid with architectural plans at ground level, show pedestrian footpaths and cycleways.</p> <p>In terms of c), the left in, left out arrangement is shown on the already submitted plans as well as the submitted landscape plans.</p>
<p>24A Road and Pedestrian Infrastructure Upgrades</p> <p>Future Development Application/s for Stage 2 shall include the following Infrastructure works:</p> <p>installation of a temporary east/west pedestrian link, which connects the stairway at the northern end of the foreshore link between Stages 1 and 2 to Nancarrow Avenue along the northern boundary of Stage 2. The pedestrian link shall provide access to the public on a 24 hour basis and maintained until the provision of the Nancarrow Avenue extension.</p> <p>Underdale Lane Local Area Traffic Management (LATM) measures;</p> <p>installation of a pedestrian crossing facility at Bowden</p>	<p>Not relevant to this DA.</p>

<p>Street / Nancarrow Avenue; and</p> <p>installation of roundabout at Belmore Street / Rothesay Avenue.</p> <p>The detailed design is to be prepared by a suitably qualified engineer in accordance with Council's requirements and to be submitted to Council's for approval before the lodgement of any future development application for Stage 2. All works must be completed by the proponent prior to the issue of the occupation certificate for Stage 2.</p>	
<p>25 Yerong Street / Belmore Street Intersection Upgrade</p> <p>Future DA/s for the stage of development containing the 800th dwelling shall provide the detailed design for the implementation of left-in/left-out arrangement at Belmore Street/Yerong Street intersection. The works are to be completed prior to issue of the first occupation certificate of any building of this stage.</p>	<p>The proposal is for 511 dwellings. The cumulative dwelling count, including 246 dwellings approved in the Stage 1 Project Approval MP09_0219, and 453 dwellings as proposed as part of Stages 2 and 3 is 1210 dwellings.</p> <p>The maximum number of dwellings will be satisfied.</p>
<p>26 Roads and Maritime Services Requirements</p> <p>Future DA/s for each stage of development following the first two stages shall include a traffic study which includes figures on the current number of vehicles and pedestrians at the Railway Road pedestrian crossing at Meadowbank Station and at the Constitution Road / Bowden Street intersection. The traffic study is to be carried out to the RMS's and Council's satisfaction and shall model the impact of the anticipated increase in vehicle and pedestrian traffic for that stage. Where the study reveals that RMS warrants would be met for the provision of signalisation at either of these locations, concept design of the upgrade of the intersection to Council's and RMS's satisfaction is to be included with the DA and the works are to be completed by the proponent prior to the issue of first occupation certificate of any building of that stage.</p>	<p>Refer Infrastructure Assessment Report at Appendix 12</p>
<p>27 Roads and Maritime Services Requirements</p> <p>Future application/s for Stage A shall demonstrate that the RMS requirements have been met in relation to access to RMS infrastructure on the adjoining land, including retention of existing access, parking and turning area for maintenance vehicles.</p>	<p>Not relevant to this proposal.</p>
<p>28 Site Specific Sustainable Travel Plan</p> <p>Future DAs for each stage shall include a site specific</p>	<p>A Travel Plan for a Sustainable Future has been prepared in support of the DA by Road Delay Solutions and addresses</p>

<p>sustainable travel plan incorporating a workplace travel plan and/or travel access guide. The travel plan will be in accordance with the Concept Plan Sustainable Travel Plan required by Modification B2.</p>	<p>this condition</p> <p>Refer to Appendix 11 for further information.</p>
<p>29 Heritage</p> <p>Future DA/s for Stage 6 involving the demolition of the existing heritage item at 37 Nancarrow Avenue shall include:</p> <p>a detailed heritage assessment of the site which includes a professionally written history of the site;</p> <p>a full photographic record; and</p> <p>(c) an interpretation strategy to display the heritage values of the existing building on the newly developed site.</p>	<p>Not relevant to this proposal.</p>
<p>30 Heritage</p> <p>Future DA/s for Stage A shall include a Statement of Heritage Impact providing an assessment of the impact of the development on the adjoining heritage listed Church Street Bridge. Applications are to demonstrate that the design of the building takes into account relevant recommendations of the heritage assessment.</p>	<p>Not relevant to this proposal.</p>
<p>31 Section 94 Contributions</p> <p>Future DAs shall be required to pay developer contributions to the Council towards the provision or improvement of public amenities and services. The amount of the contribution shall be determined by Council in accordance with the requirements of the Contributions Plan current at the time of approval.</p>	<p>Noted.</p>
<p>32 Noise and Vibration</p> <p>Future DA/s for Stage A shall provide an acoustic assessment which demonstrates that the internal residential amenity of the proposed apartments is not unduly affected by the noise and vibration impacts from Church Street, to comply with the requirements of Clause 102 of State Environmental Planning Policy (Infrastructure) 2007 and the Department of Planning's 'Development Near Rail Corridors and Busy Roads – Interim Guidelines'.</p>	<p>Not relevant to this proposal.</p>
<p>33 Adaptable Housing</p> <p>Future DAs shall provide a minimum of 10% of</p>	<p>Australian Standard 4229-1995 requires the provision of 10% adaptable units. The application is accompanied by an</p>

<p>apartments as adaptable housing in accordance with Australian Standard 4229-1995.</p>	<p>Access Report prepared by Design Confidence (refer Appendix 13). This report advises that 52 adaptable units are required within the development. As the submitted plans demonstrate, the proposal will meet this requirement.</p>
<p>34 Stormwater Infrastructure Upgrades</p> <p>Future DAs for Stage 6, 7, 8 or 9 (whichever occurs first) shall provide the detailed design of the following infrastructure works:</p> <p>the piped drainage system and overland flow path from Ann Thorn Park to Parramatta River; and</p> <p>works to eliminate the risk of embankment failure of Constitution Road.</p> <p>The works will be required to be completed by the proponent prior to construction commencing for any residential buildings within these stages.</p>	<p>Not relevant to this proposal.</p>
<p>35 Flooding and Stormwater</p> <p>Future DAs for each stage of the development shall include flood assessments to determine the minimum floor levels, any required mitigation measures and evacuation strategy required.</p>	<p>A Flood Assessment has been prepared in support of the application by BG&E (refer Appendix 25). This Report assesses the siting and levels of the driveways, concluding that:</p> <p><i>" Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."</i></p>
<p>36 Flooding and Stormwater</p> <p>Future DAs for each stage of the development shall include a Stormwater Management Plan in accordance with Council's requirements.</p>	<p>The subject application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's stormwater management requirements and addresses this condition</p>
<p>37 Sydney Water Requirements</p> <p>Future DAs shall address Sydney Water's requirements in relation to:</p> <p>required amplification works to existing drinking water mains;</p> <p>required amplification works to the wastewater system;</p> <p>approval for discharge of trade wastewater (where necessary); and</p>	<p>Greg Houston Plumbing has prepared a letter in response to this Condition. This letter can be found at Appendix 9.</p>

application for Section 73 certificates as necessary.	
<p>38 Contamination, Acid Sulphate Soils and Salinity</p> <p>Future DAs shall include a detailed contamination assessment (involving sampling and testing of soil) including an assessment of the presence of acid sulphate soils and salinity.</p>	Addressed in the accompanying RAP (Appendix 22).
<p>39 Contamination, Acid Sulphate Soils and Salinity</p> <p>A groundwater assessment (involving sampling and testing of groundwater) shall be undertaken across the entire Concept Plan prior to the first DA being lodged for Stage 2 or any other stage of the development.</p>	Addressed in the accompanying RAP (Appendix 22).
<p>40 Contamination, Acid Sulphate Soils and Salinity</p> <p>Future DAs where necessary shall include a targeted groundwater assessment for the specific stage (based on the recommendations of the groundwater assessment undertaken for the entire Concept Plan).</p>	Addressed in the accompanying RAP (Appendix 22).

Consistency with the Shepherds Bay Concept Approval MP09_0216 Mod 1

Statement of Commitments dated March 2014

Commitment	Comment
<p>1 Staging of Development and Occupation</p> <p>The development is to be constructed in ten indicative stages as illustrated in Appendix 1 of MP09_0216 Mod 1.</p> <p>An updated Development Staging Plan will be submitted with each subsequent Project Application.</p>	The staging plan as approved is still relevant.
<p>2 Approval Conditions</p> <p>The proponent will ensure that all relevant parties engaged to carry out work are aware of and will comply with relevant conditions of consent issued under Concept Approval MP09_0216 (as amended).</p>	Noted.
<p>3 Accessibility</p> <p>The proponent commits to providing access to and within buildings within the Concept Plan site in</p>	Accompanying the application is a BCA Report prepared by Vic Lilli, an Adaptable housing Report and an Access Review report prepared by Accessibility Solutions

<p>accordance with the Building Code of Australia. Where topography permits, publicly accessible open spaces within the Concept Plan are to be designed to provide appropriate access to people of all mobility levels.</p>	<p>at Appendices 13, 14 and 15.</p> <p>All reports set out various detailed design recommendations to ensure the building meets applicable access codes and legislation.</p> <p>it is considered that these recommendations are of a minor nature, and it would be reasonable for those outcomes to be ensured by means of suitable conditions within any Notice of Determination requiring compliance to be demonstrated with any Construction Certificate.</p>
<p>4 Landscaping</p> <p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site detailed documentation and specifications will to be prepared for all landscape works and public space improvements.</p> <p>The landscaping is to be designed so that the view corridors identified on the Concept Plan are maintained.</p>	<p>A detailed Landscape and Public Domain Plan has been prepared by Place Design.</p> <p>Refer to Appendix 7 for further information.</p>
<p>5 Community Benefits</p> <p>The proponent will enter into discussions with the City of Ryde Council to establish a Voluntary Planning Agreement.</p>	<p>Council has indicated through its letter to the proponent dated 2/12/13 that it did not wish to enter into a VPA (refer Appendix 27).</p>
<p>6 Housing Choice</p> <p>A mix of apartment sizes will be provided including one bedroom units. The increased housing supply in the area and proposed apartment mix will increase housing choice and ease affordable housing issues in the area. The opportunity for locals to “downsize” together with the additional availability will promote affordability.</p>	<p>Satisfied.</p>
<p>7 Adaptable Housing</p> <p>The proponent commits to approximately 10% of apartments within the Concept Plan site being designed to be accessible. Pathways from development to communal areas and car parking will also to be designed to be accessible.</p>	<p>The accessibility report accompanying this DA demonstrates compliance.</p>

<p>8 Road verges and footpaths</p> <p>The proponent commits to providing and/or upgrading road verges and footpaths prior to the issue of the relevant occupation certificate for each Stage.</p>	<p>Satisfied.</p>
<p>PUBLICLY ACCESSIBLE OPEN SPACES</p>	
<p>9 The proponent commits to providing a total of 18,304 square metres of publicly accessible public domain with the Concept Plan site that will be owned and maintained by the various Owners' Corporations. These areas will include four new publicly accessible open spaces, landscaped pedestrian connections and landscaped overland flow paths which will be owned and maintained by the relevant Owners Corporations. These will include:</p>	<p>Satisfied.</p>
<ol style="list-style-type: none"> 1. New Foreshore Link publicly accessible open space (Development Stage 2) 2. New Upper Level Public Square (Development Stage 2, 3 & 5) 3. New Central Spine (Development Stage 3) 4. New Central Foreshore Plaza (Development Stage 3) 5. New upper eastern pedestrian link (Development Stages 4 & 5) 6. New Pedestrian Spine 2 publicly accessible open space (Development Stage 6) 7. New Upper Riparian Foreshore Link publicly accessible open space (Development Stages 6 & 7) 8. New Lower Riparian Foreshore Link publicly accessible open space (Development Stages 8 & 9) 9. New Pedestrian Spine 1 South publicly accessible open space (Development Stage 8) 10. Gateway Building Central Plaza and pedestrian link (Development Stage A) 	<p>Points 2 and 5 only are relevant to this DA and are detailed on the Landscape & Public Domain Plans prepared by Place Design (Appendix 7).</p>
<p>10 The following are to accompany all project or development applications within the concept plan site:</p> <p>A detailed landscape plan demonstrating the</p>	<p>A detailed landscape package has been prepared by Place Design and has been submitted in support of the DA (refer Appendix 7).</p>

<p>proposed landscape scheme is consistent with the landscape concept report prepared by PLACE Design Group.</p>	<p>It is considered that the landscaping proposed within is consistent with the landscape concept plans as approved by the Concept Plan.</p>
<p>11 ROAD WORKS</p>	
<ol style="list-style-type: none"> 1. Pedestrian signals replacing zebra crossing on Railway Road at Meadowbank railway station 2. Signalling at Bowden Street and Constitution Road 3. Roundabout at Rothesay Avenue/Belmore Street 4. Yerong Street and Belmore Street left in/out 5. Hamilton "Lane" and Nancarrow "Lane" LATM and two-way construction between Belmore and Bowden 6. Underdale Lane LATM scheme 7. Hamilton Lane/Belmore Street left in/out 8. Introduction of a pedestrian facility on Bowden Street at Underdale Lane 9. Lowering of Constitution Road 10. Re-grading works associated with the construction of the new Nancarrow Avenue Link Road 	<p>An Infrastructure Requirements Report has been prepared by Road Delay Solutions and is submitted with the DA.</p> <p>Page 9 of this Report sets out the various upgrading work that is required as part of this application.</p> <p>Refer to Appendix 10 for further information.</p>
<p>12 Land to be Dedicated</p> <p>Land comprising the two-way road link to be constructed between Belmore and Bowden Streets, being the connection of Nancarrow Avenue to Hamilton Crescent to be dedicated to Council. This requires the dedication by the proponent an area of land of approximately 325m² to the council.</p>	<p>As detailed in the submitted plans, sufficient space has been allowed for this dedication.</p>
<p>13 Tree Management</p> <p>Tree protection measures will be implemented for trees to be retained as recommended in the Arborist Report at Annexure 23 to the submitted EA.</p>	<p>As part of the modified Concept Approval, a Concept Landscape Plan prepared by Place Design was approved.</p> <p>This approved plan proposed the removal of all trees from the site.</p>
<p>14 Crime Prevention Through Environmental Design</p> <p>The design of the public domain, landscaping and building design facilitates the achievement of CPTED principles. Prior to commencement of construction of any subsequent Project Applications CPTED</p>	<p>Refer to discussions in Section 7.7.2 of the SEE.</p>

<p>Assessments will be provided.</p> <p>Planting near footpaths will need to be maintained on a regular basis to avoid concealment opportunities for criminals who may hide in dense shrubbery.</p>	
<p>15 Environmentally Sustainable Development</p> <p>All Residential development within the Concept Plan site will meet the following Sustainability targets:</p> <p>The BASIX water consumption benchmark</p> <p>The BASIX energy consumption benchmark</p> <p>In addition, the proponent commits to further investigate the opportunity for including the following ESD principles:</p> <p>Design internal apartment layouts to maximise natural ventilation and to capture prevailing winds;</p> <p>Utilise roof forms to capture natural light and ventilation;</p> <p>Use of high thermal mass materials within apartments;</p> <p>Ensure natural light and ventilation is provided to common areas to minimise energy consumption;</p> <p>Divide the layout of the apartments into zones to reduce heat and cooling energy consumption;</p> <p>Utilise low water flow fixtures and tap ware;</p> <p>Harvesting of stormwater where feasible; and</p> <p>Recycling of water where feasible.</p>	<p>A BASIX Assessment has been prepared by Integreco Consulting.</p> <p>In addition, an ESD letter has been submitted in support of the DA. This letter is in response to Condition 22 of the Concept Modification (refer Appendix 17 and 18).</p> <p>This advice states that the proposed project will commit to achieve include:</p> <p><i>"1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.</i></p> <p><i>2. Water scores (measured by BASIX) which exceed the targets by just under 10%.</i></p> <p><i>3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.</i></p> <p><i>4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report ("101117 Shepherds Bay Meadowbank - ESD Report"). "</i></p> <p>Refer to the ESD Report at Appendix 18 for further information.</p>
<p>16 Stormwater Management</p> <p>The Proponent is committed to providing the necessary stormwater upgrades, the details of which will be included in the final VPA when negotiated with Council.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site the Proponent commits to preparation of an Integrated Stormwater Management Plan for the</p>	<p>Stormwater plans have been prepared by Harris Page, and are submitted with the DA.</p> <p>Note there is no VPA for this development.</p>

relevant development stage.	
<p>17 Noise</p> <p>All Project or Development Applications within the Concept Plan site for all development Stages are to comply with the relevant acoustic standards and controls contained in the BCA.</p>	<p>An Acoustic Report has been prepared by DK Acoustics in support of the DA and addressing this condition.</p> <p>Refer to Appendix 19 for further information.</p>
<p>18 Site Contamination</p> <p>All Project or Development Applications within the Concept Plan site for all development stages will be required to comply with the requirements of SEPP 55 Remediation of Land.</p>	<p>As detailed at Section 4.2 of the SEE, the Concept Application was supported by a Preliminary Screening Contamination Assessment and a Preliminary Geotechnical and Groundwater to assess the likelihood and/or extent of potential soil and groundwater contamination, which may have resulted from past and present uses on or adjacent to the site.</p> <p>These reports did not raise significant concern with regard to the proposed works and residential use on this site.</p> <p>Further detailed assessment of the soil and groundwater conditions of the site was then undertaken by Environmental Investigations with the results provided in the Contaminated Land Report (RAP) provided at Appendix 22.</p> <p>In summary, subject to the removal of localised contaminated soils, (which would largely be removed in place of excavated basements), and other recommendations made by Environmental Investigations, the site is considered to be suited to the proposed development and thereby satisfies the provisions of SEPP 55.</p>
<p>19 Construction Management</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Construction Management Plan will be prepared by the proponent for each development stage and will be submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.</p> <p>All construction materials, vehicles, waste and the like will be stored within the site.</p> <p>All demolition and all construction and associated</p>	<p>In accordance with this condition a conceptual Construction Management Plan has been prepared in support of the application by Upright Builders (refer Appendix 21).</p> <p>This sets out the broad details of the construction methodology, construction traffic arrangements and construction waste management measures which will form the framework of the detailed CMP to be submitted to the PCA prior to any work commencing on the site, and in accordance</p>

<p>work will be restricted to between the hours of 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No work is to be carried out on Sunday or public holidays.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Traffic Management Plan (TMP) for the relevant development stage, which addresses construction access and egress to the site, including vehicle routes and parking for workers, staging and timing of construction of internal road network and other relevant issues, will be prepared and submitted to the satisfaction of Principal Certifying Authority. The TMP will be prepared in accordance with the RTA's guidance on TMP's.</p>	<p>with this Condition.</p> <p>Refer to Appendix 21 for further information.</p>
<p>20 Utilities</p> <p>A Section 73 Certificate from Sydney Water will be obtained as required.</p> <p>All existing aerial services (including low voltage Energy Australia electricity and subscriber television services) along the frontage of the Concept Plan Site are to be relocated underground prior to the occupation of the development stages. The cost of this work is to be borne by the developer.</p>	<p>Greg Houston Plumbing (GHP) has been appointed by Holdmark as Water Services Coordinator.</p> <p>As such, Appendix 9 provides a letter from GHP confirming that they will be lodging applications to Sydney Water for all Section 73 Certificate releases.</p> <p>It is considered that the DA submission satisfies this element of the Concept Approval (as modified).</p> <p>R+M has confirmed that all existing aerial services along the frontage of the Concept Plan site will be relocated underground.</p>
<p>21 Arborist Report</p> <p>All subsequent development stages will be required to comply with the requirements of the Arborist Report (Annexure 23 to the submitted Environmental Assessment).</p>	<p>The Concept Plan Modification approved the removal of all trees from the site (refer to the approved landscape plan prepared by Place Design).</p>
<p>22 Environmental Management Plan</p> <p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site, a development Stage-specific Environmental Management Plan (EMP) will be prepared and submitted to and approved by the Principal Certifying Authority. The EMP will comprise:</p> <p>a. Hours of construction work;</p>	<p>In accordance with this condition, a detailed Environmental Management Plan will be prepared prior to construction.</p> <p>However, and notwithstanding this, a conceptual Construction Management Plan has been prepared in support of the application by Upright Builders (refer Appendix 21).</p> <p>This sets out the broad details of the</p>

<ul style="list-style-type: none"> b. Sediment and Erosion Control; c. Waste Management; d. Noise and Vibration Management; e. Air Quality and dust control; f. Use of cranes, plant and machinery g. Use of ladders, tapes, scaffolding and plant /machinery of conductive material h. Excavation and boring i. Plant and vehicle movements including - ingress and egress of vehicles to the site, loading and unloading, including construction zones, transportation of material, including contaminated material, predicted traffic volumes, types and routes; j. TMP; k. Piling, sheet piling, batter and anchors. 	<p>construction methodology, construction traffic arrangements and construction waste management measures which will form the framework of the EMP.</p> <p>Refer to Appendix 21 for further information.</p>
<p>23 Flooding</p> <p>All Development or Project Applications for individual development stages within the Concept Plan site are to be accompanied by a detailed Flood Impact Assessment Report using the Concept Plan Flood Study Report findings. These studies are to include such safety management measures as safe flood evacuation routes and refuge areas.</p>	<p>A Flood Assessment has been prepared in support of the application by BG&E (refer Appendix 25).</p> <p>This Report assesses the siting and levels of the driveways, concluding that:</p> <p style="text-align: center;"><i>" Stages 1 to 5 of the proposed development comply with Councils requirements for floodplain risk management."</i></p> <p><i>Refer to Appendix 25 for further information.</i></p>
<p>24 Waste Management</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site, a Waste Management Plan will be prepared for the relevant development stage which includes demonstration of the fact that the road network is capable of being serviced by Council's Waste vehicles.</p>	<p>Waste Management Plans (WMP) relating to construction and operational phases of the development have been prepared in support of the DA and addressing this condition..</p> <p>Refer to Appendix 21 for the WMP in relation to the construction phase prepared by Bingo, and Appendix 20 for the WMP in relation to the construction phase, prepared by Elephants Foot.</p>
<p>25 Sustainable Travel Plan</p>	<p>A Travel Plan for a Sustainable Future has been prepared in support of the DA by</p>

<p>Prior to issue of Occupation Certificates for any habitable areas in any development within the Concept Plan site a Sustainable Travel Plan for the Concept Plan site will be submitted to and approved by the Department of Planning. Individual Project or Development Applications will be accompanied by Development stage - specific Sustainable Travel Plans that are consistent with the Concept Plan Sustainable Travel Plan.</p>	<p>Road Delay Solutions addressing this condition</p> <p>Refer to Appendix 11 for further information.</p>
<p>26 Ground water</p> <p>As required by the NSW Office of Water:</p> <p>Groundwater:</p> <p>Licences under Part V of the Water Act 1912 are required for the works for the purposes of temporary dewatering as part of the proposed construction.</p> <p>General and Administrative Issues</p> <p>Specific Conditions Formal Application Issues</p>	<p>Appropriate licenses from the NSW Office of Water will be obtained prior to the relevant Construction Certificate being issued.</p>

Appendix 2

DA for Stages 4&5

Consistency with the Ryde Development Control Plan

Ryde DCP Control	Comment
Part 4.2 Shepherds Bay - Waterfront Precinct	
4.1 Development and the Public Domain	
1. Mixed Use Development	
a. & b. Residential development with compatible employment related activity.	The proposal seeks approval for residential uses as approved as part of the original Concept Approval (as modified)
c. Home office accommodation is allowed throughout the area.	The proposal does not seek approval for any home accommodation uses.
d. Retail developments, restaurants and cafés are to be generally located at street level.	The proposal does not include any non residential uses.
e. Commercial uses are encouraged at the level immediately above street level	The proposal does not include any commercial uses.
f. Ground floor apartments are to be of flexible design to facilitate change of use and ensure privacy for occupants.	As detailed on the submitted architectural plans, those units that are located at ground floor, have been designed to ensure privacy for occupants. Measures adopted to ensure privacy for these units include the provision of landscaping between courtyards and public footpaths, as well as operable privacy screens.
g. Where upper levels of development are used for either commercial or residential activity, the amenity of both uses must not conflict or be compromised by other uses in the development.	The proposal does not seek approval for any commercial uses at the upper levels.
h. Private living spaces and communal or public spaces should be clearly identified and defined.	The architectural plans prepared by R+M and submitted with the DA clearly delineate between private living spaces and communal/public spaces where appropriate.
i. Pedestrian entry to the residential control of mixed-use developments should be i. separated from entry to other land uses in the building(s); and ii. have a	Given that both buildings are almost exclusively residentially based, all entrances will be for the exclusive use of the residential tenants of the

clear address and presentation to the street.	buildings.
j. Active streetscapes will be encouraged by the use of outdoor restaurant seating, whether on private or public land. Refer to Council's Outdoor Dining Policy.	The proposal does not include any non residential uses.
2. Public Domain, Access and Pedestrian/Cyclist Amenity	
a. The achievement of maximum heights and density is contingent on meeting the public domain provisions of this plan and all public domain items being provided by the proponent.	As detailed elsewhere in this report, the Concept Approval established the maximum height of the proposal. However, and notwithstanding this, the proposal seeks to provide extensive public domain areas across the site. Refer to the Landscape Plans prepared by Place Design at Appendix 7 for further information.
b. New developments must be provided with a minimum of one barrier free access point to the main entry.	An Accessibility Report has been prepared in support of the DA (refer Appendix 13) which addresses this requirement.
c. Publicly accessible pedestrian and cycle ways must be provided through large sites. (even if not envisioned by this plan) (refer to Figure 4.2.03)	As the submitted plans detail, the proposal involves publicly accessible routes through the site.
d. New pedestrian and cycleway access points, gradients and linkages are to be designed to be fully accessible by all.	Refer to the submitted Accessibility Report at Appendix 13.
e. New commercial development should provide facilities, including showers, bike lockers etc, to encourage walking and cycling to work – refer to Part 9.3 - Parking.	The proposal is largely residentially based.
f. New roads, shared ways, pedestrian and cycle paths shall be provided in accordance with Figure 4.2.03.	The proposal seeks to provide extensive public domain areas across the site. Refer to the Landscape Plans prepared by Place Design at Appendix 7 for further information.
h. The design of new roads, shared ways footpaths and cycle paths shall be in accordance with Figure 4.2.03 to 4.2.07.	Refer above.
i. Shared pedestrian links, cycle ways, public roads and lanes are to be of a high standard and treated in a way which indicates their shared status. The selection of paving, street furniture,	Where shared links are to be provided, we understand that these have been provided in accordance with the requirements of the Technical Manual.

<p>lighting, bollards, signage and paving should compliment the existing upgrade works to Shepherds Bay (refer to the Ryde Public Domain Technical Manual).</p>	
<p>j. The design and location of vehicle access to developments should minimise conflicts between pedestrian and vehicles on footpaths, particularly along high volume pedestrian streets.</p>	<p>As part of the recent modification to the Concept Approval, permission was granted to amalgamate the basements for Stages 4 and 5. As such, only one basement is proposed for both buildings.</p> <p>As the plans submitted with the DA demonstrate, vehicular access to the basement level is to be provided via two driveways connecting with Nancarrow Avenue to the south-eastern and south western corners of the site.</p> <p>To address Council's requirements, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates (refer Appendix 10).</p> <p>This Report assesses the proposed access arrangements against the relevant Australian Standards, being AS2890.1-2004 concluding that whilst the proposed arrangement therefore constitutes a variance with respect to the Australian Standard, the driveway designs are considered satisfactory.</p> <p>Refer to Section 3 of the Internal Traffic Assessment for further information.</p>
<p>k. Service vehicle access is to be combined with parking access and limited to a maximum of one access point per building.</p>	<p>Refer to the waste management plan prepared by Elephant's Foot at Appendix 20.</p>
<p>l. Wherever practicable, vehicle access is to be a single crossing, perpendicular to the kerb alignment.</p>	<p>As the plans submitted with the DA demonstrate, vehicular access to the basement level is to be provided via two driveways connecting with Nancarrow Avenue to the south-eastern and south western corners of the site.</p> <p>To address Council's requirements, an Internal Traffic Assessment has been prepared by Thompson Stanbury Associates (refer Appendix 10).</p> <p>This Report assesses the proposed access arrangements against the relevant Australian Standards, being AS2890.1-2004 concluding that whilst the proposed arrangement therefore constitutes a variance with respect to the Australian Standard, the driveway designs are considered satisfactory.</p> <p>Refer to Section 3 of the Internal Traffic Assessment</p>

	for further information.
<p>n. Vehicle entries are to have high quality finishes to walls and ceiling as well as high standard detailing.</p> <p>No service ducts or pipes are to be visible from the street.</p>	The vehicular entry screened with a high quality recycled timber awning, clad with a sandstone finish and landscaped along the edges.
<p>o. The ground floor of all development is to be flush with the street footpath for the predominant level of the street frontage and at the main entry to the building.</p>	The footprint of the proposed buildings has been established through the Concept Approval. The proposal has been designed in accordance with the Concept Approval.
<p>p. Recesses for roller doors and fire escapes are to be wide and shallow to provide for personal security. Narrow, deep recesses are to be avoided.</p>	The proposal has been designed to ensure that any unnecessary recessed are avoided where practical.
<p>q. Pedestrian links must be a minimum width of 3.5 m, clear of buildings and open 24 hours a day. Pedestrian links identified in Figure 4.2.03 must be dedicated to Council.</p>	Not applicable to this proposal.
<p>r. Developments must be setback from the corner on blocks with poor site lines. The setback distance will be at the discretion of Council.</p>	The footprint of the proposed buildings was established through the Concept Approval. The proposal has been designed in accordance with the Concept Approval.
<p>s. The Rothsay Avenue to Bowden Street pedestrian link must be a minimum width of 6 m.</p>	This is not relevant to the subject DA.
3. Implementation - Infrastructure, Facilities & Public Domain Improvements	
<p>a. The public land such as the road verge adjoining a development site is to be embellished and if required dedicated to Council as part of any new development.</p> <p>The design and construction of the works are to be undertaken in accordance with section Figure 4.2.03, Figure 4.2.04 to 4.2.07.</p>	Any public land adjoining the proposal will be dedicated to Council if required.
<p>c. S94 contributions still apply throughout area, notwithstanding any land dedications, public domain improvements, infrastructure provision etc as required by this DCP.</p>	Noted.

4. Views & Vistas

- a. Panoramic views of Parramatta River are to be maintained from Faraday Park, Settlers Park, Anderson Park, and Helene Park (refer to Figure 4.2.08)
- b. Development is to ensure that vistas towards Parramatta River are maintained (refer to Figure 4.2.08)
- c. Development must reflect the topography of the area taking into consideration views from the Rhodes Peninsula, Railway Bridge and Ryde Bridge.
- d. Maintain views for pedestrians and cyclists along the public open space to the Parramatta River.
- f. Maintain secondary views through the site from pedestrian and cycle links from Nancarrow Avenue to the Parramatta River.
- g. New buildings are to take into account the existing views on the subject site and adjoining sites.

The terms of the Concept Approval sets out the bulk and scale of the proposed buildings.

This was established through an approved envelope as well as maximum RL's for each of the buildings.

The impact of the approved built form in terms of view loss was addressed as part of the Concept Approval with view corridors to the water provided where available.

The proposal does not seek to vary the approval in this regard.

- h. Orientate new development to take advantage of water views and vistas.

As the plans submitted with the DA demonstrate, the principal water views are to the south of the site and for the upper levels only.

On this basis, and whilst the proposed building form was established through the Concept Approval, where possible, the internal layout and arrangement of the proposed units has been designed to ensure that as many of the upper units benefit from a water view.

- i. New developments are not to materially compromise views of the northern ridgeline of Meadowbank.

Refer above.

- j. Development applications will be required to include an assessment of views in accordance with the above controls.

The terms of the Concept Approval sets out the bulk and scale of the proposed buildings.

This is established through an approved envelope as well as maximum RL's for each of the buildings.

The proposal does not seek to vary the approval in this regard.

	The impact of the approved built form in terms of view loss was addressed as part of the Concept Approval.
5. Landscaping & Open Space	
a. All development proposals are to be accompanied by a Landscape Plan prepared by a qualified and suitably experienced landscape architect. This is to include an arborist's report on existing trees, and demonstrate how proposed landscaping will contribute to ecological sustainability. Management of construction impacts must also be addressed.	<p>In accordance with the requirements of the original Arborist's Report prepared by Redgum, Trees Reference 132 and 133 will be retained as part of the proposal.</p> <p>In support of the DA, detailed Public Domain Landscape Plans have been prepared by Place Design. These detail the landscape treatment across the site, including the provision of additional trees.</p>
b. Roof gardens are encouraged and must be considered in any landscaping plan.	The proposal does not include any roof gardens.
d. All existing mature trees that enhance the quality of the area are to be retained.	<p>In accordance with the requirements of the original Arborist's Report prepared by Redgum, Trees Reference 132 and 133 will be retained as part of the proposal.</p> <p>In support of the DA, detailed Public Domain Landscape Plans have been prepared by Place Design. These detail the landscape treatment across the site, including the provision of additional trees.</p>
e. Provide adequate deep planting zones above car parking and other concrete or similar structures to allow sustainable planting.	As the Landscape Report prepared by Place Design details, and in accordance with the objectives of the Residential Flat Design Code, the proposal will provide 25% of the open space area as deep soil zones.
f. Provide at ground floor level, where possible, open space for dwelling units and contiguous open garden areas to create common large landscaped space.	As the Landscape Report and plans demonstrate, open space for units has been provided at ground level, with courtyards flowing into common landscaped areas where possible.
g. Construction of roof areas of multi unit developments is to make provision for useable roof gardens.	The proposal does not involve any useable roof gardens.
h. Where appropriate, developments should incorporate landscaping (such as planter boxes) integrated into the upper levels of building to soften building form.	The proposal does not involve any landscaping at the upper levels.
i. Building setbacks are to allow for landscaping/planting as in section 4.2.2	As the Landscape Report prepared by Place Design clearly details, landscaping will be provided within the

Setbacks.	setbacks of both buildings.
j. For corner buildings a reduction of the landscape setback on one side will be considered on its merit. This reduction does not apply to foreshore setbacks.	The terms of the Concept Approval sets out the building form and scale. The proposal does not seek to vary the approved built form as approved.
k. Where a proposal involves redevelopment of a site the developer are to arrange for electricity and telecommunications utilities to be undergrounded along the entire length of all street frontages. Such utility modifications will be carried out to the satisfaction of the responsible authority (e.g. Energy Australia). This is to improve the visual amenity of the area and allow street trees to grow unimpeded.	R+M has advised that this will be undertaken.
l. Permeable landscape surface materials is to be maximised, to allow maximum penetration of stormwater and urban runoff. Recommended permeable landscape materials include gravel, loosely fitting pavers, stepping stones, vegetative groundcover such as grass, creepers, and shrubs.	The Landscape Report details both permeable and non-permeable materials to sure an appropriate balance between the penetration of stormwater and urban runoff.
6. Street Furniture & Public Art	
a. All development proposals are to be accompanied by a landscape plan, prepared by a qualified and suitably experienced landscape architect, indicating how public domain improvements including paving, street furniture and lighting will be incorporated into the development.	A Landscape Report has been prepared by Place Design and is submitted with the DA. This Report details the proposed public domain improvements across the site.
b. Public domain finishes including the style, colour and installation methods of street furniture, paving and street lighting shall be in accordance with Ryde Public Domain Technical Manual.	We understand that the Landscape Report includes public domain finishes in accordance with the Ryde Public Domain Technical Manual.
c. Public art is to be provided in accordance with Council's Public Art Policy.	A Public Art Plan has been prepared by Black Beetle (refer Appendix 8). This Plan explores the opportunities, processes and integration of artworks as part of the entire Concept Plan site and provides aims and objectives of Public artwork in relation to the wider precinct.

<p>d. Embellishment of public places/spaces will be at developers' cost and the type and amount of embellishment will be negotiated with Council.</p>	<p>Noted.</p>
<p>7. Safety</p>	
<p>a. Public spaces need to be designed to meet Crime Prevention Through Environmental Design (CPTED) principles (DUAP 2001).</p>	<p>As set out in the Landscape Plan prepared by Place Design, the proposed landscape strategy will be designed to achieve CEPTED principles such as</p> <p>"Natural surveillance:</p> <p><i>The proposed landscape design will play an important role in Crime Prevention through Environmental Design. The landscape is designed to keep surveillance and pedestrian movement in consideration ensure with unimpeded sightlines to all areas and especially key areas of activation to avoid blind spots</i></p> <p><i>to ensure lighting for appropriate surveillance and avoid shadows and glare which might put people at risk.</i></p> <p>Natural Access Control:</p> <p><i>The landscape design utilizes the use of walkways, fences, lighting and signage to clearly guide people and vehicles to and from the entrances.</i></p> <p><i>The goal with this CPTED principle is not necessarily to keep intruders out, but to direct the flow of people while decreasing the opportunity for crime.</i></p> <p>Territoriality:</p> <p><i>The Landscape is designed to define desired movement areas, improve surveillance and delineate borders with help of change in materials, texture, planting, change in level, artwork, signage etc.</i></p> <p>Maintenance:</p> <p><i>A Maintenance and management plan has been produced for stages 4-5 that ensures CPTED principles are met. This includes maintenance of shrubs close to paths and suitable choices if species that allow passive surveillance . particular instructions will be given to the maintenance contractor in this regard."</i></p>

<p>b. Open sightlines and landscaping needs to be provided that allows for high levels of public surveillance by residents and visitors.</p>	<p>Refer above</p>
<p>c. Lighting is to be provided to all pedestrian ways, building entries, corridors, laundries, lifts, stairwells, driveways and car parks to ensure a high level of safety and security for residents and visitors at night. Further, external lighting including street lighting if necessary (in accordance with pedestrian lighting AS1158 is to be provided which makes visible potential hiding spots at night.</p>	<p>Refer to the submitted Landscape Report for details of the proposed lighting strategy.</p>
<p>d. Entrances to public open spaces will need to encourage pedestrian use and establish clear sightlines to improve visual security.</p>	<p>The public domain landscape plans prepared by Place Design include 'natural access control' which involves the utilisation of walkways, fences, lighting and signage to clearly guide people to and from the entrances, with the aim of directing people into the public open spaces.</p>
<p>e. The design of public domains must not result in dead ends or similar design outcomes.</p>	<p>As the plans prepared by Place Design clearly detail, there will be no dead end spaces created.</p> <p>Indeed, Place has undertaken their own CEPTED assessment of the proposal to ensure that the proposed landscape design plays an important role in maximising natural surveillance opportunities.</p>
<p>4.2 Architectural Characteristics</p> <p>1. Height</p>	
<p>a. The maximum building height is to comply with the heights shown in Ryde Local Environmental Plan 2014 Height of Buildings Map. Buildings must comply with the maximum number of stories shown in Figure 4.2.10.</p>	<p>The maximum height of the proposal has been established through the Concept Approval. In particular, approved plan ref. PPR 001-D provides maximum RL's for each of the proposed buildings.</p> <p>These maximum RL's are clearly detailed on the submitted architectural plans.</p> <p>The proposed buildings will not exceed these maximum RL's.</p> <p>In addition, it is noted that the Concept Modification approved various 'popups' across both Stage 4 and 5. The extent of these 'popups' are detailed on approved plan references Figure 15 Rev 4 and Figure 17 Rev 4. These 'popups' permit additional storeys on top of the maximum RL's, so long as they do not exceed 60% of</p>

	<p>the footprint of the typical floor plate below.</p> <p>We are advised that the proposed 'popups' as detailed on the submitted architectural plans meets this requirement and therefore the proposal is consistent with the Concept Approval as modified.</p>
c. The ground floor height shall be 4 m floor to floor regardless of use.	The proposed design complies with the MP09_0216 Mod 1 Concept Plan Approval.
d. Any car parking above ground will have a minimum 3 metres (floor to underside ceiling) to allow for potential future conversion.	As the plans submitted with the DA clearly illustrate, all car parking will be provided at basement level.
e. Retail and commercial uses at ground floor are to have floor levels contiguous with finished footpath levels. On sloping sites the levels must be contiguous at entries.	Non non-residential uses are proposed.
2. Setbacks	The building siting and setbacks are in accordance with the Concept Approval.
3. Roof Form	
a. Buildings below RL 15 must have articulated roofs, as they will be viewed from buildings above. Articulated roofs refer to well-designed roof zones with landscaping, useable areas and/or richly detailed roofs made of high quality materials.	<p>The approved RL's for both Stage 4 and 5 are substantially in excess of RL 15. However, and notwithstanding this, the proposal includes articulated roof forms, achieved primarily through the use of high quality materials.</p> <p>Roof terraces to the top floor apartments will be private open spaces for the apartment the lower roofs and other non-trafficable extents of the roof will have high quality gravel patterned on.</p>
b. The use of solar panels on roofs is encouraged where possible.	The proposal does not include the use of solar panels.
4. Building Facades & Articulation	
a. Building facades should be articulated within a 3-metre zone to provide entries, external balconies, porches, glazed balcony enclosures, terraces, verandas, sun shading elements etc.	As the submitted plans demonstrate, the building facades have been sufficiently articulated across all elevations. This has been achieved using a mixture of architectural techniques. Refer to the submitted plans for further information.
b. Penthouses should be set a minimum of 4 metres from any building façade.	The built form was approved through the Concept Modification. The proposal does not involve any modifications to the approved built form.

<p>c. Articulate buildings to respond to orientation, views, breezes, privacy, views, acoustic requirements, street widths and the relationship of the building to external garden spaces.</p>	<p>Envelope configuration, orientation and height, was approved in Concept Approval MP 09-216 and subsequent Mod1 Approval.</p> <p>Where facades receive solar access, living rooms and private open space are orientated to capture the sun. Apartments on the upper floors have skylights incorporated to optimize solar access. Refer to the accompanying Solar Access and Natural Ventilation Assessment.</p> <p>Apartment layouts have been designed to promote separation between living areas and more quiet sleeping zones.</p> <p>Inter tenancy walls between adjoining apartments will be designed in accordance with BCA requirements and acoustic consultant's recommendations.</p>
<p>d. Articulate buildings vertically and horizontally: materials and building setbacks on the upper storeys are to be used to reduce the perceived bulk of buildings.</p>	<p>Articulation of the building façade has been achieved by using both horizontal and vertical elements and differing materials and finishes. Strong horizontal bands (slab edges, balcony balustrades, rhythmic recycled timber posts and changes in cladding) promotes clear delineation between the upper and lower levels.</p> <p>Recessed balconies and screened operable louvres give a sense of enclosure whilst also encouraging passive surveillance to the public links below.</p> <p>Wrap around balconies maximise capturing views around and assists in reducing the perceived building bulk and assists in widening the sense of space between the wings and public link corridors.</p>
<p>e. Provide and denote entries along street frontages and public domain spaces where appropriate.</p>	<p>The primary entry to Stage 3 will be directly from the foreshore plaza area, with the entry to Stage 2 also located directly off a landscaped courtyard.</p> <p>Refer to the architectural and public domain plans for further information.</p>
<p>f. Buildings are to address streets, open spaces and the river foreshore. Street frontages are to be parallel with or aligned to the street alignment.</p>	<p>Notwithstanding the fact that the bulk and scale of the proposal was approved as part of the Concept Modification, both Stage 4 and 5 have been designed to ensure that both buildings will address the proposed foreshore plaza area and foreshore area generally.</p>
<p>g. Provide balconies and terraces, particularly where buildings overlook public spaces.</p>	<p>As the plans submitted with the DA demonstrate, the primary outlook and view for both the Stage 4 and 5 buildings is south and towards the foreshore.</p>

	As such, so as to maximise views and also provide an outlook over the foreshore plaza area, the majority of units have been oriented south with balconies that maximise this outlook.
h. All facades visible from the public domain are to be durable, low maintenance and of high quality.	<p>The following has been provided by R+M:</p> <p>"The colour palate is thematic to the industrial past and water's edge coastal development with a range of blues, recycled timber and metal cladding.</p> <p>At street level, the façade is composed to hint at the urban edge and human scale with sandstone base, rhythmic vertical fins, deep horizontal slabs setting a human scale datum line and operable metal privacy screens that provide a rich kaleidoscope of beauty, luxury and understated style.</p> <p>The mid-section is highly articulated with horizontal and vertical metal cladding, glazed ribbon balconies and punchy windows references the former industrial buildings and their use of glazing.</p> <p>The top head is designed to maximise views to the water and the heartland through strong horizontal lines, continuous patterned screens and folded edges."</p>
i. External glass to be non-reflective and have a maximum of 20% tint.	Any external glass will be non-reflective.
5. Private & Communal Open Space	
a. Private open space with sunlight access, ventilation and privacy shall be provided for apartments in accordance with SEPP65.	Refer to the SEPP 65 Assessment prepared by R+M.
b. No more than 50% of communal open space provided at ground level shall be paved or of other non-permeable materials	Refer to the Landscape Design Report prepared by Place Design.
6. Residential Amenity	
<p>a. In considering compliance with SEPP65, regard will be given to:</p> <p>ii. sunlight access to adjoining balconies of living rooms; and</p> <p>iii. appropriate urban form, site orientation and other constraints.</p>	Refer to the SEPP 65 Assessment prepared by R+M.

<p>b. Apartments below a sloping ground level shall apply the SEPP65 guideline for lightwells.</p>	<p>Refer to the SEPP 65 Assessment prepared by R+M.</p>
<p>4.3 Ecological Sustainability</p> <p>2. Energy Efficient Design</p>	
<p>a. Residential development must be designed in accordance with principle outlined in the Building Sustainability Index (BASIX)</p> <p>b. The principles and properties of thermal mass, insulation and glazing are to be considered in the design of buildings to achieve a high level of energy efficiency</p>	<p>A BASIX Assessment has been prepared by Integreco Consulting.</p> <p>In addition, an ESD letter has been submitted in support of the DA. This letter is in response to Condition 22 of the Concept Modification (refer Appendix 18).</p> <p>This advice states that the proposed project will commit to achieve include:</p> <p><i>"1. Energy scores (measured by BASIX) which, on average, exceed the targets by over 10%.</i></p> <p><i>2. Water scores (measured by BASIX) which exceed the targets by just under 10%.</i></p> <p><i>3. Innovation – achieved by using the first ever Australian incorporation of the CT2000 car charging technology, in a residential context.</i></p> <p><i>4. Waste Category – contractors will be required by Holdmark to meet the base waste targets in the ESD Masterplan Report ("101117 Shepherds Bay Meadowbank - ESD Report"). "</i></p> <p>Refer to the ESD Report at Appendix 18 for further information.</p>
<p>2. Noise & Vibration Attenuation</p>	
<p>Residential</p> <p>a. New residential developments, including those within a mixed-use building, are required to consider noise attenuation and acoustic treatment in their design. Particularly, the building layout, walls, windows, doors and roofs are to be designed and detailed to reduce intrusive noise levels.</p>	<p>An acoustic report has been prepared by DK Acoustics (refer Appendix 19).</p> <p>The Report concludes that the proposal is acceptable subject to various noise control recommendations as set out in Section 5 of the Report.</p>
<p>b. Development must have regard to "Interim Guidelines for Development Near Busy Road and Rail Corridors" NSW</p>	<p>Sections 3.4 and 3.5 of the acoustic report provide an assessment of the proposal against these Guidelines.</p>

Planning & Infrastructure.	
c. Balconies and other external building elements are to be located, designed and treated to minimise infiltration of noise into the building and reflection of noise from the façade.	Section 3.1 of the acoustic report assesses the proposal against Council's controls.
d. New units are to be constructed in accordance with: i. Australian Standard 3671-1989 and 3671-1987.	R+M has confirmed that the proposal will be designed in accordance with this and all relevant Australian Standards.
<p>Commercial</p> <p>b. The use of a premises, and any plant, equipment and building services associated with a premises must not: i. create an offensive noise.</p> <p>f. Where development adjoins residential development, the use of mechanical plant equipment and building services will be restricted and must have acoustic insulation.</p> <p>g. Loading and unloading facilities must not be located immediately adjacent to residential development.</p> <p>h. Retail premises must limit any spruiking and the playing of amplified music or messages so as not to disturb the amenity of other public and private places.</p> <p>i. Air conditioning ducts shall not be situated adjacent to residential development.</p> <p>j. Where development is situated adjacent to residential development, working hours shall generally be restricted to 7 am to 6 pm Monday to Friday and 8 am to 1 pm on Saturday, and nil on Sundays or public holidays. Activities in operation outside these hours must demonstrate that there will be no detrimental impact to residential amenity.</p>	No commercial uses are proposed as part of the development.
4. Parking Access & Loading	
a. All new buildings are required to provide on-site loading and unloading	An Internal Traffic Assessment has been prepared in

<p>facilities.</p> <p>b. Loading docks shall be located in such a position that vehicles do not stand on any public road, footway, laneway or service road and vehicles entering and leaving the site move in a forward direction.</p> <p>c. Loading docks that extend more than 7.5 metres into a building, mechanical ventilation might be required.</p>	<p>support of the DA by Thompson Stanbury.</p> <p>In terms of loading, Section 5.2 of this report assesses service vehicle movements into and out of the site, concluding that:</p> <p style="text-align: center;"><i>"The proposed internal servicing arrangements of Stages 4 & 5 are therefore considered to be satisfactory."</i></p> <p>In terms of mechanical ventilation, as stated previously in this report, details of ventilation have not yet been finalised.</p>
<p>5. Flooding & Stormwater Drainage</p> <p>a. Development must comply with Part 8.6 Floodplain Management of this DCP.</p>	<p>A full stormwater and flooding assessment has been submitted with the DA. We understand that this has been designed to ensure that the proposal satisfies Part 8.6 of the Floodplain Management of the DCP.</p>
<p>5.0 PRECINCT SPECIFIC DEVELOPMENT CONTROLS</p> <p>Precinct 3 - Waterfront</p>	
<p>a. The impact of new buildings on views from the Parramatta River to the site and the treed ridgeline to the north are to be considered. Similarly, views from this precinct to the Parramatta River are to be optimised.</p> <p>b. Development near the waterfront is to respond to and consider views from the Parramatta River.</p>	<p>The terms of the modified Concept Approval sets out the bulk and scale of the proposed buildings.</p> <p>This was established through an approved envelope as well as maximum RL's for each of the buildings.</p> <p>The impact of the approved built form in terms of view loss was addressed as part of the Concept Approval with view corridors where available.</p> <p>The proposal does not seek to vary the approval in this regard.</p>
<p>c. Distances between buildings should take into account acoustic and privacy issues to protect the amenity for all residential units. Minimum distances should be in accordance with SEPP 65 principles.</p>	<p>An assessment of the proposal against the objectives of the Residential Flat Design Code (RFDC) has been undertaken by R+M (refer Appendix 3).</p> <p>In terms of separation, R+M have advised that Stage 4 and Stage 5 comply with the Concept Plan building envelopes. Separations range between 18 – 22m (18m is required).</p>
<p>d. Facades should be articulated within a zone of 3 metres and be built to street edge behind the required landscape setback.</p>	<p>An assessment of the proposal against the objectives of the Residential Flat Design Code (RFDC) has been undertaken by R+M (refer Appendix 3).</p> <p>Section 3.14 of this assessment describes the facade articulation stating that:</p> <p style="text-align: center;"><i>"The materials, colours, finishes that are used in</i></p>

	<p><i>the development are of a very high standard and integrate with the emerging character of development in the area. 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. 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 built environment."</i></p>
<p>e. Maintain all existing mature trees that add to the high landscape quality of the area.</p>	<p>In accordance with the requirements of the original Arborist's Report prepared by Redgum, Trees Reference 132 and 133 will be retained as part of the proposal.</p> <p>In support of the DA, detailed Public Domain Landscape Plans have been prepared by Place Design. These detail the landscape treatment across the site, including the provision of additional trees.</p>
<p>f. Enhance street planting along Bowden Street to facilitate the perception of a boulevard providing direct access to the Parramatta River.</p>	<p>Appropriate street planting has been included within the Place Design Public Domain Landscape Plans.</p>
<p>g. Ensure that new developments are responsive to and add to the landscape quality by providing adequate deep planting zones above car parking to allow sustainable planting which takes into account solar access and views.</p>	<p>R+M confirms that there is sufficient depth to support a wide selection of native and exotic trees and shrubs above car parking that are of low maintenance and contribute to habitats of local fauna and also provide buffering/screen to residential areas.</p>
<p>i. Provide a new pocket park to the southern part of the precinct to ensure tree retention and enable passive activity with views to Parramatta River.</p>	<p>The foreshore park is to be provided as part of the concurrent DA for Stages 2 and 3.</p>
<p>k. Provide a 20-metre foreshore landscape setback with a high quality solution knitting with the Shepherds Bay foreshore upgrade.</p>	<p>The bulk and scale of the proposal was approved as part of the Concept Approval. However, and notwithstanding that, deep landscape setbacks to both buildings have been provided. Refer to the Landscape Plans prepared by Place Design for further information.</p>



37-53 Nancarrow Avenue, Ryde
Stages 6 and 7 - Shepherds Bay

Statement of Environmental Effects

Statement of Environmental Effects

37-53 NANCARROW AVENUE, RYDE STAGES 6 AND 7 - SHEPHERDS BAY

Demolition of Existing Buildings and Erection of 2 Residential Flat Buildings

January 2015

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1.0 INTRODUCTION

On 6 March 2013, as delegate of the Minister for Planning and Infrastructure, the Planning Assessment Commission (PAC) granted approval for Concept Plan MP09_216 for a mixed use development of the site at Shepherds Bay including residential, retail, commercial and community uses. The Concept Plan provides for the following:

- Building envelopes for 12 buildings incorporating basement level parking;
- Infrastructure works to support the development;
- Publicly accessible open space and through site links; and
- Pedestrian and cycle pathways.

This Statement of Environmental Effects has been prepared in support of a Development Application made under Part 4 of the Environmental Planning and Assessment Act 1979 for the erection of 2 residential flat buildings referred to as Stages 6 and 7 of the approved Concept Plan.

The proposed development is detailed in the architectural package prepared by Turner Architects. The application is also accompanied by the following:

- Survey plan - H Ramsay
- Architectural package including SEPP 65 Assessment - Turner Architects
- Ventilation assessment - Windtech
- Landscape & public domain plan - Place Design
- Detailed Design of Public Art - Black Beetle
- Civil package - BG&E
- Flood Assessment - BG&E
- Stormwater Plan - Harris Page
- QS cost estimate - Altus Page Kirkland
- Environmental Site Assessment - Environmental Investigations
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- Fire safety report - GN Consulting
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- Arboricultural Report - Redgum
- Sydney Water Requirements - Greg Houston Plumbing Pty Ltd
- Geotechnical Report - Asset Geotechnical

1.0 INTRODUCTION

This Statement has been prepared pursuant to section 78A of the Environmental Planning and Assessment Act 1979 and clause 50 of the Environmental Planning and Assessment Regulation 2000. The Statement provides an assessment of the development proposal having regard to the relevant legislative context, social, economic and environmental impacts, potential impacts of the works on the surrounding locality and the measures proposed within the application to mitigate such impacts.

The Statement details the proposed development's consistency with the approved Concept Plan as well as compliance against applicable environmental planning instruments and development control plans including:

- Sydney Regional Environmental Plan – Sydney Harbour Catchment 2005
- State Environmental Planning Policy No. 32 Urban Consolidation (Redevelopment of Urban Land)
- State Environmental Planning Policy No.55 – Remediation of Land
- State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
- State Environmental Planning Policy (Infrastructure) 2007
- Ryde Local Environmental Plan 2014
- Ryde Development Control Plan 2014

Having regard to the applicable legislative framework, it is considered that the proposed development is consistent with the aims and objectives of the Concept Plan, relevant environmental planning instruments and development control plan whilst being compatible with the emerging character of the locality and minimising any potential impacts on the amenity of the adjoining properties.

2.0 SITE DESCRIPTION AND LOCATION

2.1. Locality Description

The site is known as 37-53 Nancarrow Avenue and is located within the master planned area of Shepherds Bay at the foreshore within the suburb of Ryde which resides towards the southern end of the City of Ryde's local government area. The subject site is located between Constitution Road to the north and Nancarrow Avenue to the south.

The site is currently located within a largely industrial context although the area has been undergoing urban renewal with the redevelopment of many sites in the area including Stage 1 within the Shepherds Bay precinct which spans along the southern end of Bowden Street and along Rothesay Avenue and Bay Drive and includes the block bounded by Constitution Road to the north, Bowden Street to the west and Belmore Street to the east.

The site is approximately 300 metres south east of Meadowbank Railway Station which is located at the end of Constitution Road and is approximately 470 metres north of Meadowbank Ferry Wharf. The site is not located within a heritage conservation area however it does contain a locally listed heritage item which has been approved in principle for demolition under the Concept Plan. The location of the site is illustrated in Figure 1 below.

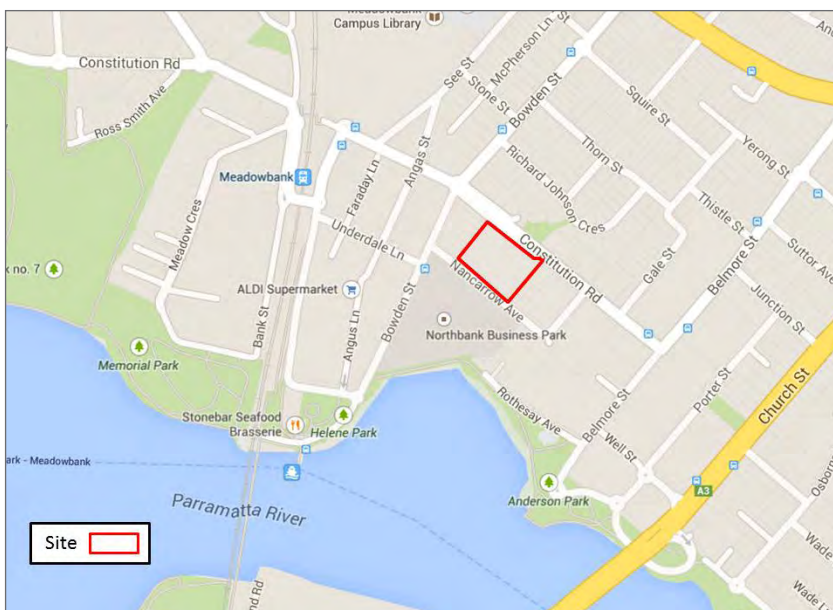


Figure 1:

Site location (Source: Google Maps 2014)

2.2. Site Description

The site comprises seventeen allotments and is legally described as Lot 9 in DP 19585, Lot 1 in DP 122205, Lots 1-7 in DP 19585 and Lots 10-17 in DP 19585 and is known as 37-53 Nancarrow Avenue, Ryde. The site is located on the southern side of Constitution Road and the northern side of Nancarrow Avenue.

The site is referred to as Stages 6 and 7 under the Concept Plan approval.

Both Constitution Road and Nancarrow Avenue have a low point which aligns with the centre of the site and there is a fall from the eastern and western sides of the site into the centre as well as an overall fall

2.0 SITE DESCRIPTION AND LOCATION

from north to south. The site is regular in shape and has an area of 10,176 square metres. The north-eastern boundary of the site, adjoining Constitution Road, has a length of approximately 116 metres. The south western boundary adjoining Nancarrow Avenue has a length of approximately 118 metres.

The site is currently occupied by a building known as the former Automatic Totalisators Limited factory which is heritage listed and is described as being significant as a “reasonably intact factory of high quality to a design by Dennis and Odling housing the Automatic Totalizers”. The site is illustrated in Figure 2 below.



Figure 2:

Site (Source: Six Maps, Department of Lands 2014)

2.3. Surrounding Development

The subject site is surrounded by a mixture of residential apartments, townhouses, light industrial or commercial development and detached housing. The context around the subject site is currently undergoing rapid transformation into a residential community with the forthcoming character defined by high quality residential flat development.

To the immediate east and west are industrial buildings of varying size and style. Further to the north-west across Bowden Street are also small industrial buildings which are likely to be redeveloped for residential flat buildings in the future. To the south of the subject site is 116-122 Bowden Street, Meadowbank which is referred to as Stages 8 and 9 in the Concept Plan and which will be redeveloped for residential flat buildings. To the north of the site across Constitution Road are single storey dwellings as well as Ann Thorn Park.

Constitution Road immediately to the north of the site is comprised a main elevated component as well as a lower southern branch which accesses the subject site and a lower northern branch to access the dwellings to the north of Constitution Road. The main component of Constitution Road is elevated to ensure that it is above the flood level caused from upstream waters, however, this causes flooding of upstream properties north of Constitution Road and also downstream when the water overtops the embankment and travels through the subject site.

2.0 SITE DESCRIPTION AND LOCATION



Photograph 1:

View of the site from Nancarrow Avenue facing north-east (Source: Google)

Photograph 2:

View of the site from the lower branch of Constitution Road facing south-west (Source: Google)



Photograph 3:

View of the site from the main Constitution Road facing south-west (Source: Google)

2.0 SITE DESCRIPTION AND LOCATION



Photograph 4:

View of the existing sites to the south-west across Nancarrow Avenue where Stage 8 and 9 of the Concept Plan will be constructed

Photograph 5:

View of existing industrial sites to the south-east of the site (Source: Google)



Photograph 6:

View of central raised section of Constitution Road facing north-west (Source: Google)

2.0 SITE DESCRIPTION AND LOCATION



Photograph 7:

View of single storey detached houses to the north-east adjacent to the northern lower branch of Constitution Road
(Source: Google)

Photograph 8:

View of existing industrial sites to the west of the subject site as viewed from the intersection of Bowden Street and Constitution Road facing south



3.0 BACKGROUND

3.1. Major Project MP09_0216

On 6 March 2013, as delegate of the Minister for Planning and Infrastructure, the Planning Assessment Commission granted approval for Concept Plan MP09_216 for the subject site.

The Concept Plan provides for a mixed use development of the site including residential, retail, commercial and community uses comprising the following:

- Construction of attached residential flat buildings between 3 and 12 storeys in height;
- Basement car parking over four levels
- Landscaped communal open space between the two buildings
- A new landscaped publicly accessible foreshore link from Hamilton Crescent to Rothesay Avenue
- Stormwater and infrastructure/utility works

In addition, the PAC issued future environmental assessment requirements for subsequent stages of the development pursuant to section 75P(1)(a) of the Environmental Planning and Assessment Act 1979 (EP&A Act), and determined that all future stages will be subject to the provisions of Part 4 of the EP&A Act, as provided for under section 75P(1)(b).



Figure 3:

Approved Concept
Plan

3.0 BACKGROUND

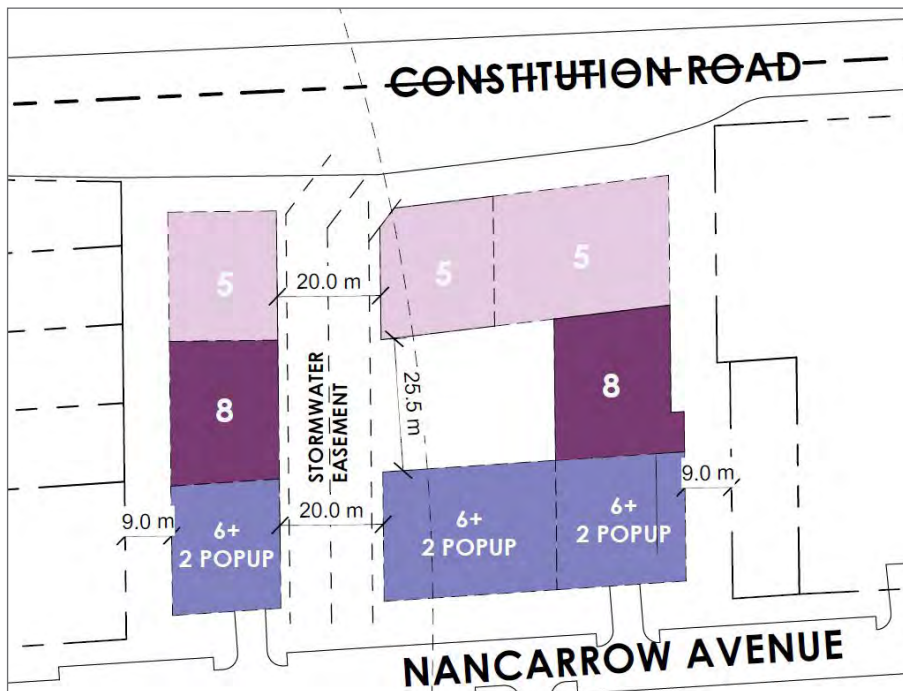


Figure 4:

Approved Concept Plan envelopes for Stages 6 and 7

3.2. Major Project MP09_0216 (MOD 1)

The Concept Plan was subsequently modified on 16 October 2014 to provide the following amendments:

- amendment to Building Storeys Plan to allow for additional storeys at ground level in Stages 1 to 3;
- to expand/connect the basement building envelopes;
- revision to the construction staging;
- revised timing of the delivery of the open space to be in conjunction with Stage 3 (rather than Stage 1);
- provision of an additional storey to provide a 6 storey element to the building on the corner of Belmore Street and Constitution Road;
- flexible application of the solar access requirement of the RFDC;
- amendment of ESD measures; and
- amendments to terms of approval, future environmental assessment requirements and Statement of Commitments.

4.0 DEVELOPMENT PROPOSAL

4.1. General Description

The subject development application seeks consent for the demolition of all existing structures and the erection of 2 residential flat buildings referred to as Stages 6 and 7 of the approved Concept Plan containing a total of 311 residential apartments and 422 car parking spaces.

The proposed development is consistent with the approved site layout, massing and building envelopes approved under Concept Plan MP09_0216.

The development specifically involves the following:

- Demolition of all structures including removal of all slabs;
- Excavation works;
- Construction of a 5 to 8 storey building above 2 basement levels for Stage 6 containing 202 residential apartments;
- Construction of a 5 to 8 storey building above 3 basement levels for Stage 7 containing 109 residential apartments;
- Infrastructure works including the lowering of Constitution Road, installation of a signalised intersection at Constitution Road and Bowden Street, and implementation of stormwater infrastructure through the site; and
- Landscaping works around the buildings including the creation of common open space areas and publicly accessible pedestrian and cycle through-site links.

The proposed development is detailed on the architectural plans prepared by Turner Architects.



Figure 5:

Perspective image of proposed development as viewed from Constitution Road

4.0 DEVELOPMENT PROPOSAL

4.2. Design Principles

The proposed buildings are of varying scale and typology which introduces visual interest and serves to break up the scale of the development. The ground floor plane is suitably activated, having regard to the constraints imposed due to the fall of the site, with individual entries to the ground floor apartments and multiple building lobbies. The proposed development appropriately defines the public domain, however, in a softer fashion with generous landscaped setbacks.

The proposed development provides for contemporary and attractive buildings with facade compositions which are compatible with the emerging character within the area whilst also incorporating an industrial vernacular which references the historical use of the site. The proposed development introduces a variety of building elements and utilises a visually engaging architectural language with a selection of appropriate materials and finishes. The proposed built form and composition of the new buildings respond to the emerging character of the area and therefore provides a positive contribution to the visual quality of Ryde.

Turner Architects have provided further details of the design principles in the architectural drawings, SEPP 65 Design Verification Statement and RFDC Assessment, perspective images, shadow diagrams and Schedule of External Finishes which accompany this application.

4.3. Development Statistics

Element	Stage 6	Stage 7	Total
Site Area	10,176 square metres		
GFA	17,765 square metres	8,574 square metres	26,339 square metres
FSR	2.59:1		
Storeys	5 to 8 storeys		
Height	As per the approved 'Maximum RL Height Controls' of the Concept Plan		
Setbacks and Separation	As per the requirements of the RFDC and the approved 'Maximum RL Height Controls' of the Concept Plan		
Apartments	202	109	311
Car parking	277	145	422
Bicycle Spaces	28	15	43
Solar Access/Improved Amenity	142 (70%)	77 (70.6%)	219 (70.4%)
Natural Ventilation	128 (63%)	69 (63%)	197 (63%)
Open Space	5,495 square metres (54% of site)		
Deep soil	2,905 square metres (52.86% of open space)		

4.0 DEVELOPMENT PROPOSAL

4.4. Apartment Mix

Apartment	Stage 6	Stage 7	Total
1 bed	75 (37%)	59 (54%)	134 (43%)
2 bed	108 (53.5%)	40 (36.5%)	148 (47.5%)
3 bed	19 (9.5%)	10 (9.5%)	29 (9.5%)
Total	202	109	311

4.5. Materials and Finishes

The proposed materials and finishes are detailed in the architectural plans provided by Turner Architects at Appendix C.

4.6. Access and Parking

Pedestrian access is provided via common lobbies at both the Constitution Road and Nancarrow Avenue frontages of each building. Individual entries are provided to ground floor apartments where possible and pedestrian access is also provided through the site to the south-east of the Stage 6 building, the north-west of the Stage 7 building and also centrally between each stage.

Vehicular access is provided via single entries at the southern end of both the Stage 6 and Stage 7 buildings. The vehicular entrance to the Stage 6 building provides access into the Lower Ground Level parking as well as two basement levels below which contain a total of 277 car parking spaces, 28 bicycle parking spaces and residential storage. The vehicular entrance to the Stage 7 building provides access into the Lower Ground Level parking as well as three basement levels below which contain a total of 145 car parking spaces, 15 bicycle parking spaces and residential storage. Four lifts provide access from the Stage 6 parking levels into the building above and two lifts provide access from the Stage 7 parking areas into the building above.

4.7. Private and Public Open Space

The proposed development provides two buildings which sit within a generously landscaped setting. A variety of communal open spaces are proposed including a central landscaped courtyard (650 square metres) at ground level accessible to both Stages whilst landscaped roof top terraces (Stage 6: 815 square metres; and Stage 7: 500 square metres) are provided on Level 5 of each building. When combined with the primary and secondary landscaped through site links, a total area of 5,495 square metres or 54% of the site is provided for passive and active uses.

The development provides a number of ground floor apartments to enjoy large landscaped private open space area with the majority of these apartments having private open space greater than 25 square metres. The balconies for upper level apartments generally have a minimum depth of 2 metres whilst the majority of apartments have balcony depths between 2.4 metres and 3 metres.

4.8. Trees

The proposal requires the removal of all of the trees on the site as well as the street trees adjacent to the site as detailed in the Arboricultural Impact Assessment and Addendum prepared by Redgum Arboricultural and Horticulture Consultants which accompanies the application. The development of the site will however involve the comprehensive landscaping of both the subject site and surrounding public

4.0 DEVELOPMENT PROPOSAL

domain in a coordinated and generous fashion as illustrated in the Landscape Plan prepared by Place Design which accompanies the application.

4.9. Stormwater Infrastructure Upgrades and Public Domain Works

The proposal includes the following infrastructure upgrades and public domain works:

- Lowering of Constitution Road;
- Upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Constitution Road to the foreshore through the site;
- Signalisation of Constitution Road and Bowden Street intersection;
- Upgrade of the road reserves adjacent to the development to the centre line of the carriageway, including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on Constitution Road and Nancarrow Avenue, and the upgrade of the longitudinal pit and pipe network along Constitution Road and Nancarrow Avenue to capture and convey the 20 year ARI flood.

4.10. Subdivision and Creation of Publicly Accessible Open Space

The proposed development includes the provision of two pedestrian links intended to be used for public access as illustrated in Figure 6 below. These include the primary central link as well as the north-western link adjacent to the Stage 7 building. The central link is also the location for the an underground stormwater pipe and overland flow path to convey the 100 year ARI flood from Constitution Road to the foreshore through the site. It is expected that a condition of consent will be imposed requiring the creation of rights of public access to the two publicly accessible through-site links as well as the drainage reserve with the relevant instrument/s to be executed prior to the issue of the occupation certificate for any building on the site.



Figure 6:

The public routes intended to be provided via the creation of a right of public access are defined in the approved Concept Plan Figure 32A Rev 2

4.0 DEVELOPMENT PROPOSAL

4.11. Sustainable Travel Plan

The proposal is accompanied by a Sustainable Travel Plan prepared by Road Delay Solutions which outlines the initiatives to be undertaken by Holdmark with respect to community parking and bicycle provisions to deliver best practice sustainable outcomes to effectively reduce greenhouse gas emissions through diminished dependence upon private vehicle usage. The site benefits from alternative travel modes from public transport to walking and cycling. Both commuter and recreational trips can be adequately accommodated within the current local transport network while proposed provisions for car share will allow an opportunity to reduce the dependence on the private vehicle.

4.12. Public Art

The proposal is accompanied by a Public Art Plan prepared by Black Beetle. The plan explores the opportunities, processes and integration of artworks as part of the proposed development and outlines aims and objectives of Public artwork in relation to this development, thematic framework for developing artworks, and locations and concepts for site specific works within the development. The plan initiates a documentation process which will take the identified artworks through design briefs, design development, fabrication and installation.

4.13. Ecologically Sustainable Development

The proposal is accompanied by an ESD statement prepared by Integreco which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010.

4.14. Traffic Study and Intersection Upgrade

The proposal is accompanied by a traffic study prepared by Road Delay Solutions which identifies that the signalisation of the intersection of Constitution Road and Bowden Streets is required and proposed as part of the development. This is also required by the Statement of Commitments. The design of the intersection is illustrated by Road Delay Solutions in the traffic study.

4.15. Heritage Interpretation Strategy

The proposal is accompanied by a Heritage Interpretation Strategy which proposes interpretive signs and boards containing a combination of photographs, drawings, images and text relating to the key messages identified for the existing Factory and the site. These boards and panels can be located in areas of greatest public wayfinding and congregation, both inside and outside as appropriate such as near to access points to the site as well as in common areas such as the large courtyard and adjacent outdoor areas. The Heritage Interpretation Strategy also outlines the salvageable items at the site which can be re-used as part of the overall heritage interpretation for the development of the site.

4.16. Cost of Construction

The cost of construction of the project is estimated at \$ \$104,453,032.20 (including GST). Refer to the QS Report prepared by Altus Page Kirkland which accompanies this application.

4.17. Dwelling and Car Parking Cap

A dwelling cap of 2,005 dwellings and a car parking cap of 2,976 applies to the entire Concept Plan area. Below is an approved, proposed and forecast tally in relation to these caps:

4.0 DEVELOPMENT PROPOSAL

Stage	Dwellings	Car Parking
1	246	342
2 and 3	453	605
4 and 5	511	621
6 and 7	311	422
8 and 9	422	573
A	62	413

5.0 STATUTORY PLANNING FRAMEWORK

5.1. Environmental Planning & Assessment Act 1979

5.1.1. Consistency with Concept Plan

Clause 3B of Schedule 6A of the Environmental Planning and Assessment Act, 1979 applies to development for which a concept plan has been approved.

Specifically, Clause 3B(2) contains the following relevant provisions to the consideration of the proposed development:

(c) any development standard that is within the terms of the approval of the concept plan has effect,

(d) a consent authority must not grant consent under Part 4 for the development unless it is satisfied that the development is generally consistent with the terms of the approval of the concept plan,

(f) the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan,

The subject development application is to facilitate development of the site under Concept Plan MP09_0216. A detailed assessment of the proposal's consistency with the Concept Plan and its Statement of Commitments is located at Appendix A.

This Development Application is generally consistent with the Concept Plan approval in that it:

- The proposed buildings are generally contained within the approved building envelopes in both plan and elevation. Any encroachments are particularly minor, are more than balanced by parts of the buildings which are well inside the envelopes and do not compromise the appropriate characterisation of the proposed development as being 'generally in accordance with' the approved envelope;
- The proposed number of apartments when combined with the other stages will not exceed the dwelling cap of 2,005 apartments under the Concept Plan;
- Where the proposed stages do not meet the rules of thumb within the Residential Flat Design Code for solar access and cross ventilation, they meet the additional amenity requirements specified under the Concept Plan;
- Basement parking levels do not exceed greater than 1 metre above finished ground level and do not extend into street setbacks;
- The proposal includes all road and stormwater infrastructure and public domain improvements as required by the Concept Plan;
- The proposal incorporates all publicly accessible through-site links as required by the Concept Plan;
- The proposal provides car and bicycle parking in accordance with the rates required under the Concept Plan;
- The proposal provides 10% of apartments as adaptable housing as required by the Concept Plan;
- The proposal incorporates a commitment to public art as required by the Concept Plan; and
- The proposal incorporates industry best practice ESD principles in the design, construction and ongoing operation phases.

5.0 STATUTORY PLANNING FRAMEWORK

5.1.2. Integrated Development

The proposal involves de-watering associated with the excavation works and is therefore 'integrated development' pursuant to Section 91 of the EP&A Act as dewatering requires the approval of the NSW Office of Water under Section 91 the Water Management Act 2000.

5.1. Environmental Planning Instruments

5.1.1. Sydney Regional Environmental Plan – Sydney Harbour Catchment 2005

The Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 provides aims and controls to protect the values of the Harbour. The Plan primarily provides planning provisions relating to the foreshore and waterways area as identified under the SREP. The subject site is included within the foreshores and waterways area and therefore such provisions apply to this proposal. The following table provides an assessment of the proposed development against the relevant provisions of the SREP.

Control	Comment
Part 1 Preliminary - Aims	
<p>(1) This plan has the following aims with respect to the Sydney Harbour Catchment:</p> <p>(a) to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected, enhanced and maintained:</p> <p>(i) as an outstanding natural asset, and</p> <p>(ii) as a public asset of national and heritage significance, for existing and future generations,</p> <p>(b) to ensure a healthy, sustainable environment on land and water,</p> <p>(c) to achieve a high quality and ecologically sustainable urban environment,</p> <p>(d) to ensure a prosperous working harbour and an effective transport corridor,</p> <p>(e) to encourage a culturally rich and vibrant place for people,</p> <p>(f) to ensure accessibility to and along Sydney Harbour and its foreshores,</p> <p>(g) to ensure the protection, maintenance and rehabilitation of watercourses, wetlands, riparian lands, remnant vegetation and ecological connectivity,</p> <p>(h) to provide a consolidated, simplified and updated legislative framework for future planning.</p> <p>(2) For the purpose of enabling these aims to be achieved in relation to the Foreshores and Waterways Area, this plan adopts the following principles:</p> <p>(a) Sydney Harbour is to be recognised as a public resource, owned by the public, to be protected for the public good,</p> <p>(b) the public good has precedence over the private good whenever and whatever change is proposed for Sydney Harbour or its foreshores,</p> <p>(c) protection of the natural assets of Sydney Harbour has precedence over all other interests.</p>	<p>The proposal is consistent with the aims of the SREP in that:</p> <ul style="list-style-type: none"> • it will provide for a healthy, sustainable environment on the site; • it will achieve a high quality and ecologically sustainable development on the site through its high environmental performance • the proposed development does not prevent public access to the foreshore of the Parramatta River and provides publicly accessible through site links to assist in providing access towards the River foreshore.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
Part 2 - Planning Principles	
<p>Sydney Harbour Catchment</p> <p>The planning principles for land within the Sydney Harbour Catchment are as follows:</p> <p>(a) development is to protect and, where practicable, improve the hydrological, ecological and geomorphological processes on which the health of the catchment depends,</p> <p>(b) the natural assets of the catchment are to be maintained and, where feasible, restored for their scenic and cultural values and their biodiversity and geodiversity,</p> <p>(c) decisions with respect to the development of land are to take account of the cumulative environmental impact of development within the catchment,</p> <p>(d) action is to be taken to achieve the targets set out in Water Quality and River Flow Interim Environmental Objectives: Guidelines for Water Management: Sydney Harbour and Parramatta River Catchment (published in October 1999 by the Environment Protection Authority), such action to be consistent with the guidelines set out in Australian Water Quality Guidelines for Fresh and Marine Waters (published in November 2000 by the Australian and New Zealand Environment and Conservation Council),</p> <p>(e) development in the Sydney Harbour Catchment is to protect the functioning of natural drainage systems on floodplains and comply with the guidelines set out in the document titled Floodplain Development Manual 2005 (published in April 2005 by the Department),</p> <p>(f) development that is visible from the waterways or foreshores is to maintain, protect and enhance the unique visual qualities of Sydney Harbour,</p> <p>(g) the number of publicly accessible vantage points for viewing Sydney Harbour should be increased,</p> <p>(h) development is to improve the water quality of urban run-off, reduce the quantity and frequency of urban run-off, prevent the risk of increased flooding and conserve water,</p> <p>(i) action is to be taken to achieve the objectives and targets set out in the Sydney Harbour Catchment Blueprint, as published in February 2003 by the then Department of Land and Water Conservation,</p> <p>(j) development is to protect and, if practicable, rehabilitate watercourses, wetlands, riparian corridors, remnant native vegetation and ecological connectivity within the catchment,</p> <p>(k) development is to protect and, if practicable, rehabilitate land from current and future urban salinity processes, and prevent or</p>	<p>The proposal is consistent with the planning principles set out in this clause, as follows:</p> <ul style="list-style-type: none"> the proposal is for the erection of two new buildings in accordance with Water Sensitive Urban Design principles and will not adversely impact on the water quality of the River; and the subject site is located at the boundary of the foreshore area and is unlikely to be readily visible from the Parramatta River. Nonetheless, the proposal is of a high architectural quality which will contribute positively upon the appearance of the site if it can be viewed from the Parramatta River.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
<p>restore land degradation and reduced water quality resulting from urban salinity,</p> <p>(l) development is to avoid or minimise disturbance of acid sulfate soils in accordance with the Acid Sulfate Soil Manual, as published in 1988 by the Acid Sulfate Soils Management Advisory Committee.</p>	
<p>Foreshores and Waterways Area</p> <p>The planning principles for land within the Foreshores and Waterways Area are as follows:</p> <p>(a) development should protect, maintain and enhance the natural assets and unique environmental qualities of Sydney Harbour and its islands and foreshores,</p> <p>(b) public access to and along the foreshore should be increased, maintained and improved, while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation,</p> <p>(c) access to and from the waterways should be increased, maintained and improved for public recreational purposes (such as swimming, fishing and boating), while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation,</p> <p>(d) development along the foreshore and waterways should maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands and foreshores,</p> <p>(e) adequate provision should be made for the retention of foreshore land to meet existing and future demand for working harbour uses,</p> <p>(f) public access along foreshore land should be provided on land used for industrial or commercial maritime purposes where such access does not interfere with the use of the land for those purposes,</p> <p>(g) the use of foreshore land adjacent to land used for industrial or commercial maritime purposes should be compatible with those purposes,</p> <p>(h) water-based public transport (such as ferries) should be encouraged to link with land-based public transport (such as buses and trains) at appropriate public spaces along the waterfront,</p> <p>(i) the provision and use of public boating facilities along the waterfront should be encouraged</p>	<p>The proposal is consistent with the planning principles set out in this clause, as follows:</p> <ul style="list-style-type: none"> • the proposal will not result in a detrimental impact to the natural assets and unique environmental quality of the foreshore due to its setback from the River; • the proposal has no impact on public access to the foreshore however it adheres to the principle of view sharing of the River; • the proposal is unlikely to be viewed from the River as it will be obscured by other buildings closer to the River, nonetheless it is of a high architectural quality which will contribute positively and enhance the appearance of the locality which can viewed from the Parramatta River.
<p>Part 3 Foreshores and Waterways Area - Matters for Consideration</p>	
<p>General</p> <p>The matters referred to in this Division (together with any other relevant matters):</p> <p>(a) are to be taken into consideration by consent authorities before</p>	<p>The consent authority is required to consider the matters set out in this Part.</p>

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
<p>granting consent to development under Part 4 of the Act, and (b) are to be taken into consideration by public authorities and others before they carry out activities to which Part 5 of the Act applies.</p>	
<p>Biodiversity, ecology and environment protection</p> <p>The matters to be taken into consideration in relation to biodiversity, ecology and environment protection are as follows:</p> <p>(a) development should have a neutral or beneficial effect on the quality of water entering the waterways,</p> <p>(b) development should protect and enhance terrestrial and aquatic species, populations and ecological communities and, in particular, should avoid physical damage and shading of aquatic vegetation (such as seagrass, saltmarsh and algal and mangrove communities),</p> <p>(c) development should promote ecological connectivity between neighbouring areas of aquatic vegetation (such as seagrass, saltmarsh and algal and mangrove communities),</p> <p>(d) development should avoid indirect impacts on aquatic vegetation (such as changes to flow, current and wave action and changes to water quality) as a result of increased access,</p> <p>(e) development should protect and reinstate natural intertidal foreshore areas, natural landforms and native vegetation,</p> <p>(f) development should retain, rehabilitate and restore riparian land,</p> <p>(g) development on land adjoining wetlands should maintain and enhance the ecological integrity of the wetlands and, where possible, should provide a vegetative buffer to protect the wetlands,</p> <p>(h) the cumulative environmental impact of development,</p> <p>(i) whether sediments in the waterway adjacent to the development are contaminated, and what means will minimise their disturbance.</p>	<p>The proposed development will have a positive impact in relation to biodiversity, ecology and environment protection having regard to the following:</p> <ul style="list-style-type: none"> • the proposed development will not adversely impact on the water quality of Parramatta River. • the site is setback from the waters edge and therefore will have no impact on aquatic life. • there is no existing terrestrial vegetation communities on the subject site.
<p>Public access to, and use of, foreshores and waterways</p> <p>The matters to be taken into consideration in relation to public access to, and use of, the foreshores and waterways are as follows:</p> <p>(a) development should maintain and improve public access to and along the foreshore, without adversely impacting on watercourses, wetlands, riparian lands or remnant vegetation,</p> <p>(b) development should maintain and improve public access to and from the waterways for recreational purposes (such as swimming, fishing and boating), without adversely impacting on watercourses, wetlands, riparian lands or remnant vegetation,</p> <p>(c) if foreshore land made available for public access is not in public ownership, development should provide appropriate tenure and management mechanisms to safeguard public access to, and public use of, that land,</p>	<p>The subject site does not have direct access to the foreshore of the Parramatta River.</p>

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Control	Comment
<p>(d) the undesirability of boardwalks as a means of access across or along land below the mean high water mark if adequate alternative public access can otherwise be provided,</p> <p>(e) the need to minimise disturbance of contaminated sediments.</p>	
<p>Maintenance of a working harbour</p> <p>The matters to be taken into consideration in relation to the maintenance of a working harbour are as follows:</p> <p>(a) foreshore sites should be retained so as to preserve the character and functions of a working harbour, in relation to both current and future demand,</p> <p>(b) consideration should be given to integrating facilities for maritime activities in any development,</p> <p>(c) in the case of development on land that adjoins land used for industrial and commercial maritime purposes, development should be compatible with the use of the adjoining land for those purposes,</p> <p>(d) in the case of development for industrial and commercial maritime purposes, development should provide and maintain public access to and along the foreshore where such access does not interfere with the use of the land for those purposes.</p>	<p>The site is set well back from the foreshore edge and will not result in any impact to the working harbour.</p>
<p>Interrelationship of waterway and foreshore uses</p> <p>The matters to be taken into consideration in relation to the interrelationship of waterway and foreshore uses are as follows:</p> <p>(a) development should promote equitable use of the waterway, including use by passive recreation craft,</p> <p>(b) development on foreshore land should minimise any adverse impact on the use of the waterway, including the use of the waterway for commercial and recreational uses,</p> <p>(c) development on foreshore land should minimise excessive congestion of traffic in the waterways or along the foreshore,</p> <p>(d) water-dependent land uses should have priority over other uses,</p> <p>(e) development should avoid conflict between the various uses in the waterways and along the foreshores.</p>	<p>The site is set well back from the foreshore edge and has no impact to the equitable use of the waterway.</p>

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
<p>Foreshore and waterways scenic quality</p> <p>The matters to be taken into consideration in relation to the maintenance, protection and enhancement of the scenic quality of foreshores and waterways are as follows:</p> <p>(a) the scale, form, design and siting of any building should be based on an analysis of:</p> <p>(i) the land on which it is to be erected, and</p> <p>(ii) the adjoining land, and</p> <p>(iii) the likely future character of the locality,</p> <p>(b) development should maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands, foreshores and tributaries,</p> <p>(c) the cumulative impact of water-based development should not detract from the character of the waterways and adjoining foreshores.</p>	<p>The proposal is unlikely to be viewed from the River as it will be obscured by other buildings closer to the River, nonetheless it is of a high architectural quality which will contribute positively and enhance the appearance of the locality which can viewed from the Parramatta River.</p>
<p>Maintenance, protection and enhancement of views</p> <p>The matters to be taken into consideration in relation to the maintenance, protection and enhancement of views are as follows:</p> <p>(a) development should maintain, protect and enhance views (including night views) to and from Sydney Harbour,</p> <p>(b) development should minimise any adverse impacts on views and vistas to and from public places, landmarks and heritage items,</p> <p>(c) the cumulative impact of development on views should be minimised.</p>	<p>The proposal is unlikely to be viewed from the River as it will be obscured by other buildings closer to the River, nonetheless it is of a high architectural quality which will contribute positively and enhance the appearance of the locality which can viewed from the Parramatta River. As the site is located at the rear most boundary of the foreshores area, it does not prevent reasonable views of the River.</p>

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Control	Comment
Part 3 Foreshores and Waterways Area - Special Provisions	
<p>Requirement for master plans</p> <p>(1) Development consent must not be granted for the carrying out of development on a strategic foreshore site unless:</p> <p>(a) there is a master plan for the site, and</p> <p>(b) the consent authority has taken the master plan into consideration.</p> <p>(2) The Minister may waive compliance with the requirements of subclause (1):</p> <p>(a) if satisfied that preparation of a master plan is unnecessary because of:</p> <p>(i) the nature of the proposed development, or</p> <p>(ii) the fact that the proposed development will affect only a small proportion of the site, or</p> <p>(iii) the adequacy of other planning controls applying to the proposed development, or</p> <p>(b) for such other reason as the Minister considers sufficient, so long as the Minister is satisfied that the proposed development will not compromise the application of the planning principles set out in clauses 13, 14 and 15.</p> <p>(3) If the Minister is not the consent authority, the Minister is to notify the relevant consent authority, in writing, of a waiver of the requirements of subclause (1).</p> <p>(4) A master plan does not have to be prepared for the City Foreshores Area or for Garden Island, as shown on the Strategic Foreshore Sites Map, unless the Minister so directs.</p> <p>(5) This clause does not apply to minor development specified in Schedule 3.</p>	<p>Shepherds Bay within which the site is located is identified as a Strategic Foreshore Site under the terms of SREP 2005. The site is subject to the Meadowbank Employment Area – Master Plan.</p>

5.1.2. State Environmental Planning Policy (Infrastructure) 2007

This SEPP provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process.

Clause 102 of the SEPP relates to the impact of road noise or vibration on residential development, which is located on land adjacent to a road with an annual average daily traffic volume of more than 40,000 vehicles. The site is not located adjacent to a road with an annual average daily traffic volume or more than 40,000 vehicles and so the acoustic criteria of the SEPP does not apply to the proposed development.

The need for a traffic report is outlined in Clause 104 (Traffic-generating development), which must address such issues as access and any parking or traffic impacts of the proposed development.

Residential Flat Building developments with more than 300 dwellings with access to any road are required to be referred to the RMS for comment. The proposal has 311 residential apartments and

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so will need to be referred to the RMS for comment during the assessment process. The proposed development is accompanied by a Traffic Impact Assessment prepared by Road Delay Solutions which includes the provision of a signalisation of the intersection of Constitution Road and Bowden Street in order to ensure a satisfactory performance of the local road network following completion of the entire development approved under the Concept Plan.

5.1.3. State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Urban Land)

Some of the key objectives of the policy, which apply to the site, are to promote urban consolidation; ensure that suitable urban land for multi-unit housing is made available and to provide a greater diversity of housing to meet demand generated by changing demographics and housing needs.

The proposal supports this policy in encouraging higher-density residential development in an existing urban area with good access to transport and services.

5.1.4. State Environmental Planning Policy No.55 – Remediation of Land

State Environmental Planning Policy No. 55 - Remediation of Land applies to all land and aims to provide for a State-wide planning approach to the remediation of contaminated land.

Clause 7 of SEPP 55 requires the consent authority to consider whether land is contaminated prior to granting consent to carrying out of any development on that land and if the land is contaminated, it is satisfied that the land is suitable in its current state or will be suitable after remediation for the purpose for which the development is proposed to be carried out.

Environmental Investigations have prepared an Environmental Site Assessment which accompanies this application. The Assessment included a desktop analysis as well as 23 test boreholes across the site with multi-level soil sampling undertaken for laboratory analysis for relevant analytical parameters. The results of the soil sampling reported concentrations of the screened heavy metals to be below the adopted human health based SILs for residential with minimal access to soils. In addition, the identified elevated groundwater concentrations for heavy metals are considered by Environmental Investigations to be within background fluctuations of naturally occurring levels for these heavy metals in the Sydney metropolitan groundwater catchment area and do not pose an immediate threat to human health or the environment.

Environmental Investigations concludes that the site can be made suitable for residential purposes following demolition of the buildings and further investigation of the potential areas of environmental concern being 108 Bowden Street which is currently inaccessible and the UST excavation present at 37-53 Constitution Road.

Based on the above, it is considered reasonable for a conditional consent to be issued to require the sampling and testing following demolition of the building at 108 Bowden Street, as well as the implementation of the Remediation Action Plan subject to any required amendments following further testing. It is considered that based on this approach Council can be satisfied that the site can be made suitable for the proposed development subject to the imposition of appropriate conditions of consent.

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5.1.5. State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development

State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development (SEPP 65) aims to improve the design quality of residential flat developments, provide sustainable housing in social and environmental terms that is a long-term asset to the community and delivers better built form outcomes.

In order to satisfy these aims and improve the design quality of residential flat buildings in the State, the plan sets design principles in relation to context, scale, built form, density, resources, energy and water efficiency, landscaping, amenity, safety and security, social dimensions and aesthetics.

SEPP 65 applies to new residential flat buildings, the substantial redevelopment/refurbishment of existing residential flat buildings and conversion of an existing building to a residential flat building.

Clause 3 of SEPP 65 defines a residential flat building as follows:

Residential flat building means a building that comprises or includes:

- a) 3 or more storeys (not including levels below ground level provided for car parking or storage, or both, that protrude less than 1.2 metres above ground level), and
- b) 4 or more self-contained dwellings (whether or not the building includes uses for other purposes, such as shops), but does not include a class 1a building or a class 1b building under the Building Code of Australia.

The development meets the definition of a residential flat building. As such the provisions of SEPP 65 are applicable to the proposed development.

SEPP 65 requires any development application for residential flat development to be assessed against the 10 principles contained in clauses 9-18 of SEPP 65 and the matters contained in the Residential Flat Design Code (RFDC). The 10 principles of SEPP 65 and the matters contained in the RFDC are addressed in the Architects statement at Appendix C.

5.1.6. State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 applies to the development and aims to encourage sustainable residential development.

BASIX certificates for each building accompany the development application and demonstrates that the proposal achieves compliance with the BASIX water, energy and thermal efficiency targets.

5.1.7. Ryde Local Environmental Plan 2014

Zoning and Permissibility

The site is located within the B4 Mixed Use zone pursuant to the Ryde Local Environmental Plan 2014 (RLEP). An extract of the Land Zoning Map is included as Figure 7.

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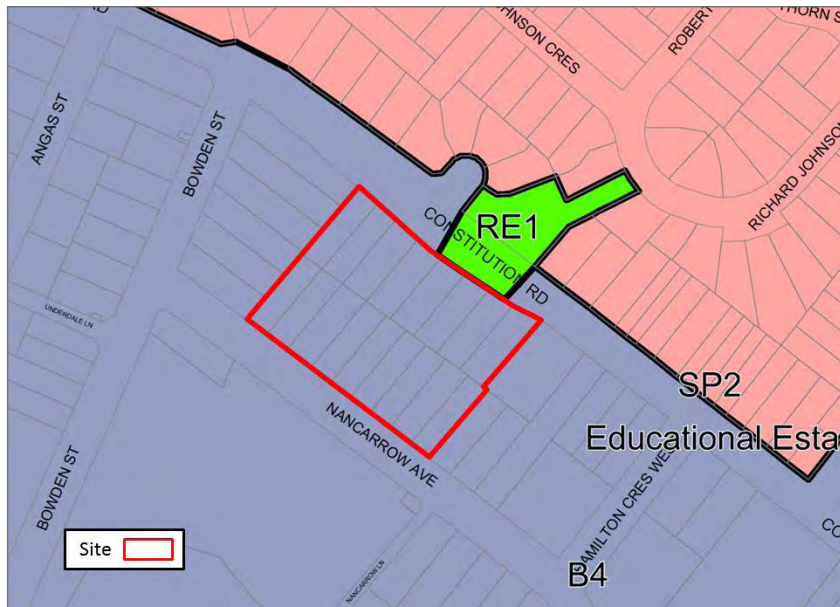


Figure 7:

Extract from RLEP 2014 zoning map

Pursuant to the Land Use Table of the RLEP residential accommodation is permitted with consent in the B4 zone. The application proposes residential apartments and is therefore permissible with consent.

Clause 2.3(2) of the Ryde LEP provides that the consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.

The objectives of the B4 Mixed Use zone are:

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To create vibrant, active and safe communities and economically sound employment centres.
- To create safe and attractive environments for pedestrians.
- To recognise topography, landscape setting and unique location in design and land-use.

The proposed development provides for residential uses which are compatible with the broader mix of uses within the area and will not result in any conflict with the commercial uses intended in the area of the zone which is closer to the Meadowbank train station.

The site is located close to various transport methods including Meadowbank train station and ferry wharf which will assist in maximising public transport patronage and the development itself will encourage walking and cycling through the provision of through site links and a cycleway along Constitution Road. The pedestrian networks through the site will be well lit and benefit from a high level of passive surveillance which will ensure a safe and attractive environment for pedestrians. The proposed buildings are contained within the approved envelopes which are the result of a considered approach towards the unique topography of the site. For the reasons given the proposal is considered to be consistent with the objectives of the B4 zone.

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Height of Buildings

In accordance with clause 4.3 'Height of Buildings' the height of a building on any land is not to exceed the maximum height shown for the land on the 'Height of Buildings Map'. The maximum height shown for the site is 15.5 metres and 21.5 metres as shown in Figure 8.

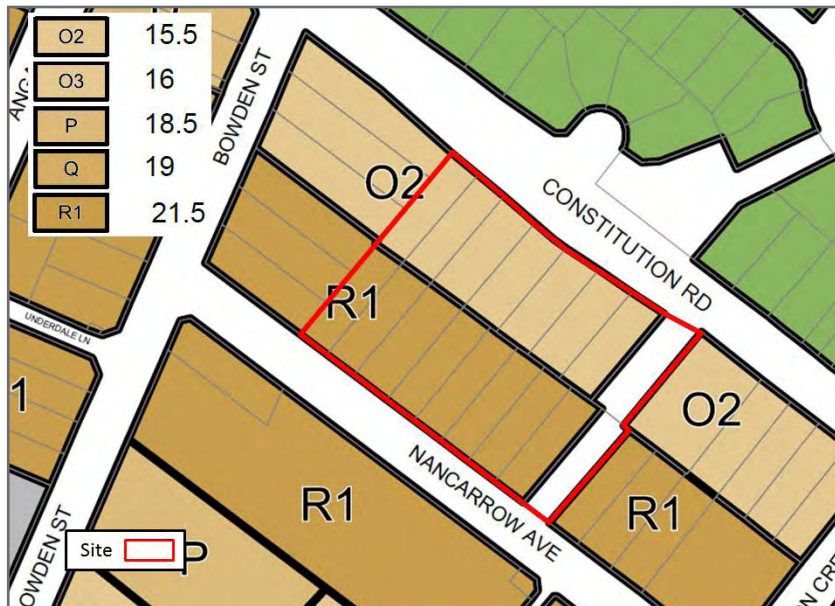


Figure 8:

Extract from RLEP 2014 height of buildings map

The proposed development does not comply with the 15.5 metre and 21.5 metre height limits under the RLEP 2014, however, the proposal is consistent with the specific heights provided for the site under the Concept Plan.

Clause 3B(2)(f) of Schedule 6A of the Environmental Planning and Assessment Act, 1979 applies to development for which a concept plan has been approved and provides that:

(f) the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan

As the heights under the RLEP are inconsistent with the approved heights under the Concept Plan they have no effect.

Floor Space Ratio

Clause 4.4 of the RLEP 2014 provides that the maximum floor space ratio for a building on any land is not to exceed the floor space ratio shown for the land on the Floor Space Ratio Map.

The site is within an area that is identified as having an FSR of 2:1. The proposed development proposes a floor space ratio of 2.58:1 which exceeds the 2:1 control. However, the approved Concept Plan does not mandate any FSR or a cap on Gross Floor Area (other than non-residential floor space) and instead relies upon a cap of 2,005 apartments for the entire Concept Plan. The proposed development does not exceed the dwelling cap.

Clause 3B(2)(f) of Schedule 6A of the Environmental Planning and Assessment Act, 1979 applies to development for which a concept plan has been approved and provides that:

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(f) the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan

As the FSR control under the RLEP is inconsistent with the Concept Plan it has no effect.

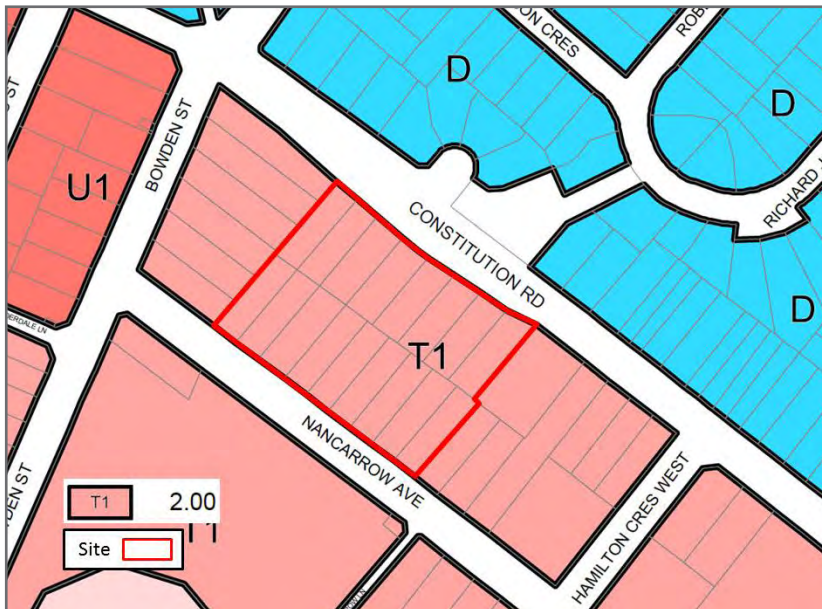


Figure 9:

Extract from Ryde LEP
2014 Floor Space Ratio
map

Preservation of Trees or Vegetation

The proposal requires the removal of all of the trees on the site as well as the street trees adjacent to the site as detailed in the Arboricultural Impact Assessment and Addendum prepared by Redgum Arboricultural and Horticulture Consultants which accompanies the application. The development of the site will however involve the comprehensive landscaping of both the subject site and surrounding public domain in a coordinated and generous fashion as illustrated in the Landscape Plan prepared by Place Design which accompanies the application.

Heritage Conservation

The site is identified as a heritage item in Schedule 5 of the RLEP (item number 180 being the Former Automatic Totalisators Ltd Factory) as illustrated in Figure 10 below. In accordance with clause 5.10(2) of the RLEP development consent is required for demolition of a heritage item.

The Concept Plan approval considered the issue of demolition of this building and the Department's assessment report provides the following commentary in relation to the issue:

Council has not raised any objection to the proposed demolition of the heritage item. Rather, Council has previously recognised that the demolition of the factory at 37 Nancarrow Road is required to facilitate stormwater management upgrades and provide a safe overland flow path from Constitution Road to Parramatta River (as discussed in Section 5.6.1) On 7 August 2007 Council endorsed a Flood Management Strategy for the Ann Thorn Park catchment which included a requirement for the future demolition of the building and provision of an overland

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flow path through the site. At the same time, the Council also recognised that there would be a need to document and display the heritage values of the existing building should redevelopment take place in the future.

The department considers that the safety benefits of the proposed stormwater management upgrades that will necessitate the demolition of the building outweigh the benefits to the community of retaining the heritage item. The department notes that this building has only been designed to cater for a 1 in 2 year ARI storm event, and therefore does not meet current minimum accepted safety standards.

However to mitigate against the impacts arising from the loss of the item, the following conservation measures are recommended as part of any assessment of Stage 6:

- a detailed heritage assessment of the site which includes a professionally written history of the site;
- full photographic record; and
- interpretation strategy to display the heritage values of the existing building on the newly developed site.

A Heritage Impact Statement, full photographic record and interpretation strategy have been prepared by Rappaport and these documents accompany the development application as required by clause 5.10(4) of the RLEP as well as the Concept Plan approval.



Figure 10:

Extract from Ryde LEP
2014 Heritage map

Acid Sulfate Soils

Clause 6.1 of the RLEP 2014 relates to acid sulfate soils. The objective of the clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.

Environmental Investigations have prepared an Environmental Site Assessment which accompanies

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this application. The Assessment included a desktop analysis as well as 23 test boreholes across the site with multi-level soil sampling undertaken for laboratory analysis for relevant analytical parameters. The results of the soil sampling result in the conclusion that the majority of soils present at the site do not show the potential presence of acid sulphate soils, however, soils present within the drainage line within the centre of the site do indicate the potential for acid sulphate soils. The Assessment recommends the preparation of an Acid Sulphate Soils Management Plan for the removal of alluvial soils present within the drainage line at the centre of the site by a qualified environmental consultant, to enable appropriate offsite disposal. It is anticipated that this requirement can be adequately dealt with via a condition of consent.

Earthworks

Clause 6.2 of the RLEP relates to earthworks. The objective of the clause are to consider the following matters:

- (a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,
- (b) the effect of the proposed development on the likely future use or redevelopment of the land,
- (c) the quality of the fill or the soil to be excavated, or both,
- (d) the effect of the proposed development on the existing and likely amenity of adjoining properties,
- (e) the source of any fill material and the destination of any excavated material,
- (f) the likelihood of disturbing relics,
- (g) the proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area

The proposed earthworks will not result in any detrimental impact to drainage patterns as they include the upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Constitution Road to the foreshore through the site.

The proposed earthworks will achieve a positive outcome for the area because they will achieve basement levels with minimal protrusion above finished ground level which will serve to reduce the apparent mass and scale of the development and provide an improved relationship between the buildings and surrounding public domain. The proposed earthworks will be undertaken only with the implementation of the appropriate environmental management measures to ensure that they do not result in adverse impact to the Parramatta River.

Flood Planning

Clause 6.3 of the RLEP applies to land at or below the flood planning level and provides that development consent must not be granted to development unless the consent authority is satisfied that the development is compatible with the flood hazard of the land, and is not likely to

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significantly adversely affect flood behaviour to the detriment of other properties, and incorporates appropriate measures to manage risk of life from flood.

A Flood Assessment prepared by BG&E accompanies the proposal which provides an assessment of the flood risk on the site and to adjacent sites associated with the proposed development. The report concludes the following:

- The upgraded trunk stormwater drainage network is shown to convey the 100 year ARI flood from Ann Thorn Park to the foreshore. Flood depths in Ann Thorn Park are in the order of 1 m for the 100 year ARI flood, and 2 m for the PMF;
- Lowering Constitution Road and upgrading the trunk stormwater network reduces flood depths within Ann Thorn Park by approximately 2 m. This will reduce flood risk to properties surrounding Ann Thorn Park, and minimise the risk and consequence associated with embankment failure at Constitution Road;
- Under 100 year ARI design flood conditions the overland flowpath would only be subject to flows from direct rainfall and building runoff. Flood depths and velocities would be minor creating a low hazard zone. Should the underground pipe system become blocked, or be exceeded (events larger than 100 years ARI), significant flow could occur along the overland flowpath, creating a high hazard/risk zone;
- Flood depths in the order of 1 m could occur within the overland flowpath during the PMF. On-site refuge is available to habitable areas above PMF flood levels;
- Finished levels across the site are above the PMF flood level due to riverine flooding in Shepherds Bay (2.0 mAHD);
- The proposed development incorporates several landscaped open space areas, stormwater management measures and stormwater drainage upgrade works. The development is expected to reduce the risk of flooding within the site and improve the quality of stormwater runoff discharging to Shepherds Bay.

The floor levels within the proposed development and the vehicular and pedestrian entries/exits into the basement are above the 100 year ARI + freeboard levels as specified in the Flood Assessment. Overall, the proposed development provides a significant public benefit in relation to localised flooding in that it removes the risk of embankment failure which currently exists along Constitution Road which substantially improves the safety to surrounding properties and the public. In addition, the proposal upgrades of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Nancarrow Road to the foreshore through the site.

Stormwater Management

Clause 6.4 of the RLEP seeks to minimise the impacts of urban stormwater on land to which this clause applies and on adjoining properties, native bushland and receiving waters. The subject

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application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's stormwater management requirements.

5.2. Draft Environmental Planning Instruments

5.2.1. Draft State Environmental Planning Policy No. 65 - Design Quality of Environmental Planning Development (Amendment 3)

In accordance with section 79C(1)(a)(ii) of the Environmental Planning and Assessment Act 1979 any proposed instrument that is or has been the subject of public consultation is a relevant matter for consideration in the assessment of a development application.

Amendments to State Environmental Planning Policy No. 65 were on public exhibition from 23 September 2014 to 31 October 2014. The draft amendments are therefore a relevant matter for consideration.

All submissions received during the public exhibition period must now be considered and a report will be prepared with final recommendations. This report will then be put to the Minister for Planning for a decision. Any final changes will then be made to SEPP 65. Given the process which is to be followed, the draft SEPP cannot be considered 'certain and imminent'. Accordingly, the provisions of the SEPP and the Apartment Design Guide should not be given determining weight. Notwithstanding this the draft SEPP is a relevant matter for consideration. The proposed development is generally consistent with the amended provisions of the SEPP and the Apartment Design Guidelines.

5.3. Ryde Development Control Plan 2014

The following table outlines the proposed development's compliance with the relevant provisions of the Ryde Development Control Plan 2014 (Ryde DCP 2014).

5.3.1. Part 4.2 Shepherds Bay, Meadowbank

The following table summarises the proposal against the relevant controls contained in Part 4.2 of the Ryde DCP 2014:

Control	Comment
4.1 Development and the Public Domain	
Public Domain, Access and Pedestrian and Cyclist Amenity	
The achievement of maximum heights and density is contingent on meeting the public domain provisions of this plan and all public domain items being provided by the proponent.	The proposed development provides all of the public domain upgrades surrounding the site as identified in the DCP and the Concept Plan.
New development must be provided with a minimum of one barrier free access point to the main entry.	The proposed development has a particularly high level of pedestrian permeability with multiple barrier free access points to the site.

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Control	Comment
Publicly accessible pedestrian and cycle ways must be provided through large sites.	The proposed development includes three through-site links through the site as identified in the Concept Plan including a primary central pedestrian and cycle path.
New pedestrian and cycleway access points, gradients and linkages are to be designed to be fully accessible by all.	The through-site links are all designed to be fully accessible by all.
New roads, shared ways, pedestrian and cycle paths shall be provided in accordance with Figure 4.2.03.	The proposed development provides the shareways and pedestrian and cycle links identified in the Concept Plan. Whilst the DCP suggests a new road through the site, this is inconsistent with the approved Concept Plan and so has no effect.
The design of new roads, shared ways, footpaths and cycle paths shall be in accordance with Figure 4.2.03 to Figure 4.2.06.	The design of the new road, footway and cycle path is generally in accordance with the DCP requirements and critically a separated cycleway is provided along the southern side of Constitution Road as required by the DCP.
The design and location of vehicle access to developments should minimise conflicts between pedestrian and vehicles on footpaths, particularly along high volume pedestrian streets.	Each driveway crossing has been located at each end of the development on Nancarrow Avenue to minimise conflict between pedestrians and vehicles.
Service vehicle access is to be combined with parking access and limited to a maximum of one access point per building.	All vehicular entry into the site occurs from the one driveway into each building from Nancarrow Avenue.
Wherever practicable, vehicle access is to be a single crossing, perpendicular to the kerb alignment.	Vehicle access into each building is a single crossing.
Vehicle access ramps parallel to the street frontage will not be permitted.	There are no vehicle access ramps parallel to the street.
Vehicle entries are to have high quality finishes to walls and ceiling as well as high standard detailing. No service ducts or pipes are to be visible from the street.	It is intended that the walls of the vehicle entry and exit ramps will have high quality finishes and will not contain any service ducts or pipes.
The ground floor of all development is to be flush with the street footpath for the predominant level of the street frontage and at the main entry to the building.	There is a significant fall on the site, however, the ground floor of the buildings has been designed to relate as closely as possible to the footpath level and the buildings step up the site to ensure that apartment entries align with the pedestrian routes through the site where possible.

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Control	Comment
<p>Recesses for roller doors and fire escapes are to be wide and shallow to provide for personal security. Narrow, deep recesses are to be avoided.</p>	<p>The roller doors will be provided at the ends of the entrance driveway ramps which will enable a vehicle wishing to enter the basements to queue on the ramp rather than the road. The recesses that are provided will not affect the streetscape nor will they adversely affect the safety of any pedestrians.</p>
<p>Implementation - Infrastructure, Facilities and Public Domain Improvements</p>	
<p>The public land such as the road verge adjoining a development site is to be embellished and if required dedicated to Council as part of any new development. The design and construction of the works are to be undertaken in accordance with section Figure 4.2.03 to 4.2.08.</p>	<p>The public domain surrounding the site will be significantly embellished as part of the development works. The proposal will introduce through-site links which will be available to the public via a right-of-way registered on title, rather than dedicated to Council. This is considered an superior outcome as it fulfils the requirement for public access without requiring the transfer of the asset to Council which will become a future maintenance burden for the Council.</p>
<p>Views & Vistas</p>	
<p>Panoramic views of Parramatta River are to be maintained from Faraday Park, Settlers Park, Anderson Park and Helene Park.</p>	<p>The development will not interfere with any views from the identified parks.</p>
<p>Development is to ensure that vistas towards Parramatta River are maintained.</p>	<p>Views of Parramatta River from the nearby residential flat buildings will not be affected by this development.</p>
<p>Development must reflect the topography of the area taking into consideration views from the Rhodes Peninsula, Railway Bridge and Ryde Bridge.</p>	<p>The development has reflected the topography of the area by stepping with the fall of the site and ensuring that the ground level is as close as possible to the street level. The development is consistent with the prescribed building envelopes in the approved Concept Plan which were determined to result in any acceptable view impact. The development will not adversely affect the views from the Rhodes Peninsula, Railway Bridge or Ryde Bridge.</p>
<p>Maintain views for pedestrians and cyclists along the public open space to the Parramatta River.</p>	<p>The development will not adversely affect the views for pedestrians and cyclists along the public open space adjacent to the Parramatta River.</p>

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Control	Comment
New buildings are to take into account the existing views on the subject site and adjoining sites.	The development is effectively at the top of the ridge and will not materially affects the views from adjacent properties.
Orientate new development to take advantage of water views and vistas.	The development has been designed to allow the upper floor apartments to obtain an outlook towards the Parramatta River.
New developments are not to materially compromise views of the northern ridgeline of Meadowbank.	As the development is consistent with the building envelopes approved under the Concept Plan, it will not unreasonably compromise views of the northern ridgeline of Meadowbank.
Landscaping & Open Space	
All development proposals are to be accompanied by a Landscape Plan prepared by a qualified and suitably experienced landscape architect. This is to include an Arborist report in respect of trees.	A Landscape plan has been prepared by Place Design and is submitted with the application for development. An arborist report is also included with respect to tree removal.
Roof gardens are encouraged and must be considered in any landscaping.	Two communal roof top gardens, one for each building, are proposed as part of the development.
All existing mature trees that enhance the quality of the area are to be retained.	The building envelopes approved under the Concept Plan as well as the public domain improvements require the removal of all trees. However, these will be replaced by a generous provision of coordinated landscaping as illustrated in the landscape plan prepared by Place Design which accompanies the subject application.
Provide adequate deep planting zones above car parking and other concrete and similar structures to allow sustainable planting.	The car parking levels for Building 6 extend underneath the 'U' for the above ground building. The area above this car park is to be extensively landscaped with substantial soil cover as illustrated in the landscape plan prepared by Place Design which accompanies the subject application.
Provide at ground floor level, where possible, open space for dwelling units and contiguous open garden areas to create common large landscaped space.	Open space is provided at ground level for dwellings which is contiguous with the open garden areas within the development and together provides a generously landscaped setting for the development.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
Where appropriate, developments should incorporate landscaping like planter boxes integrated into the upper levels of building to soften building form.	The proposed development incorporates planter boxes on the upper levels and in particular the roof top common open space areas, which serves to soften the building form.
Building setbacks are to allow for landscaping/ planting as in Section 4.2.2 Setbacks. For corner buildings a reduction of the landscape setback on one side will be considered on its merit.	Each street frontage of the site contains a landscaped perimeter consistent with the requirement of the control.
Where a proposal involves redevelopment of a site the developer shall arrange for electricity and telecommunications utilities to be undergrounded along the entire length of all street frontages.	The public domain improvements surrounding the site include the undergrounding of utilities. This issue can be addressed via a condition of consent.
Permeable landscape surface materials are to be maximised to allow maximum penetration of stormwater and urban runoff.	Permeable landscape surface materials have been maximised to allow maximum penetration of stormwater and urban runoff. A fundamental design component of the central through-site link is a dry creek bed to naturally convey overland flow through the site.
Street Furniture & Public Art	
All development proposals are to be accompanied by a landscape plan, prepared by a qualified and suitably experienced landscape architect, indicating how public domain improvements including paving, street furniture and lighting will be incorporated into the development.	A Landscape plan has been prepared by Place Design and is submitted with the application for development. The landscape plan illustrates the proposed public domain improvements to integrate the proposal properly with the surrounding footpaths.
Public domain finishes including the style, colour and installation methods of street furniture, paving and street lighting shall be in accordance with Ryde Public Domain Technical Manual.	The specific detail of the public domain finish can be addressed via conditions of consent which identify what is required in respect of the public domain and require approval of the public domain plan prior to the issue of a Construction Certificate.

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Control	Comment
Public art is to be provided in accordance with Council's Public Art Policy. Developers must examine opportunities to incorporate public art in both internal and external public spaces and indicate how public art will be incorporated into major developments.	The subject development application is accompanied by a Public Art Plan prepared by Black Beetle. The plan explores the opportunities, processes and integration of artworks as part of the proposed development and outlines aims and objectives of Public artwork in relation to this development, thematic framework for developing artworks, and locations and concepts for site specific works within the development. The plan initiates a documentation process which will take the identified artworks through design briefs, design development, fabrication and installation.
Safety	
Public spaces need to be designed to meet Crime Prevention Through Environmental Design (CPTED) Principles.	The proposed through site pedestrian links will be appropriately lit and will be subject to a high level of passive surveillance as apartments face each link.
Open sightlines and landscaping needs to be provided that allows for high levels of public surveillance by residents and visitors.	The landscaping along the street frontages and within the development will not obscure sight lines from, towards or within the development. In addition, the design also allows for passive surveillance from the apartments to the public spaces by residents and visitors.
Lighting is to be provided to all pedestrian ways, building entries, corridors, laundries, lifts, stairwells, driveways and car parks to ensure a high level of safety and security for residents and visitors at night.	This matter can be addressed as a condition on the consent.
4.2 -Architectural Characteristics	
Height	
The maximum building height is to comply with the heights shown in DLEP 2014. Buildings must comply with the maximum number of storeys shown in Figure 4.2.1 0.	The issue of height has already been addressed in this report. The DCP identifies a height of 5 storeys for the upper portion and 6 storeys for the lower portion of the site. The heights of the proposed development are consistent with the approved Concept Plan and the DCP height provisions have no effect due to their inconsistency with the approved Concept Plan.
The ground floor height shall be four metres floor regardless of use.	The ground floor heights are not required to be four metres under the Concept Plan.

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Control	Comment
Any car parking above ground will have a minimum three metres (floor to underside ceiling) to allow for potential future conversion.	There is no proposed above ground car parking. All car parking levels do not exceed greater than 1 metre above finished ground level.
Setbacks	
Setbacks must be consistent with the setback map. New development is to have 4 metre setback from Nancarrow Avenue and 6 metre setback from Constitution Road.	The proposal provides a 4 metre setback from Nancarrow Avenue and 6 metre setback from Constitution Road.
Setbacks for buildings of four storeys and above to be consistent with Figure 4.2.13.	Figure 4.2.13 relates to Church Street and Porter Street and is not relevant to the subject site.
Roof Form	
Buildings below RL 15 must have articulated roofs as they will be viewed from buildings above.	This is not applicable to the development as the building is not below RL 15.
The use of solar panels on roofs is permitted where possible.	The application does not include the provision for the installation of solar roof panels.
Attic roofs are to be avoided as they are not in character with the locale.	Attic roofs are not proposed.
Building Facades and Articulation	
Building facades should be articulated within a 3 metre zone to provide entries, external balconies, porches, glazed balcony enclosures, terraces, verandahs, sun shading elements etc.	The proposed building is highly articulated with a variety of balconies, terraces, sunshading elements etc providing modulation and visual interest for the building facades.
Penthouses should be set a minimum of four metres from any building facade.	The development does not involve any penthouses.
Articulate buildings to respond to orientation, views, acoustic requirements, street widths and the relationship of the building to external garden spaces.	The building has been designed and orientated to take advantage of northerly aspect for solar access and views to the south-east.
Articulate buildings vertically and horizontally: materials and building setbacks on the upper storeys are to be used to reduce the perceived bulk of buildings.	The composition of the building facades incorporates a horizontal emphasis at the lower levels, a vertical emphasis for the upper levels, and a highly articulated top to the buildings with an industrial vernacular which references the saw-tooth roof form common in warehouse buildings.
Provide and denote entries along street frontages and public domain spaces where appropriate.	Entries are clearly identifiable from the public domain.

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Control	Comment
Buildings are to address streets, open spaces and the river foreshore. Street frontages are to be parallel with or aligned to the street alignment.	The proposed development addresses each street frontage with lobby entries from both Constitution Road and Nancarrow Avenue and individual apartment entries from the through-site links. Street frontages are parallel with each street alignment.
Provide balconies and terraces, particularly where buildings overlook public spaces.	Each apartment has been provided with a terrace or a balcony.
All facades visible from the public domain are to be durable, low maintenance and of high quality.	All facades are proposed to be finished in durable yet high quality materials and finishes as illustrated in the architectural package.
External glass to be non-reflective and have a maximum 20% tint.	This matter can be addressed via a condition of consent.
Private and Communal Open Space	
No more than 50% of communal open space provides at ground level shall be paved or of other non-permeable materials.	The majority of the communal open space areas at the ground floor are landscaped with permeable materials. Hard paving has been minimised. Having regard to the circumstances of the site, the proposed paving arrangement of the common open space area is considered acceptable.
Residential Amenity	
Apartments below a sloping ground level shall apply the SEPP 65 guideline for lightwells.	There are no apartments below ground level.
4.3 - Ecological Sustainability	
Energy Efficient Design	
Residential development must be designed in accordance with principle outlined in the Building Sustainability Index (BASIX)	A BASIX Certificate accompanies the application which demonstrates that the proposal complies with the necessary energy efficiency requirements.
Noise and Vibration Attenuation	
New residential developments, including those within a mixed use building, are required to consider noise attenuation and acoustic treatment in their design.	The site is not within a location which is subject to high levels of noise such as an arterial road. Notwithstanding this, an acoustic report accompanies this application and outlines measures to be employed to ensure that a suitable acoustic environment is achieved for the apartments.

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Control	Comment
New units are to be constructed in accordance with AS 3671-1989 and AS 3671-1987.	The Australian Standard refers to road traffic noise intrusion - building siting and construction. The development is capable of complying with these Australian Standards and a condition of consent can be imposed to address this matter.
4.4 Parking Access and Loading	
All new buildings are required to provide on-site loading and unloading facilities. Loading docks shall be located in such a position that vehicles do not stand on any public road, footway, laneway or service road and vehicles entering and leaving the site move in a forward direction.	The proposed development does not incorporate any non-residential component which require a dedicated loading dock. Waste collection is intended to occur from a dedicated on street loading bay in Nancarrow Avenue.
Flooding and Stormwater Drainage	
Development must comply with Part 8.6 Floodplain Management of this DCP.	A Flood Assessment prepared by BG&E accompanies the proposal which provides an assessment of the flood risk on the site and to adjacent sites associated with the proposed development. The proposed development reduces flood risk to surrounding properties as it includes the lowering of Constitution Road. The floor levels within the development comply with the specified floor levels provided in the Flood Assessment.
Precinct Specific Development Controls - Precinct 2: Constitution Road	
Views from the highest point in this precinct to the south-west and Sydney Olympic Park should be maximised	The proposed buildings are contained within the building envelopes approved under the Concept Plan. The design of the development provides view corridors throughout the site from Constitution Road to the south-west.
Minimum permeable landscaped area is to be 35% of site area.	The proposal provides 2,066 square metres or 37.6% of the site as permeable landscaped area.
Facades should be articulated within a zone of 3 metres and be built to street edge behind the required landscape setback.	Facades are proposed to be built to the street edge behind the 6 metre setback from Constitution Road and 4 metre setback from Nancarrow Avenue. The facades are highly articulated with a variety of balconies, terraces, sunshading elements etc providing modulation and visual interest for the building facades.

5.0 STATUTORY PLANNING FRAMEWORK

5.3.2. Part 7.1 Environment

Part 7.1 of the City of Ryde DCP 2014 relates to provision of sustainable development throughout the City of Ryde. Objectives include encouraging the design of energy efficient buildings, optimising solar access, decreasing total energy consumption and generally to reduce green house gas emissions and natural resource consumption.

A BASIX Certificate for the proposed development from Integreco accompanies the application which details the measures which will be implemented to minimise energy consumption and demonstrate how the intent of the DCP in relation to energy efficiency has been met. In addition, an ESD statement from Integreco also accompanies the application which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010 as required by the approved Concept Plan.

5.3.3. Part 7.2 Waste Minimisation and Management

Part 7.2 of the City of Ryde DCP 2014 relates to waste minimisation and management during construction and the continued operation of proposed development. Objectives include minimising resource requirements and construction waste, maximising recycling and re-use opportunities and to minimise overall environmental impacts.

A Waste Management Plan prepared by Elephants Foot accompanies this application and addresses the objectives for Waste Minimisation and Management as set out within this Part.

The proposed development provides adequate space for the sorting and storage of waste receptacles within the basement area.

5.3.4. Part 8.1 Construction Activities

Part 8.1 of the City of Ryde DCP 2014 includes objectives which encourage consideration of Ecologically Sustainable Development and site management as well as those related to protection of the environment and local amenity during construction.

An Erosion and Sediment Control Plan has been prepared and has considered the provisions within clause 2.1.2 with regard to the proposed development. Site clearing, demolition activities, water diversion, gutter bunding, signage, amenities, vehicle access, road cleaning and safety can be adequately addressed within a Construction Management Plan and dealt with by way of appropriate conditions of consent.

5.3.5. Part 8.2 Stormwater Management

Part 8.2 of the City of Ryde DCP 2014 includes provisions relating to the management of stormwater associated with development. The subject application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's stormwater management requirements.

5.3.6. Part 8.3 Driveways

Part 8.3 of the City of Ryde DCP 2014 includes specific provisions concerning the design of

5.0 STATUTORY PLANNING FRAMEWORK

driveways. The proposed development is capable of meeting these requirements.

5.3.7. Part 8.4 Title Encumbrances

Part 8.4 of the City of Ryde DCP 2014 includes specific provisions concerning title encumbrances. The proposed three through-site links are designed to provide public access from Constitution Road to Nancarrow Avenue and it is expected that Council will impose a condition of consent requiring the registration of a right of way created under Section 181A of the Conveyancing Act 1919 and registered on the title of the property at completion of the development.

5.3.8. Part 8.5 Public Civil Works

Part 8.5 of the City of Ryde DCP 2014 includes specific provisions concerning design and construction standards in relation to public domain elements such as footpaths, public roads, and kerb and gutter. The proposal is accompanied by a Civil Package prepared by BG&E as well as a landscape plan prepared by Place Design which illustrate the intended design and treatment of the public civil works associated with the proposed development. The public civil works have been designed having regard to the provisions of Part 8.5 of the DCP.

5.3.9. Part 8.6 Floodplain management

Part 8.6 of the City of Ryde DCP 2014 includes specific provisions to guide development to ensure danger to life and property damage associated with flooding and overland flow are minimised in a manner consistent with the Policies of Council formulated under the NSW Flood Policy and Floodplain Development Manual (FDM).

A Flood Assessment prepared by BG&E accompanies the proposal which provides an assessment of the flood risk on the site and to adjacent sites associated with the proposed development. The report concludes that the Lowering Constitution Road and upgrading the trunk stormwater network through the site will reduce flood risk to properties surrounding Ann Thorn Park, and minimise the risk and consequence associated with embankment failure at Constitution Road. The development is expected to reduce the risk of flooding within the site and improve the quality of stormwater runoff discharging to Shepherds Bay.

The floor levels within the proposed development and the vehicular and pedestrian entries/exits into the basement are above the 100 year ARI + freeboard levels as specified in the Flood Assessment. Overall, the proposed development provides a significant public benefit in relation to localised flooding in that it removes the risk of embankment failure which currently exists along Constitution Road which substantially improves the safety to surrounding properties and the public.

5.3.10. Part 9.2 Access for People with Disabilities

The DCP requires that the residential flat buildings must provide an accessible path of travel to all units as well as the provision of 10% adaptable units. The application is accompanied by an Access Report prepared by Design Confidence which demonstrates that the development will comply with the access requirements as well as providing 10% adaptable apartments.

5.0 STATUTORY PLANNING FRAMEWORK

5.3.11. Part 9.3 Parking Control

The Car Parking DCP requires parking to be provided at the following rates for the residential component:

- 0.6 to 1 space per one bedroom dwelling
- 0.9 to 1.2 spaces per two bedroom dwelling
- 1.4 to 1.6 spaces per three bedroom dwelling
- 1 visitor space per 5 dwellings.

The car parking figures for each stage are provided below:

Stage 6	Lower Limit	Upper Limit
75 x 1 bedroom	45	75
108 x 2 bedroom	98	130
19 x 3 bedroom	27	31
visitor	41	
TOTAL	211	277

Stage 7	Lower Limit	Upper Limit
59 x 1 bedroom	36	59
40 x 2 bedroom	36	48
10 x 3 bedroom	14	16
visitor	22	
TOTAL	108	145

The proposed development provides a total 277 car spaces comprised 236 residential car spaces and 41 visitor spaces for Stage 6 and a total 145 car spaces comprised 123 residential car spaces and 22 visitor spaces for Stage 7 which complies with the DCP car parking control.

5.3.12. Part 9.5 Tree Preservation

Part 9.5 of the City of Ryde DCP 2014 includes specific provisions concerning the retention and protection of trees. The proposal requires the removal of all of the trees on the site as well as the street trees adjacent to the site as detailed in the Arboricultural Impact Assessment and Addendum prepared by Redgum Arboricultural and Horticulture Consultants which accompanies the application. The development of the site will however involve the comprehensive landscaping of both the subject site and surrounding public domain in a coordinated and generous fashion as illustrated in the Landscape Plan prepared by Place Design which accompanies the application.

6.0 SECTION 79C CONSIDERATIONS

The following matters are to be taken into consideration when assessing an application pursuant to section 79C of the Environmental Planning and Assessment Act 1979. Guidelines to help identify the issues to be considered have been prepared by the Department of Urban Affairs and Planning and are included below.

6.1. The provisions of any planning instrument, draft environmental planning instrument, development control plan or regulations

The proposal is permissible pursuant to the Ryde Local Environmental Plan 2014 (RLEP) and is generally in conformity with the general and specific development type controls contained within the Ryde Development Control Plan 2014 where those controls are not inconsistent with the approved Concept Plan. The proposed development is generally consistent with the approved Concept Plan for the site and in particular the proposed buildings are consistent with the established arrangement and scale of building of the Concept Plan.

6.2. The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

6.2.1. Context and Setting

What is the relationship to the region and local context in terms of:

- the scenic qualities and features of the landscape?
- the character and amenity of the locality and streetscape?
- the scale, bulk, height, mass, form, character, density and design of development in the locality?
- the previous and existing land uses and activities in the locality?

The surrounding area is currently undergoing significant change with the demolition of many of the former industrial warehouse developments and the construction of mixed use and residential developments. This change in context is reflective of the subject site and surrounding area being zoned for mixed use. The proposed development is responsive to the emerging context for the area and represents the anticipated future development within the area.

The siting, scale, bulk, height, massing etc for the site has already been determined by the approved Concept Plan and the proposed buildings represent an appropriately designed development within the parameters of the Concept Plan.

What are the potential impacts on adjacent properties in terms of:

- relationship and compatibility of adjacent land uses?
- sunlight access (overshadowing)?
- visual and acoustic privacy?
- views and vistas?
- edge conditions such as boundary treatments and fencing?

The proposed development provides for buildings within the approved Concept Plan envelopes

6.0 SECTION 79C CONSIDERATIONS

and issues such as compatibility with adjacent uses, view impacts and overshadowing have already been considered. The proposed development incorporates appropriate design elements to ameliorate potential amenity impacts, and in particular visual and acoustic privacy within the development and particular care has been given to dealing with corner interfaces within the buildings. Edge conditions respond to the requirements of the Concept Plan to provide generously landscaped setbacks and through-site links and the ground floor plane has been designed to relate to the context around each building.

6.2.2. Built Environment

The siting, scale, bulk, height, massing etc for the site has already been determined by the approved Concept Plan. The proposed buildings are generally contained within the envelopes and have been designed to provide a unique architectural expression which references to historical industrial use of the use.

Internal amenity has been maximised with solar access achieved for 70.7% of apartments and cross ventilation achieved for 63% of the apartments, utilising the method for additional amenity provided by the Concept Plan. Privacy between buildings is acceptable as the separation distances exceed the minimum recommended distances in the Residential Flat Design Code. Privacy within the buildings is achieved through careful consideration of placement of balconies, the use of blade walls and notches in the buildings, and separation of living rooms and bedrooms in adjacent apartments.

The proposed development introduces a variety of building elements and utilises a visually engaging architectural language with a selection of appropriate materials and finishes. The proposed built form and composition of the new buildings respond to the emerging character of the area and therefore provides a positive contribution to the visual quality of Ryde.

The proposed development also includes a heritage interpretation strategy to celebrate the existing building which occupies the site as well as the provision of public art throughout the site.

6.2.3. Natural Environment

There is no significant flora or fauna which currently occupies the site. The proposed development requires the removal of all trees within and adjacent to the site in order to construct the buildings and implement the public domain and infrastructure upgrades. However, the redevelopment of the site will incorporate a generous landscaping provision with a variety of landscape elements which will significantly enhance the natural environment of the site. The new landscaping incorporates best practice water management and will create a desirable microclimate for residents and pedestrians passing through the site.

The proposed development incorporates a range of sustainability measures as outlined in the ESD statement prepared by Integreco which accompanies this application.

6.2.4. Access, transport and traffic

Would the development provide accessibility and transport management measures for vehicles, pedestrians, bicycles and the disabled within the development and locality, and what

6.0 SECTION 79C CONSIDERATIONS

impacts would occur on:

- travel demand?
- dependency on motor vehicles?
- traffic generation and the capacity of the local and arterial road network?
- public transport availability and use (including freight rail where relevant)?
- conflicts within and between transport modes?
- traffic management schemes?
- vehicular parking spaces?

The issue of car parking and traffic impacts associated with the proposal were closely examined during consideration of the Concept Plan which resulted in a cap on total car parking within the Concept Plan and road infrastructure upgrades necessary to ensure the acceptable performance of the local road network. The proposed development provides car parking within the range specified in Council's DCP, incorporates road infrastructure improvements including the signalisation of the intersection of Constitution Road and Bowden Street, and does not exceed the maximum cap on car parking for the Concept Plan area. In addition, the proposed development incorporates pedestrian and cycleways to maximise use of alternative forms of transport and the application is accompanied by a sustainable travel plan which outlines measures to maximum the patronage of the various public transport opportunities which are in close proximity to the site.

6.2.5. Public domain

The proposal includes the provision of a range of significant public domain and infrastructure upgrades including the lowering of Constitution Road to minimise the risk of embankment failure, upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore including the provision of a landscaped overland flowpath from Constitution Road to the foreshore through the site, signalisation of Constitution Road and Bowden Street intersection, and the upgrade of the road reserves adjacent to the development including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on Constitution Road and Nancarrow Avenue, and the upgrade of the longitudinal pit and pipe network along Constitution Road and Nancarrow Avenue to capture and convey the 20 year ARI flood.

The property's presentation in a streetscape context will be significantly enhanced as a consequence of the proposed works which will achieve progress on a site which has been dormant for many decades.

6.2.6. Utilities

Existing utility services will adequately service the development.

6.2.7. Waste collection

A Waste Management Plan prepared by Elephants Foot accompanies this application and addresses Council's objectives for Waste Minimisation and Management. The proposed development provides adequate space for the sorting and storage of waste receptacles within the basement area.

6.0 SECTION 79C CONSIDERATIONS

6.2.8. Natural hazards

The site is not affected by any known hazards other than flood waters from Ann Thorp Park which will be substantially resolved as part of the proposed development.

6.2.9. Economic impact in the locality

The proposed development will provide temporary employment through the construction of the development. The proposal will introduce an increased residential population which will contribute to the economic success of surrounding retail and business activities.

6.2.10. Site design and internal design

Is the development design sensitive to environmental conditions and site attributes including:

- size, shape and design of allotments?
- the proportion of site covered by buildings?
- the position of buildings?
- the size (bulk, height, mass), form, appearance and design of buildings?
- the amount, location, design, use and management of private and communal open space?
- landscaping?

The impact of the proposal with respect to design and site planning is positive. The scale of the development is appropriate given the proposal is consistent with the scale and density provided for the site under the Concept Plan. The design outcome will contribute positively to the built form quality of the housing stock located in the Shepherds Bay Precinct and greater Ryde area.

How would the development affect the health and safety of the occupants in terms of:

- lighting, ventilation and insulation?
- building fire risk - prevention and suppression/
- building materials and finishes?
- a common wall structure and design?
- access and facilities for the disabled?
- likely compliance with the Building Code of Australia?

The proposal complies with the relevant standards pertaining to health and safety and will not have any detrimental effect on workers or the general public.

6.2.11. Construction

What would be the impacts of construction activities in terms of:

- the environmental planning issues listed above?
- site safety?

6.0 SECTION 79C CONSIDERATIONS

The proposed works will be carried out in accordance with the provisions of the Protection of the Environment Operations Act 1997. Normal site safety measures and procedures will ensure that no site safety or environmental impacts will arise during construction.

6.3. The suitability of the site for the development

Does the proposal fit in the locality?

- are the constraints posed by adjacent developments prohibitive?
- would development lead to unmanageable transport demands and are there adequate transport facilities in the area?
- are utilities and services available to the site adequate for the development?

The adjacent development does not impose any insurmountable development constraints. There will be no excessive levels of transport demand created.

Are the site attributes conducive to development?

The site does not have any physical or engineering constraints which would prevent the proposed early works from occurring. The site is not subject to any geotechnical or contamination constraints which would prevent the development from occurring and the proposal will assist in resolving a known public flood risk and potential for embankment failure along Constitution Road.

6.4. Any submissions received in accordance with this Act or the regulations

It is envisaged that any submissions made in relation to the proposed development will be appropriately assessed by Council.

6.5. The public interest

The proposed development will provide a positive contribution to the streetscape of Constitution Road and Nancarrow Avenue. The development has been carefully designed to be compatible with the emerging pattern and character of development in the area. The development maximises internal amenity for future occupants. The proposal is also consistent with the objectives of the relevant planning provisions and the design parameters provided by the approved Concept Plan. Finally, the proposal will resolve a long standing public flood risk and potential for embankment failure along Constitution Road as well as delivering substantial upgrades to the public domain and introducing publicly accessible links through the site. For these reasons the approval of the development is considered to be in the public interest.

7.0 CONCLUSION

The relevant matters for consideration under section 79C of the Environmental Planning and Assessment Act 1979 have been addressed in this report and the proposed development has been found to be consistent with the objectives of all relevant planning provisions.

Careful consideration has been given to the location, size and design of the proposed development to ensure that a high quality outcome will be achieved which is consistent with the emerging character of the Shepherds Bay area.

The proposed development is consistent with the approved Concept Plan and complies with the intent of the applicable built form controls and responds positively to the particular site circumstances, without adverse impact to the amenity of adjoining development generally. The proposed development delivers substantial public benefits and resolves the existing flooding issues and risk of embankment failure along Constitution Road.

For reasons outlined in this Statement of Environmental Effects the proposed development for Stages 6 and 7 at 37-53 Nancarrow Avenue, Ryde should be granted development consent.

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CONSISTENCY WITH CONCEPT PLAN MP09_0216

A

Sutherland & Associates Planning

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Condition	Proposal
SCHEDULE 2 PART A-ADMINISTRATIVE CONDITIONS	
<p>Development Description</p> <p>A1 Concept approval is granted to the development as described below:</p> <p>Use of the site for a mixed use development including residential, retail, commercial and community uses incorporating:</p> <ul style="list-style-type: none"> • building envelopes for 12 buildings incorporating basement level parking; • infrastructure works to support the development including: • upgrades to the local road network; • stormwater infrastructure works; • publically accessible open space and through site links; and • pedestrian and cycle pathways. <p>MOD 1</p> <ul style="list-style-type: none"> • amendment to Building Storeys Plan to allow for additional storeys at ground level in Stages 1 to 3; • expand/connect the basement building envelopes between Stage 2 and 3 and Stage 4 and 5; • revision to the construction staging; • revised timing of the delivery of the open space to be in conjunction with Stage 3 (rather than Stage 1); • provision of an additional storey to provide a 6 storey element to the building on the corner of Belmore Street and Constitution Road; • flexible application of the solar access requirement of the RFDC; • amendment of ESD measures; and • amendments to terms of approval, future environmental assessment requirements and Statement of Commitments. 	<p>The proposal is for demolition of existing buildings on the site and new buildings, landscaping and public domain and infrastructure works to in accordance with the approved Concept Plan.</p>
<p>DEVELOPMENT IN ACCORDANCE WITH THE PLANS AND DOCUMENTATION</p> <p>A2 The development shall be undertaken generally in accordance with MP09_0216, as modified by MP09_0216 MOD1, and:</p> <ul style="list-style-type: none"> • the Environmental Assessment dated 7 January 2011 prepared by Robertson + Marks Architects and PLACE Design Group, except where amended by the Preferred Project Report dated July 2012, including all associated documents and reports; • the S75W Modification Application dated November 2013 prepared by Robertson + Marks Architects and City Plan Services including all documents and reports, except where amended by the: <ul style="list-style-type: none"> • Response to Submissions report dated 28 March 2014 prepared by City Plan Services; and • Proponents Comments in Response to Council's Submission dated 29 April 2014 prepared by City Plan Services. 	<p>The proposal is for demolition of existing buildings on the site and new buildings, landscaping and public domain and infrastructure works in accordance with the approved Concept Plan.</p> <p>The proposed buildings are generally contained within the approved building envelopes in both plan and elevation. Any encroachments are particularly minor, are more than balanced by parts of the buildings which are well inside the envelopes and do not compromise the appropriate characterisation</p>

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- the Draft Statement of Commitments prepared by Robertson + Marks Architects updated on 5 October 2012, except where amended by the Revised Draft Statement of Commitments prepared by Holdmark dated March 2014; and
- the following drawings:

of the proposed development as being 'generally in accordance with' the approved envelope.

Drawings Prepared by Robertson & Marks Architects		
Drawing No	Name of Plan	Date
FIGURE 11 REV 2	PREFERRED CONCEPT PLAN	July 2012
PPR 001-D	MAXIMUM HEIGHT WITH SETBACKS	02/11/13
PPR 007-E	INDICATIVE STAGING	09/24/13
S 001/B	SLOPES ON SITE	03/25/2014
FIGURE 14 REV 4	STAGE 1 BUILDING ENVELOPE CONTROLS	28/06/2012
FIGURE 15 REV 4	STAGE 2 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 16 REV 4	STAGE 3 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 17 REV 4	STAGE 4 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 18 REV 4	STAGE 5 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 19 REV 4	STAGE 6 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 20 REV 4	STAGE 7 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 21 REV 4	STAGE 8 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 22 REV 4	STAGE 9 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 23 REV 4	STAGE 10 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 29 REV 2	LANDSCAPE PLAN	July 2012
FIGURE 30 REV 2	VEHICULAR ACCESS AND PUBLIC TRANSPORT PLAN	July 2012
SK01 REV E	PEDESTRIAN AND CYCLEWAY ROUTES	18 June 2013
FIGURE 32A REV 2	INDICATIVE ACCESSIBLE CIRCULATION PLAN	July 2012
FIGURE 33 REV 2	INDICATIVE COMMUNITY, RETAIL 7 / OR COMMERCIAL USES LOCATION MAP	July 2012
FIGURE 50 REV 1	CONCEPT PLAN LANDSCAPE PLAN	28/07/2014
PPR 003-5	OPEN SPACE AREA PLAN	11/01/13

except for as modified by the following pursuant to Section 75O(4) of the Act.

Inconsistencies Between Documentation

A3 In the event of any inconsistency between modifications of the Concept Plan approval identified in this approval and the drawings/documents including Statement of Commitments referred to above, the modifications of the Concept Plan shall prevail.

Noted.

Building Envelopes

A4 Building footprints and setbacks are to be generally consistent with the Concept Plan building envelope parameter diagrams for each site, except where amended by the Modifications in Part B of this Approval.

The proposed building footprints and setbacks are generally consistent with the Concept Plan building envelope parameter diagrams. in both plan and elevation.

The approved building envelope control plan provides the following definition for pop-ups: "POPU'S - 60% FOOTPRINT OF THE TYPICAL FLOOR PLATE BELOW". There are no prescribed setbacks from the edge of the floor below on the approved plans which dictate the configuration and layout of the pop-ups. The proposed development introduces a two storey warehouse saw-tooth expression to the top of the building to satisfy the pop-up requirement. This provides a distinctive character to the buildings which references the historical industrial use within the area and generates a high level of visual interest. The repetitive saw-tooth design also provides a high level of environmental performance for the top two floors by allowing generous natural light and ventilation to move around the floors.

The floor area for the top two floors do not exceed 60% of the footprint of the typical floor of the building when considered in the aggregate, as illustrated in the architectural package and in particular the plan titled 'Envelope Comparison Diagrams Pop-Up Analysis'. Accordingly, the proposed approach towards the pop-up controls is considered to be generally consistent with the provisions of the Concept Plan whilst achieving a high quality urban form outcome.

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<p>Maximum Gross Floor Area (GFA)</p> <p>A5 1. The maximum GFA for commercial, retail or community uses shall not exceed 10,000m².</p> <p>2. The maximum number of dwellings shall not exceed 2,005</p>	<p>A tally is provided at Section 4.17 of this Statement which illustrates that proposal will not exceed the maximum number of dwellings of 2,005.</p>
<p>Publicly Accessible Open Space, Drainage Reserves and Through Site Links</p> <p>A6 All public open spaces, drainage reserves and through site links shall be publicly accessible and maintained in private ownership by the future body corporate unless otherwise agreed by the Council.</p>	<p>The proposal provides all three through-site links through the site as required by the Concept Plan. A condition of consent is anticipated which will require the registration of an easement over these links which will also be maintained in private ownership.</p>
<p>Lapsing of Approval</p> <p>A7 Approval of the Concept Plan shall lapse 5 years after the determination date shown on this Instrument of Approval, unless an application is submitted to carry out a project or development for which concept approval has been given.</p>	<p>The subject development application has been lodged within 5 years of the date of approval of 6 March 2013.</p>

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SCHEDULE 2 TERMS OF APPROVAL PART B - MODIFICATIONS	
<p>Amended Concept Plan</p> <p>B1 The Concept Plan shall be amended to:</p> <p>(a) comply with the modified maximum heights (as per plans in Schedule 5), setbacks etc. under this approval and the project application approval for Stage 1 (MP09_0219). The maximum building height applies to either the number of storeys or RL levels, whichever is the lower;</p> <p>(b) provide at least one contiguous open space, of a minimum of 3,000m², to accommodate both active and passive recreational needs. The open space shall include deep soil area and receive a minimum of 2 hours of sunlight to a minimum of 50% of the area on 21 June;</p> <p>(c) provide a public domain plan which illustrates the proposed public domain treatment including streets and setback areas, landscaping, lighting and public and communal open spaces and which is in accordance with Ryde City Council's Public Domain Technical Manual;</p> <p>(d) increase the width of the proposed through site links/view corridors to a minimum width of 20m;</p> <p>(e) provide an integrated water sensitive urban design (WSUD) strategy for the entire site; and</p> <p>(f) include a pedestrian and cycleways plan that demonstrates that the proposed routes are both viable and integrated with Council's plans for the surrounding area. The amended concept plan, demonstrating compliance with these modifications shall be submitted to, and approved by, the Director General prior to the issue of the first construction certificate.</p>	<p>The requirements of this condition has been previously satisfied as confirmed by the Department in their letter dated 24/6/2013 and signed by Ben Lusher, Acting Director Metropolitan & Regional Projects, South. The proposed development is consistent with the relevant elements of this condition and in particular provides a 20m wide through-site link through the site.</p>
<p>Amended Foreshore Link</p> <p>B1A. The delivery of the foreshore link shall be split between Stage 1 and Stage 2 in accordance with the Response to Submissions prepared by City Plan Services for MP09_0216 MOD1 dated 29 April 2014</p>	<p>Not applicable to the subject Stages.</p>
<p>Sustainable Travel Plan</p> <p>B2 Prior to issue of an Occupation Certificate for Stage 1 or prior to the submission of a Development Application for future stages (whichever occurs first), a Sustainable Travel Plan for the Concept Plan site shall be submitted to and approved by the Council. Options for provision of a Car Sharing Scheme for the site are to be explored and incorporated into the Sustainable Travel Plan as is a Parking Management Strategy.</p>	<p>A Sustainable Travel Plan prepared by Road Delay Solutions Pty Ltd accompanies this development application.</p>

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<p>Amended Maximum Number of Storeys Above Ground Level (Finished) Plan</p> <p>B3 The plan entitled Indicative Concept Plan Storeys Plan shall be amended to:</p> <p>(a) Change the title to “Maximum Number of Storeys Above Ground Level (Finished) Plan”, and</p> <p>The amended plan, demonstrating compliance with these modifications shall be submitted to, and approved by, the Secretary within 1 month of the date of this approval.</p>	<p>The requirements of this condition has been satisfied and the proposal complies with the maximum number of storeys above finished ground level.</p>
<p>SCHEDULE 3 FUTURE ENVIRONMENTAL ASSESSMENT REQUIREMENTS</p>	
<p>Design Excellence</p>	
<p>1. Future Development Application/s for Stage A (the signature building fronting Church Street) shall demonstrate design excellence in accordance with the Director General’s Design Excellence Guidelines.</p>	<p>Not applicable to the subject Stages.</p>
<p>Dwelling Cap</p> <p>1A. Future Development Applications shall provide for a total number of dwellings up to a maximum of 2,005 across the Concept Plan site (including Stage 1). Future Development Applications shall include a projected dwelling forecast for each remaining stage demonstrating that the total dwelling numbers will adhere to the dwelling cap.</p>	<p>A tally is provided at Section 4.17 of this Statement which illustrates that proposal will not exceed the maximum number of dwellings of 2,005.</p>
<p>2. Future Development Applications shall demonstrate that the development achieves a high standard of architectural design incorporating a high level of modulation / articulation of the building and a range of high quality materials and finishes.</p>	<p>The architectural package which accompanies this application demonstrates a high standard of architectural design with a varied composition to the facades, high level of articulation, and a range of high quality and materials.</p>
<p>Built Form</p>	
<p>3. Notwithstanding the approved maximum building heights in RL, future Development Applications shall demonstrate that:</p> <p>(a) buildings along Constitution Road are a maximum of 5 storeys with the exception of the element of Stage 4 located on the corner of Constitution Road and Belmore Street (as shown on PPR 002-B), which is permitted to a maximum of 6 storeys; and</p> <p>(b) the southern building element of Stage 8 is a maximum of 5 storeys</p>	<p>The proposed development provides 5 storey buildings adjacent to Constitution Road.</p>

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<p>Maximum Storeys on Steeply Sloping Topography</p> <p>3A. Future Development Applications shall satisfy the 'Maximum Number of Storeys Above Ground Level (Finished) Plan'. An exception to the maximum storey height may be given to buildings within Stages 2 and 3 on steeply sloping topography (being at the locations indicated on drawing S 001/B not including the area shown within Stage 4) where it can be demonstrated that:</p> <ul style="list-style-type: none"> a) the overall building height satisfies the maximum permitted RL; b) no more than 1 additional storey is provided; c) an acceptable level of amenity can be achieved for any additional apartment(s) provided in accordance with the requirements of Future Environmental Assessment Requirement 21; and d) the additional storey is required to appropriately activate the ground level. 	<p>Not applicable to the subject Stages.</p>
<p>4. Future Development Applications shall ensure that basement parking levels do not exceed 1 metre above ground level (finished) and are located below the building footprint (with the exception of basements connecting Stages 2 and 3 and Stages 4 and 5) without encroachment into street setback areas.</p>	<p>The architectural package and landscape plan both demonstrate that the development has been designed to ensure that the basement parking levels do not exceed greater than 1m above finished ground level.</p> <p>The basement for the Stage 6 building extends under the courtyard area, however, it does not extend into the setback area in accordance with the requirement of the condition. This is consistent with the approach adopted for Stages 1, 2, 3, 4 and 5 by the Planning Assessment Commission and is therefore considered a reasonable response to the Concept Plan provisions because greater than 25% of the common open space area is delivered as deep soil. The overall proposal is considered to remain generally consistent with the approved Concept Plan.</p>

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<p>5. Future Development Applications shall demonstrate an appropriate interface with surrounding streets and public domain areas at pedestrian level, and an appropriate design treatment to provide an adequate level of privacy to ground level apartments.</p>	<p>The proposed buildings have been carefully designed to comply with the flood levels as well as providing an appropriate interface with surrounding streets and public domain. The buildings are stepped with the fall of the site and individual entries are provided to ground floor apartments where possible which activates the ground floor plane of the development. The use of deep planted terraces at the front of the courtyards for ground floor apartments provides privacy through landscaping for those apartments without the need for unattractive blank walls.</p>
<p>6. Future Development Application/s for Stage 3 shall provide the following minimum setbacks to the south-western boundary (common boundary with 12 Rothesay Avenue): (a) 6 metres up to 4 storeys; and (b) 9 metres above 4 storeys.</p>	<p>Not applicable to the subject Stages.</p>
<p>7. Future Development Application/s for Stage A shall provide the following minimum setbacks to Parsonage and Wells Streets: (a) Podium – 4 metres (b) Tower – 5 metres</p>	<p>Not applicable to the subject Stages.</p>
<p>8. Future Development Application/s for Stage 3 shall provide a minimum one metre setback to the existing Council owned pedestrian access way along the north-western boundary.</p>	<p>Not applicable to the subject Stages.</p>
<p>9. Future Development Application/s for Stage 9 shall provide a minimum 4 metre building setback to the single storey building fronting Bowden Street. Eaves, pergolas, outdoor seating areas or other unenclosed structures are permitted to encroach into the setback providing that the design does not result in unacceptable impacts to the streetscape or view lines.</p>	<p>Not applicable to the subject Stages.</p>
<p>10. Future Development Applications shall provide for utility infrastructure, including substations, within the building footprint, wherever possible. If this is not possible, infrastructure shall be located outside of the public domain and appropriately screened.</p>	<p>The substations are discreetly located at each corner of the site adjacent to Constitution Road within the property boundary and appropriately screened within a landscaped setting.</p>

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Landscaping	
11. Future Development Applications shall include detailed landscape plans for public and private open space areas, street setbacks areas and for the landscape treatment of all adjoining public domain areas and road reserves in accordance with the approved Public Domain Plan.	The proposed development is accompanied by a Landscape Plan prepared by Place Design which includes the detailed design for public and private open space areas, street setbacks areas and for the landscape treatment of all adjoining public domain areas and road reserves.
Public Domain	
12. Future Development Applications shall provide the detailed design for the upgrade of all road reserves adjacent to the development to the centre line of the carriageway, including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on Constitution Road and Nancarrow Avenue, and any other necessary infrastructure in accordance with the approved Public Domain Plan. Where the detailed design necessitates an increase in the width of the road reserve, building setbacks are to be increased to retain the approved setback to the road reserve alignment. The road reserve works are to be completed by the proponent prior to occupation of each stage.	The proposed development is accompanied by a Landscape Plan prepared by Place Design as well as a Civil Packager prepared by BG&E which together provide the detailed design for the upgrade of all road reserves adjacent to the development including all necessary detail.
Cycle Facilities	
13. Future Development Applications shall provide bicycle parking at the minimum rate of 1 space per 10 car parking spaces.	The proposal provides 43 bicycle spaces which exceeds 10% of the 411 car parking spaces.
14. Future Development Applications shall demonstrate appropriate 'end of trip facilities' for cyclists within all non-residential developments in accordance with Council's requirements.	Not applicable to the subject Stages.
Open Space/Public Access	
15. Future Development Applications shall include detailed landscape plans for the embellishment of publicly accessible open space areas. These areas shall include high quality landscaping and paved areas and a variety of recreation facilities which may include BBQs, seating, water features, grassed areas, paths, shade trees, bicycle racks and exercise equipment/games.	The proposed development is accompanied by a Landscape Plan prepared by Place Design which includes the detailed design for the embellishment of publicly accessible open space areas.

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<p>15A. The contiguous open space required in Modification B1(b) shall be completed, delivered and handed over to Council prior to the issue of the first Occupation Certificate for Stage 3.</p> <p>The land is to be dedicated, at no cost, to Council. Arrangements for the dedication shall be finalised before the issue of the Occupation Certificate for Stage 3. If Council does not accept the dedication, the land shall provide access to the public and be in private ownership by the relevant body corporate and appropriately maintained.</p>	<p>Not applicable to the subject Stages.</p>
<p>15B Prior to the issue of an Occupation Certificate for Stage 2 an easement shall be registered over the foreshore link, which is located between Stage 1 and Stage 2 (in favour of Council) providing for public access. The terms of the easement are to be approved by Council.</p>	<p>Not applicable to the subject Stages.</p>
<p>16. Future Development Applications shall include detailed landscape plans which demonstrate accessible paths of travel for all persons for at least two of the north-south routes between Constitution Road and the Foreshore with one of the routes including the Lower Riparian linear park and a second path either along the Central Spine or the public pathway associated with Stage 1. Landscape plans will also include the detailed design of at least 1 north-south cycle path linking Constitution Road through the site to the existing foreshore cycleway.</p>	<p>The proposed development is accompanied by a Landscape Plan prepared by Place Design that demonstrate accessible paths of travel for all persons for at least two of the north-south routes as well as the detailed design of a north-south cycle path linking Constitution Road through the site to the existing foreshore cycleway.</p>
<p>17. Future Development Applications shall clearly set an appropriate legal mechanism for creating rights of public access to all publicly accessible areas of open space, drainage reserves and through site links, with the relevant instrument/s to be executed prior to the issue of the occupation certificate.</p>	<p>The proposed development includes the provision of the three north-south publicly accessible through site links. The central link is also the location for the an underground stormwater pipe and overland flow path to convey the 100 year ARI flood from Constitution Road to the foreshore through the site. It is expected that a condition of consent will be imposed requiring the creation of rights of public access to the three through-site links as well as the drainage reserve with the relevant instrument/s to be executed prior to the issue of the occupation certificate for any building on the site.</p>

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Community Facilities	
<p>18. Any future Development Application/s for the 1000th dwelling shall include, at no cost to Council, the delivery of an appropriate community space within the development, which can be used by Council members of the community for community purposes and related uses.</p> <p>a. The community facility must be a minimum of 1,000m² in area and be primarily located on ground level. The configuration of floorspace should be designed in consultation with Council or a Council nominated community organisation(s). Any dispute in the quantum of floorspace to be provided should be referred to the Director-General, whose decision shall be final.</p> <p>b. The primary use of the designated community floor space must be for community uses. A range of other activities, such as private functions, community markets and garage sales, may be undertaken within the community facility provided that they are subsidiary to the core community function.</p> <p>c. The designated community floor space must not be used for any other commercial, retail or residential use unless Council decides not to accept the designated floorspace.</p> <p>d. The provision of the community floorspace is in addition to Council's Section 94 Contributions for future development.</p> <p>e. The facility to be delivered is to be located around the contiguous central public open space area in either Stage 2 or 3.</p>	<p>Not applicable to the subject Stages.</p>
Public Art	
<p>19. Future Development Applications shall provide the detailed design of public art in locations throughout open space areas generally in accordance with the Public Art Strategy submitted with the PPR.</p>	<p>The proposal is accompanied by a Public Art Plan prepared by Black Beetle which explores the opportunities, processes and integration of artworks as part of the proposed development. The plan initiates a documentation process which will take the identified artworks through design briefs, design development, fabrication and installation.</p>

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<p>20. Future Development Application/s for Stage 2 shall include a Arts and Cultural Plan developed by a professional public artist including consideration of:</p> <ul style="list-style-type: none"> (a) materials to be used, with particular attention to durability; (b) location and dimension of artwork; (c) public art themes to respond to site history and or social, cultural or natural elements; (d) integration into the site and surrounds; (e) budget and funding; and (f) Council’s Public Art Guide for Developers. 	<p>Not applicable to the subject Stages.</p>
<p>Residential Amenity</p>	
<p>21. Future Development Applications shall demonstrate compliance with the provisions of the State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) and the accompanying Residential Flat Design Code 2002 (RFDC), except where modified below:</p> <p>In particular, future application/s shall demonstrate that:</p> <ul style="list-style-type: none"> (a) a minimum of 60% of apartments within each stage are capable of being cross ventilated; and (b) a minimum of 70% of apartments within each stage receive a minimum of 2 hours solar access to living areas and balconies mid winter; and (c) where less than 70% of apartments achieve 2 hours of solar access in mid winter, these apartments (beyond the first 30%) shall be designed to provide improved amenity by: <ul style="list-style-type: none"> • including extensive glazing (minimum 70% of the external façade) to living rooms; • permitting cross-ventilation specifically to those apartments; and • exceeding RFDC guidelines by at least 20% in both of the following areas: <ul style="list-style-type: none"> • increased floor to ceiling height; or and • increased minimum apartment areas, being greater than 50sqm for 1 bedroom, 70sqm for 2 bedroom and 95sqm for 3 bedroom apartments. (d) a minimum of 25% of open space area of the site is deep soil zone (e) the proposed landscaped areas provide sufficient deep soil in accordance with the RFDC. 	<p>The proposed development achieves solar access, or “improved amenity”, to 71% of apartments and cross ventilation to 63% of the apartments.</p> <p>The “improved amenity” apartments meet the additional requirements of Part (c) of the condition including additional floor to ceiling height and cross ventilation as detailed in the architectural package, including a reliance on ventilation shafts. The capacity for the ventilation shafts to provide cross ventilation is certified by the Windtech ventilation assessment which accompanies this application.</p> <p>The proposed development provides 52.86% of the open space area of the site as deep soil which substantially exceeds the 25% minimum requirement.</p>

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ESD	
<p>22. Future Development Applications shall demonstrate the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010. Where no base target is provided within this report, the development should strive to achieve the stretch target (where relevant and feasible).</p> <p>In accordance with the EnviroDevelopment philosophy, four of the categories will be targeted to show 'industry best practice'. Where the categories of water and energy are applied, BASIX will be used to test 'industry best practice' for water and energy, which will be treated as 10% better than the BASIX pass mark.</p>	<p>The proposal is accompanied by an ESD statement prepared by Integreco which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010.</p>
Car Parking	
<p>23. Future Development Applications shall provide on-site car parking in accordance with Council's relevant Development Control Plan up to a maximum of 2,976 spaces across the Concept Plan site.</p> <p>Future Development Applications shall provide:</p> <p>(a) a car parking rate which relates to the site-wide car parking provision and demonstrates that car parking may be provided for future stages within the total car parking figure of 2,976; and</p> <p>(b) a projected car parking forecast for each remaining stage demonstrating that the total car parking provision can be adhered to.</p> <p>Provision shall also be made for adequate loading and unloading facilities for service vehicles, suitably sized and designed for the proposed use.</p>	<p>The proposed development provides car parking in accordance with the rates in the Ryde DCP 2014. A tally of car parking spaces is provided at Section 4.7 of this Statement which demonstrates the proposed and forecast car parking provision in the other stages and demonstrates that the maximum car parking provision of 2,976 under the Concept Plan will not be exceeded.</p> <p>Loading is provided via dedicated loading bays within the rod reserve.</p>

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Nancarrow Road Extension and Road Reserve Upgrades	
<p>24. Future Development Application/s for Stage 4 shall include the following infrastructure works:</p> <ul style="list-style-type: none"> (a) Nancarrow Avenue extension; (b) Nancarrow Avenue Local Area Traffic Management (LATM) measures and all road reserve upgrades including associated pedestrian footpaths and cycleways; (c) implementation of left-in/left-out arrangement at Belmore Street/ Hamilton Crescent intersection; <p>The detailed design is to be prepared by a suitably qualified engineer in accordance with Council's requirements and to be approved by Council before issue of the first Occupation Certificate for Stage 1. All works must be completed by the proponent prior to the issue of the occupation certificate for Stage 4.</p>	<p>Not applicable to the subject Stages.</p>
<p>24A. Future Development Application/s for Stage 2 shall include the following Infrastructure works:</p> <ul style="list-style-type: none"> (a) installation of a temporary east/west pedestrian link, which connects the stairway at the northern end of the foreshore link between Stages 1 and 2 to Nancarrow Avenue along the northern boundary of Stage 2. The pedestrian link shall provide access to residents the public on a 24 hour basis and maintained until the provision of the Nancarrow Avenue extension (note: this temporary pedestrian access is not a public right of way access). (b) Underdale Lane Local Area Traffic Management (LATM) measures; (c) installation of a pedestrian crossing facility at Bowden Street / Nancarrow Avenue; and (d) installation of roundabout at Belmore Street / Rothesay Avenue. <p>The detailed design is to be prepared be a suitably qualified engineer in accordance with Council's requirements and to be submitted to Council's for approval before the lodgement of any future development application for Stage 2. All works must be completed by the proponent prior to the issue of the occupation certificate for Stage 2.</p>	<p>Not applicable to the subject Stages.</p>
<p>25. Future Development Application/s for the stage of development containing the 800th dwelling shall provide the detailed design for the implementation of left-in/left-out arrangement at Belmore Street/ Yerong Street intersection. The works are to be completed prior to issue of the first occupation certificate of any building of this stage.</p>	<p>Not applicable to the subject Stages.</p>

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Roads and Maritime Services Requirements	
<p>26. Future Development Application/s for each stage of development following the first two stages shall include a traffic study which includes figures on the current number of vehicles and pedestrians at the Railway Road pedestrian crossing at Meadowbank Station and at the Constitution Road / Bowden Street intersection. The traffic study is to be carried out to the RMS's and Council's satisfaction and shall model the impact of the anticipated increase in vehicle and pedestrian traffic for that stage. Where the study reveals that RMS warrants would be met for the provision of signalisation at either of these locations, concept design of the upgrade of the intersection to Council's and RMS's satisfaction is to be included with the Development Application and the works are to be completed by the proponent prior to the issue of first occupation certificate of any building of that stage.</p>	<p>A Traffic Impact Assessment prepared by Road Delay Solutions Pty Ltd accompanies this application which demonstrates that the signalisation of the intersection of Constitution Road and Bowden Street will need to be provided as part of the proposed development. This is also required by the Statement of Commitments. The Traffic Impact Assessment includes the concept design for the upgrade of the intersection.</p>
<p>27. Future application/s for Stage A shall demonstrate that the RMS requirements have been met in relation to access to RMS infrastructure on the adjoining land, including retention of existing access, parking and turning area for maintenance vehicles.</p>	<p>Not applicable to the subject Stages.</p>
Site Specific Sustainable Travel Plan	
<p>28. Future Development Applications for each stage shall include a site specific sustainable travel plan incorporating a workplace travel plan and/or travel access guide. The travel plan will be in accordance with the Concept Plan Sustainable Travel Plan required by Modification B2.</p>	<p>A Sustainable Travel Plan prepared by Road Delay Solutions Pty Ltd accompanies the subject development application.</p>
Heritage	
<p>29. Future Development Application/s for Stage 6 involving the demolition of the existing heritage item at 37 Nancarrow Avenue shall include:</p> <ul style="list-style-type: none"> (a) a detailed heritage assessment of the site which includes a professionally written history of the site; (b) a full photographic record; and (c) an interpretation strategy to display the heritage values of the existing building on the newly developed site. 	<p>A Heritage Impact Statement, full photographic record and interpretation strategy have been prepared by Rappaport and these documents accompany the development application.</p>
<p>30. Future Development Application/s for Stage A shall include a Statement of Heritage Impact providing an assessment of the impact of the development on the adjoining heritage listed Church Street Bridge. Applications are to demonstrate that the design of the building takes into account relevant recommendations of the heritage assessment.</p>	<p>Not applicable to the subject Stages.</p>

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Section 94 Contributions	
31. Future Development Applications shall be required to pay developer contributions to the Council towards the provision or improvement of public amenities and services. The amount of the contribution shall be determined by Council in accordance with the requirements of the Contributions Plan current at the time of approval.	Noted.
Noise and Vibration	
32. Future Development Application/s for Stage A shall provide an acoustic assessment which demonstrates that the internal residential amenity of the proposed apartments is not unduly affected by the noise and vibration impacts from Church Street, to comply with the requirements of Clause 102 of State Environmental Planning Policy (Infrastructure) 2007 and the Department of Planning's 'Development Near Rail Corridors and Busy Roads – Interim Guidelines'.	Not applicable to the subject Stages.
Adaptable Housing	
33. Future Development Applications shall provide a minimum of 10% of apartments as adaptable housing in accordance with Australian Standard 4229-1995.	The proposed development provides 32 adaptable apartments which meets the 10% requirement.
Stormwater Infrastructure Upgrades	
34. Future Development Applications for Stage 6, 7, 8 or 9 (whichever occurs first) shall provide the detailed design of the following infrastructure works: (a) the piped drainage system and overland flow path from Ann Thorn Park to Parramatta River; and (b) works to eliminate the risk of embankment failure of Constitution Road. The works will be required to be completed by the proponent prior to construction commencing for any residential buildings within these stages.	The proposal includes the detailed design for the lowering of Constitution Road to eliminate the risk of embankment failure of Constitution Road as well as the upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Constitution Road to the foreshore through the site. This documentation has been prepared by BG&E and is located in the Civil Package.

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Flooding and Stormwater	
35. Future Development Applications for each stage of the development shall include flood assessments to determine the minimum floor levels, any required mitigation measures and evacuation strategy required.	A Flood Assessment prepared by BG&E accompanies the application and informs the floor levels of the proposed development.
36. Future Development Applications for each stage of the development shall include a Stormwater Management Plan in accordance with Council's requirements.	A Stormwater Plan prepared by Harris Page accompanies this application.
Sydney Water Requirements	
37. Future Development Applications shall address Sydney Water's requirements in relation to: (a) required amplification works to existing drinking water mains; (b) required amplification works to the wastewater system; (c) approval for discharge of trade wastewater (where necessary); and (d) application for Section 73 certificates as necessary.	Details concerning the Sydney Water requirements for the proposed development prepared by Greg Houston Plumbing accompany the subject application.
Contamination, Acid Sulphate Soils and Salinity	
38. Future Development Applications shall include a detailed contamination assessment (involving sampling and testing of soil) including an assessment of the presence of acid sulphate soils and salinity.	An Environmental Assessment including consideration of acid sulphate soils prepared by Environmental Investigations accompanies the subject application. The conclusions of the assessment are discussed under the SEPP 55 discussion in this Statement.
39. A groundwater assessment (involving sampling and testing of groundwater) shall be undertaken across the entire Concept Plan prior to the first Development Application being lodged for Stage 2 or any other stage of the development.	A Groundwater Assessment prepared by Environmental Investigations for the entire Concept Plan site accompanies the subject application.

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<p>40. Future Development Applications where necessary shall include a targeted groundwater assessment for the specific stage (based on the recommendations of the groundwater assessment undertaken for the entire Concept Plan).</p>	<p>The Groundwater Assessment prepared by Environmental Investigations for the entire site identified that there is a low risk of widespread groundwater contamination within the Shepherds Bay Urban Renewal Project and that any groundwater impact is unlikely to prevent the redevelopment of the sites for residential and open space development.</p>
<p>SCHEDULE 4 STATEMENT OF COMMITMENTS</p>	
<p>Staging of Development and Occupation</p>	
<p>The development is to be constructed in ten indicative stages as illustrated in Appendix 1 of MP09_0216 Mod 1.</p> <p>An updated Development Staging Plan will be submitted with each subsequent Project Application.</p>	<p>There are no proposed changes to the indicative stages as illustrated in Appendix 1 of MP09_0216 Mod 1 and therefore no need for an updated staging plan to be submitted with this development application.</p>
<p>Approval Conditions</p>	
<p>The proponent will ensure that all relevant parties engaged to carry out work are aware of and will comply with relevant conditions of consent issued under Major Project No. 09_0216. (as amended)</p>	<p>Noted.</p>
<p>Accessibility</p>	
<p>The proponent commits to providing access to and within buildings within the Concept Plan site in accordance with the Building Code of Australia. Where topography permits, publicly accessible open spaces within the Concept Plan are to be designed to provide appropriate access to people of all mobility levels.</p>	<p>The public open spaces have been appropriately designed to provide access for people of all mobility levels.</p>
<p>Landscaping</p>	
<p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site detailed documentation and specifications will be prepared for all landscape works and public space improvements.</p> <p>The landscaping is to be designed so that the view corridors identified on the Concept Plan are maintained.</p>	<p>The proposed development is accompanied by a Landscape Plan prepared by Place Design which includes the detailed design for all landscape works and the embellishment of publicly accessible open space areas.</p>

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Community Benefits	
The Proponent will enter into discussions with the City of Ryde to establish a Voluntary Planning Agreement.	The Proponent has commenced discussions with the City of Ryde to establish a Voluntary Planning Agreement.
Housing Choice	
A mix of apartment sizes will be provided including one bedroom units. The increased housing supply in the area and proposed apartment mix will increase housing choice and ease affordable housing issues in the area. The opportunity for locals to “downsize” together with the additional availability will promote affordability.	The proposed development provides a balanced mix of 1 bedroom (43%), 2 bedroom (47.5%) and 3 bedroom (9.5%) apartments.
Adaptable Housing	
The Proponent commits to approximately 10% of apartments within the Concept Plan site being designed to be accessible. Pathways from development to communal areas and car parking will also be designed to be accessible.	The proposal provides 32 adaptable apartments which equates to 10% of the development. Pathways from the development to communal areas and car parking are also designed to be accessible.
Road Verges and Footpaths	
The proponent commits to providing and/or upgrading road verges and footpaths prior to the issue of the relevant occupation certificate for each Stage.	Noted.
Publicly Accessible Open Spaces	
The proponent commits to providing a total of 18,304sqm of publicly accessible public domain with the Concept Plan site that will be owned and maintained by the various owners’ corporations. These areas will include 4 new publicly accessible open spaces, landscaped pedestrian connections, landscaped overland flow paths, to be owned and maintained in community title by the relevant stage development owner groups. These will include: <ol style="list-style-type: none"> 1. New Foreshore Link publicly accessible open space (Development Stage 2) 2. New Upper Level Public Square (Development Stage 2, 3 & 5) 3. New Central Spine (Development Stage 3) 4. New Central Foreshore Plaza (Development Stage 3) 5. New upper eastern pedestrian link (Stages 4 and 5) 6. New Pedestrian Spine 2 (North) publicly accessible open space (Development Stage 6) 7. New Upper Riparian Foreshore Link publicly accessible open space (Development Stages 6 & 7) 	The proposed development provides the following publicly accessible open space areas relevant to the subject Stage 6 and 7 development: <ul style="list-style-type: none"> • New Pedestrian Spine 2 (North) publicly accessible open space (Development Stage 6) • New Upper Riparian Foreshore Link publicly accessible open space (Development Stages 6 & 7)

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<p>8. New Lower Riparian Foreshore Link publicly accessible open space (Development Stages 8 & 9)</p> <p>9. New Pedestrian Spine 1 South publicly accessible open space (Development Stages 8)</p> <p>10. Gateway Building Central Plaza and pedestrian link (Development Stage A)</p>	
<p>Road Works</p>	
<p>The proponent commits to providing the following new road infrastructure and up-gradings which are illustrated on Map 11 below.</p> <ol style="list-style-type: none"> 1. Pedestrian signals replacing the zebra crossing on Railway Road at the Station. To be completed prior to the issue of an Occupation Certificate for Stage 3 of the Development. 2. Signalling Bowden Street/Constitution Road. To be completed prior to the issue of an Occupation Certificate for Stage 6 of the Development. 3. Roundabout at Rothesay Ave/Belmore Street. To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development. 4. Yerong/Belmore left in/out. To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development. 5. Hamilton "Lane" and Nancarrow "Lane" LATM and two-way construction between Belmore and Bowden. To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development. 6. Underdale Lane LATM scheme. To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development. 7. Hamilton Lane/Belmore Street left in/left out. To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development. 8. Introduction of a pedestrian facility on Bowden Street at Underdale Lane. To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development. 9. Lowering of Constitution Road. To be completed prior to the issue of an occupation certificate for Stage 8 of the Development. 10. Re-grading works associated with the construction of the new Nancarrow Avenue Link Road. To be completed prior to the issue of an Occupation Certificate for Stage 3 of the Development . 	<p>The proposed development provides the following relevant new road infrastructure in accordance with the Statement of Commitments:</p> <ul style="list-style-type: none"> • Signalling Bowden Street/ Constitution Road. • Lowering of Constitution Road.

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Land to be Dedicated	
<p>Land comprising the two-way road link to be constructed between Belmore and Bowden Streets, being the connection of Nancarrow Ave to Hamilton Crescent. This requires the dedication by the Proponent an area of land of approximately 325sqm to the Council.</p> <p>To be dedicated to Council prior to the issue of an occupation certificate for Stage 2 of the Development.</p>	Not relevant to the subject stages.
Tree Management	
<p>Tree protection measures will be implemented for trees to be retained as recommended in the Arborist Report at Annexure 23 to the submitted EA.</p>	Noted.
Crime Prevention Through Environmental Design	
<p>The design of the public domain, landscaping and building design facilitates the achievement of CPTED principles. Prior to commencement of construction of any subsequent Project Applications CPTED Assessments will be provided.</p> <p>Planting near footpaths will need to be maintained on a regular basis to avoid concealment opportunities for criminals who may hide in dense shrubbery.</p>	Noted.
Environmentally Sustainable Development	
<p>All Residential development within the Concept Plan site will meet the following Sustainability targets:</p> <ul style="list-style-type: none"> • The BASIX water consumption benchmark • The BASIX energy consumption benchmark <p>In addition, the proponent commits to further investigate the opportunity for including the following ESD principles:</p> <ul style="list-style-type: none"> • Design internal apartment layouts to maximise natural ventilation and to capture prevailing winds; • Utilise roof forms to capture natural light and ventilation; • Use of high thermal mass materials within apartments; • Ensure natural light and ventilation is provided to common areas to minimise energy consumption; • Divide the layout of the apartments into zones to reduce heat and cooling energy consumption; • Utilise low water flow fixtures and tap ware; • Harvesting of stormwater where feasible; and • Recycling of water where feasible 	<p>A BASIX Certificate accompanies the subject application. In addition, the proposal is accompanied by an ESD statement prepared by Integreco which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010.</p>

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Stormwater Management	
<p>The Proponent is committed to providing the necessary stormwater upgrades, the details of which will be included in the final VPA when negotiated with Council.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site the Proponent commits to preparation of an Integrated Stormwater Management Plan for the relevant development stage.</p>	<p>The subject application is accompanied by a Stormwater Plan prepared by Harris Page.</p>
Noise	
<p>All Project or Development Applications within the Concept Plan site for all development Stages are to comply with the relevant acoustic standards and controls contained in the BCA.</p>	<p>The subject application is accompanied by an Acoustic Report prepared by Acouras Consultancy which details the necessary acoustic attenuation measures for the proposal</p>
Site Contamination	
<p>All Project or Development Applications within the Concept Plan site for all development stages will be required to comply with the requirements of SEPP 55 Remediation of Land.</p>	<p>Noted. SEPP 55 has been discussed previously in this Statement.</p>
Construction Management	
<p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Construction Management Plan will be prepared by the proponent for each development stage and will be submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.</p> <p>All construction materials, vehicles, waste and the like will be stored within the site.</p> <p>All demolition and all construction and associated work will be restricted to between the hours of 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No work is to be carried out on Sunday or public holidays.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Traffic Management Plan (TMP) for the relevant development stage, which addresses construction access and egress to the site, including vehicle routes and parking for workers, staging and timing of construction of internal road network and other relevant issues, will be prepared and submitted to the satisfaction of Principal Certifying Authority. The TMP will be prepared in accordance with the RTA's guidance on TMP's</p>	<p>Noted. A Construction Management Plan will be prepared and submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.</p>

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Utilities	
<p>A Section 73 Certificate from Sydney Water will be obtained as required.</p> <p>All existing aerial services (including low voltage Energy Australia electricity and subscriber television services) along the frontage of the Concept Plan Site are to be relocated underground prior to the occupation of the development stages. The cost of this work is to be borne by the developer.</p> <p>Documentary evidence will be obtained from Energy Australia to confirm that they have been consulted and that their requirements have been met by the Concept Plan and all subsequent Project or Development Applications within the Concept Plan site.</p>	Noted.
Arborist Report	
All subsequent development stages will be required to comply with the requirements of the Arborist Report (Annexure 23 to the submitted Environmental Assessment).	Noted.
Environmental Management Plan	
<p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site, a development Stage-specific Environmental Management Plan (EMP) will be prepared and submitted to and approved by the Principal Certifying Authority. The EMP will comprise:</p> <ul style="list-style-type: none"> a. Hours of construction work b. Sediment and Erosion Control; c. Waste Management; d. Noise and Vibration Management; e. Air Quality and dust control; f. Use of cranes, plant and machinery g. Use of ladders, tapes, scaffolding and plant /machinery of conductive material h. Excavation and boring i. Plant and vehicle movements including - ingress and egress of vehicles to the site, loading and unloading, including construction zones, transportation of material, including contaminated material, predicted traffic volumes, types and routes j. TMP; k. Piling, sheet piling, batter and anchors 	Noted. An Environmental Management Plan will be prepared and submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.

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Flooding	
All Development or Project Applications for individual development stages within the Concept Plan site are to be accompanied by a detailed Flood Impact Assessment Report using the Concept Plan Flood Study Report findings. These studies are to include such safety management measures as safe flood evacuation routes and refuge areas.	The subject application is accompanied by a Flood Assessment prepared by BG&E.
Waste Management	
Prior to commencement of construction of all Project or Development Applications within the Concept Plan site, a Waste Management Plan will be prepared for the relevant development stage which includes demonstration of the fact that the road network is capable of being serviced by Council's Waste vehicles.	A Waste Management Plan prepared by Elephant's Foot accompanies the subject application.
Sustainable Travel Plan	
Prior to issue of Occupation Certificates for any habitable areas in any development within the Concept Plan site a Sustainable Travel Plan for the Concept Plan site will be submitted to and approved by the Department of Planning. Individual Project or Development Applications will be accompanied by Development stage- specific Sustainable Travel Plans that are consistent with the Concept Plan Sustainable Travel Plan.	A Sustainable Travel Plan prepared by Road Delay Solutions Pty Ltd accompanies the subject application.
Groundwater	
As required by the NSW Office of Water: Groundwater: Licences under Part V of the Water Act 1912 are required for the works for the purposes of temporary dewatering as part of the proposed construction. <ul style="list-style-type: none"> • General and Administrative Issues • Specific Conditions • Formol Application Issues 	Noted.
SCHEDULE 5 MAXIMUM BUILDING HEIGHT CONTROL PLANS	
Refer to Plans	The proposed buildings are generally contained within the approved building envelopes in both plan and elevation.

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116-122 Bowden Street, Meadowbank
Stages 8 and 9 - Shepherds Bay

Statement of Environmental Effects

Statement of Environmental Effects

116-122 BOWDEN STREET, MEADOWBANK STAGES 8 AND 9 - SHEPHERDS BAY

Demolition of Existing Buildings and Erection of 3 Residential Flat Buildings and a Commercial Building

January 2015

Prepared under instructions from
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GEOTECHNICAL REPORT

1.0 INTRODUCTION

On 6 March 2013, as delegate of the Minister for Planning and Infrastructure, the Planning Assessment Commission (PAC) granted approval for Concept Plan MP09_216 for a mixed use development of the site at Shepherds Bay including residential, retail, commercial and community uses. The Concept Plan provides for the following:

- Building envelopes for 12 buildings incorporating basement level parking;
- Infrastructure works to support the development;
- Publicly accessible open space and through site links; and
- Pedestrian and cycle pathways.

This Statement of Environmental Effects has been prepared in support of a Development Application made under Part 4 of the Environmental Planning and Assessment Act 1979 for the erection of 3 residential flat buildings and 1 commercial building referred to as Stages 8 and 9 of the approved Concept Plan.

The proposed development is detailed in the architectural package prepared by Turner Architects. The application is also accompanied by the following:

- Survey plan - H Ramsay
- Architectural package including SEPP 65 Assessment - Turner Architects
- Landscape & public domain plan - Place Design
- Detailed Design of Public Art - Black Beetle
- Civil package - BG&E
- Flood Assessment - BG&E
- Stormwater Plan - Harris Page
- QS cost estimate - Altus Page Kirkland
- Environmental Site Assessment - Environmental Investigations
- Groundwater assessment - Environmental Investigations
- Acoustic report - Acouras Consultancy
- BCA compliance assessment report - Vic Lilli & Partners
- Fire safety report - GN Consulting
- BASIX Certificate - Integreco
- ESD statement - Integreco
- Accessibility report - Design Confidence
- Parking assessment - Thompson Stanbury
- Traffic Impact Assessment - Road Delay Solutions Pty Ltd
- Sustainable travel plan - Road Delay Solutions Pty Ltd
- Waste Management Plan (Construction) - Holdmark
- Waste Management Plan (Operational) - Elephants Foot
- Arboricultural Report - Redgum
- Sydney Water Requirements - Greg Houston Plumbing Pty Ltd
- Geotechnical Report - Asset Geotechnical

This Statement has been prepared pursuant to section 78A of the Environmental Planning and Assessment Act 1979 and clause 50 of the Environmental Planning and Assessment Regulation 2000. The Statement provides an assessment of the development proposal having regard to the relevant legislative context,

1.0 INTRODUCTION

social, economic and environmental impacts, potential impacts of the works on the surrounding locality and the measures proposed within the application to mitigate such impacts.

The Statement details the proposed development's consistency with the approved Concept Plan as well as compliance against applicable environmental planning instruments and development control plans including:

- Sydney Regional Environmental Plan – Sydney Harbour Catchment 2005
- State Environmental Planning Policy No. 32 Urban Consolidation (Redevelopment of Urban Land)
- State Environmental Planning Policy No.55 – Remediation of Land
- State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
- State Environmental Planning Policy (Infrastructure) 2007
- Ryde Local Environmental Plan 2014
- Ryde Development Control Plan 2014

Having regard to the applicable legislative framework, it is considered that the proposed development is consistent with the aims and objectives of the Concept Plan, relevant environmental planning instruments and development control plan whilst being compatible with the emerging character of the locality and minimising any potential impacts on the amenity of the adjoining properties.

2.0 SITE DESCRIPTION AND LOCATION

2.1. Locality Description

The site is known as 116-122 Bowden Street and is located within the master planned area of Shepherds Bay at the foreshore within the suburb of Meadowbank which resides towards the southern end of the City of Ryde's local government area. The subject site is located on the eastern side of Bowden Street and the southern side of Nancarrow Avenue.

The site is currently located within a largely industrial context although the area has been undergoing urban renewal with the redevelopment of many sites in the area including Stage 1 within the Shepherds Bay precinct which spans along the southern end of Bowden Street and along Rothesay Avenue and Bay Drive and includes the block bounded by Constitution Road to the north, Bowden Street to the west and Belmore Street to the east.

The site is approximately 350 metres south east of Meadowbank Railway Station which is located at the end of Constitution Road and is approximately 230 metres north of Meadowbank Ferry Wharf. The site is not located within a heritage conservation area however it is to the south of a locally listed heritage item which has been approved for demolition. The location of the site is illustrated in Figure 1 below.

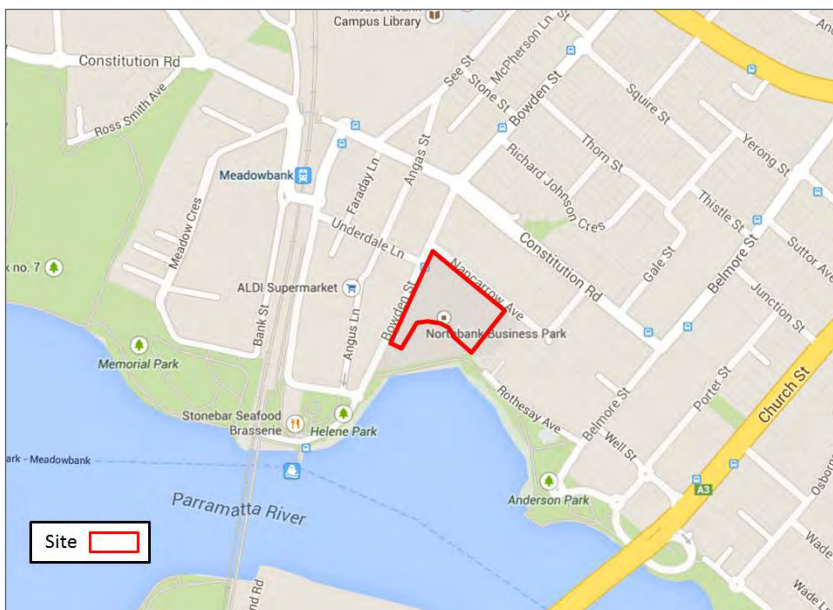


Figure 1:

Site location (Source: Google Maps 2014)

2.2. Site Description

The site comprises two allotments and is legally described as Lot 2 in DP 792836 and Lot 102 in DP 1037638 and is known as 116-122 Bowden Street, Meadowbank. The site is located on the eastern side of Bowden Street and the southern side of Nancarrow Avenue.

The site is referred to as Stages 8 and 9 under the Concept Plan approval.

Nancarrow Avenue has a low point which aligns with the centre of the site and there is a fall from the eastern and western sides of the site into the centre as well as an overall fall from north to south. The site is irregular in shape and has an area of 16,449 square metres. The western boundary of the site, adjoining

2.0 SITE DESCRIPTION AND LOCATION

Bowden Street, has a length of approximately 195 metres. The northern boundary adjoining Nancarrow Avenue has a length of approximately 155 metres.

The site is currently occupied by a number of industrial buildings. The site is illustrated in Figure 2 below.

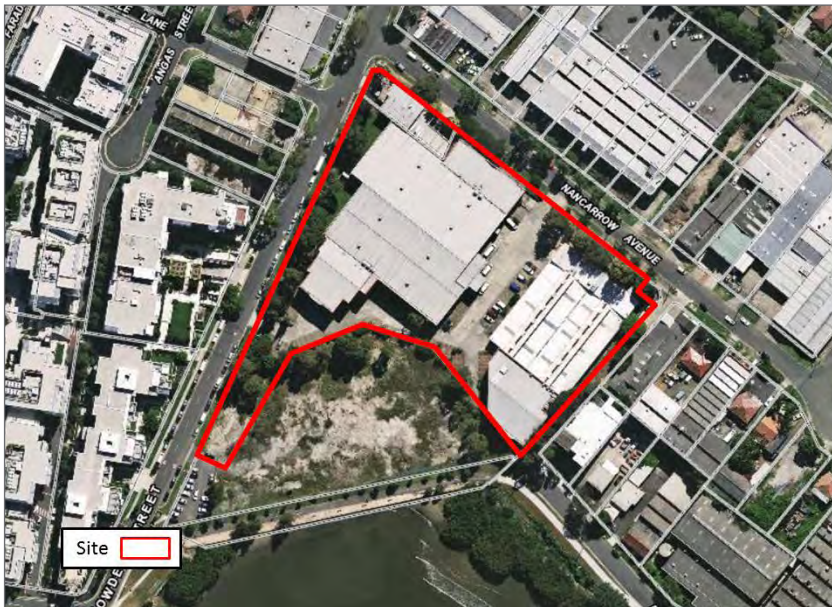


Figure 2:

Site (Source: Six Maps, Department of Lands 2014)

2.3. Surrounding Development

The subject site is surrounded by a mixture of residential apartments, townhouses and light industrial or commercial development. The context around the subject site is currently undergoing rapid transformation into a residential community with the forthcoming character defined by high quality residential flat development.

To the immediate west across Bowden Street are residential flat buildings, whilst further to the north-east along Bowden Street are smaller industrial buildings which are likely to be redeveloped for residential flat buildings in the future. To the north of the subject site is 37-53 Nancarrow Avenue which is referred to as Stages 6 and 7 in the Concept Plan and which will be redeveloped for residential flat buildings. To the east of the site is 9-11 Rothesay Avenue and 12-16 & 18 Nancarrow Avenue which is referred to as Stages 2 and 3 in the Concept Plan and which will be redeveloped for residential flat buildings. To the south of the site is a property known as 146 Bowden Street which is currently vacant and undergoing construction for an approved 5 storey residential flat development comprising 60 apartments.

2.0 SITE DESCRIPTION AND LOCATION



Photograph 1:

View of the site from Bowden Street facing north-east

Photograph 2:

View of corner of site at Bowden and Nancarrow facing south-east



Photograph 3:

Internal view of site facing south



2.0 SITE DESCRIPTION AND LOCATION



Photograph 4:

View of site (left) from Nancarrow Avenue facing west

Photograph 5:

View of southern adjacent development site facing north with subject site in the background



Photograph 6:

View of recent residential flat development to the west across Bowden Street

2.0 SITE DESCRIPTION AND LOCATION



Photograph 7:

View of existing industrial development to the west across Bowden Street

Photograph 8:

View of 37 Nancarrow Avenue to the north of the site which is approved for demolition in principle under the Concept Plan



Photograph 9:

View of small scale industrial development to the north-east of the site along Nancarrow Avenue



3.0 BACKGROUND

3.1. Major Project MP09_0216

On 6 March 2013, as delegate of the Minister for Planning and Infrastructure, the Planning Assessment Commission granted approval for Concept Plan MP09_216 for the subject site.

The Concept Plan provides for a mixed use development of the site including residential, retail, commercial and community uses comprising the following:

- Construction of attached residential flat buildings between 3 and 12 storeys in height;
- Basement car parking over four levels
- Landscaped communal open space between the two buildings
- A new landscaped publicly accessible foreshore link from Hamilton Crescent to Rothesay Avenue
- Stormwater and infrastructure/utility works

In addition, the PAC issued future environmental assessment requirements for subsequent stages of the development pursuant to section 75P(1)(a) of the Environmental Planning and Assessment Act 1979 (EP&A Act), and determined that all future stages will be subject to the provisions of Part 4 of the EP&A Act, as provided for under section 75P(1)(b).



Figure 3:

Approved Plan Concept Plan

3.0 BACKGROUND

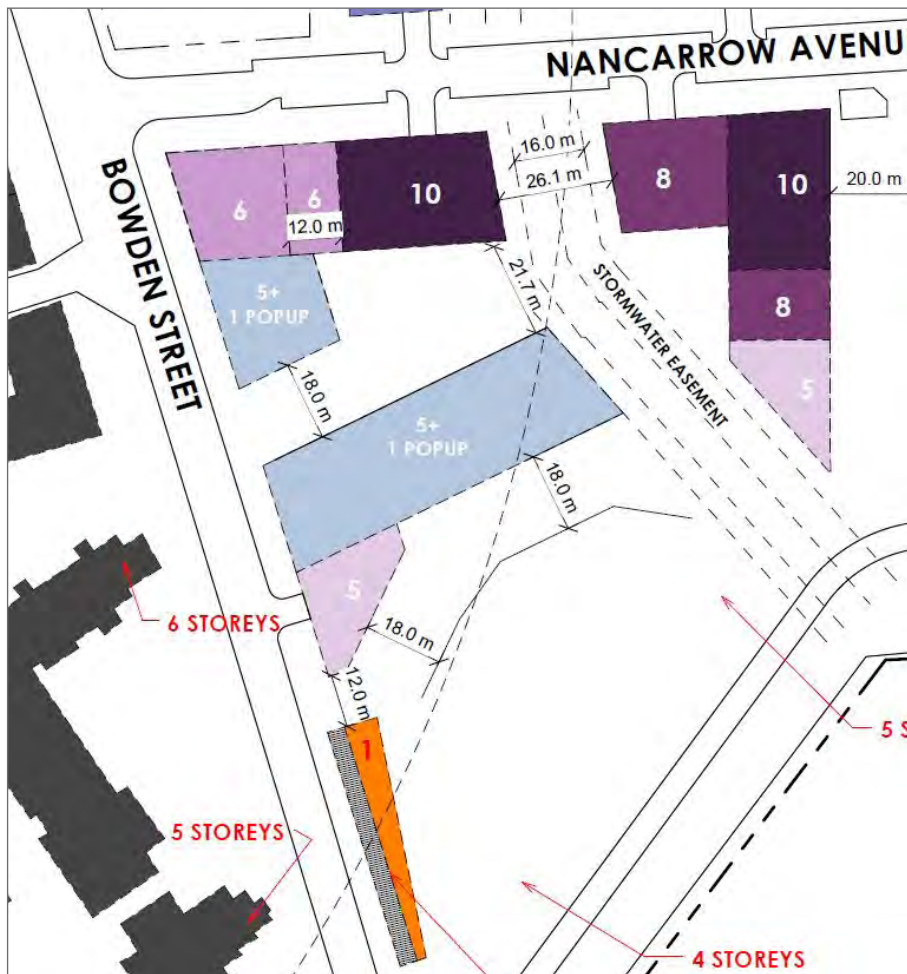


Figure 4:

Approved Concept Plan envelopes for Stages 8 and 9

3.2. Major Project MP09_0216 (MOD 1)

The Concept Plan was subsequently modified on 16 October 2014 to provide the following amendments:

- amendment to Building Storeys Plan to allow for additional storeys at ground level in Stages 1 to 3;
- to expand/connect the basement building envelopes;
- revision to the construction staging;
- revised timing of the delivery of the open space to be in conjunction with Stage 3 (rather than Stage 1);
- provision of an additional storey to provide a 6 storey element to the building on the corner of Belmore Street and Constitution Road;
- flexible application of the solar access requirement of the RFDC;
- amendment of ESD measures; and
- amendments to terms of approval, future environmental assessment requirements and Statement of Commitments.

4.0 DEVELOPMENT PROPOSAL

4.1. General Description

The subject development application seeks consent for the demolition of all existing structures and the erection of 3 residential flat buildings and 1 commercial building referred to as Stages 8 and 9 of the approved Concept Plan containing a total of 422 residential apartments and 573 car parking spaces.

The proposed development is consistent with the approved site layout, massing and building envelopes approved under Concept Plan MP09_0216.

The development specifically involves the following:

- Demolition of all structures including removal of all slabs;
- Excavation works;
- Construction of a 5 to 10 storey building above 5 basement levels for Stage 8 containing 153 residential apartments;
- Construction of a 5 to 10 storey building above 3 common basement levels for Stage 9A (northern building) containing 152 residential apartments;
- Construction of a 5 to 6 storey building above 3 common basement levels for Stage 9B (southern building) containing 117 residential apartments;
- Construction of a 225 square metre single storey commercial building;
- Infrastructure works including the implementation of stormwater infrastructure through the site and public domain improvements to Nancarrow Avenue, Bowden Street and Nancarrow Lane; and
- Landscaping works around the buildings including the creation of common open space areas and publicly accessible pedestrian and cycle through-site links.

The proposed development is detailed on the architectural plans prepared by Turner Architects.



Figure 5:

Perspective image proposed development as viewed from the common open space facing north

4.0 DEVELOPMENT PROPOSAL

4.2. Design Principles

The proposed buildings are of varying scale and typology which introduces visual interest and serves to break up the scale of the development. The ground floor plane is suitably activated, having regard to the constraints imposed due to the fall of the site, with individual entries to the ground floor apartments and multiple building lobbies. The proposed development appropriately defines the public domain, however, in a softer fashion with generous landscaped setbacks.

The proposed development provides for attractive buildings with facade compositions which are contemporary and compatible with the emerging character within the area. The proposed development introduces a variety of building elements and utilises a visually engaging architectural language with a selection of appropriate materials and finishes. The proposed built form and composition of the new buildings respond to the emerging character of the area and therefore provides a positive contribution to the visual quality of Ryde.

Turner Architects have provided further details of the design principles in the architectural drawings, SEPP 65 Design Verification Statement and RFDC Assessment, perspective images, shadow diagrams and Schedule of External Finishes which accompany this application.

4.3. Use

The subject application does not seek consent for the specific use of the single storey commercial building and a separate development application will be submitted in due course to address the specific use and operational requirements of the commercial building.

4.4. Development Statistics

Element	Commercial Building	Stage 8	Stage 9A	Stage 9B	Total
Site Area	16,449 square metres				
GFA	225 sqm	13,546 sqm	13,451 sqm	9,591 sqm	36,813 sqm
FSR	2.23:1				
Storeys	1 to 10 storeys				
Height	As per the approved 'Maximum RL Height Controls' of the Concept Plan				
Setbacks and Separation	As per the requirements of the RFDC and the approved 'Maximum RL Height Controls' of the Concept Plan				
Apartments	N/A	153	152	117	422
Car parking	0	211	362		573
Bicycle Spaces	10	21	37		58
Solar Access	N/A	108 (70.6%)	190 (70.6%)		298 (70.6%)
N a t u r a l Ventilation	N/A	114 (74.5%)	171 (63.6%)		285 (69%)
Open Space	8,612 square metres (52% of site)				
Deep soil	6,520 square metres (76% of open space and 40% of the site)				

4.0 DEVELOPMENT PROPOSAL

4.5. Apartment Mix

Apartment	Stage 8	Stage 9A	Stage 9B	Total
1 bed	51 (33%)	51 (34%)	66 (56%)	168 (39.8%)
2 bed	85 (56%)	87 (57%)	43 (37%)	215 (50.9%)
3 bed	17 (11%)	14 (9%)	8 (7%)	39 (9.2%)
Total	153	152	117	422

4.6. Materials and Finishes

The proposed materials and finishes are detailed in the architectural plans provided by Turner Architects at Appendix C.

4.7. Access and Parking

Pedestrian access is provided via common lobbies at both the Nancarrow Avenue and Bowden Street frontages of each building with additional lobbies via the through-site links. Individual entries are provided to ground floor apartments where possible and pedestrian access is also provided centrally through the site.

There is a high degree of site permeability with two pedestrian links from Bowden Street through the site to the south-east to Rothesay Street, one on the northern and one on the southern side of Building 9B. A large central publicly accessible link from Nancarrow Avenue connects to the link in Stages 6 and 7 and provides access south-east through the site to Rothesay Street. A secondary link from Nancarrow Avenue is provided at the eastern side of the site adjacent to the Stage 8 building, including embellishment of the public domain of Nancarrow Lane, to Rothesay Street.

Vehicular access is provided via single entries at the northern end of both the Stage 8 and Stage 9A buildings. The vehicular entrance to the Stage 8 building provides access into five basement levels below which contain a total of 211 car parking spaces, 21 bicycle parking spaces and residential storage. The vehicular entrance to the Stage 9A building provides access into the three basement levels below which contain a total of 362 car parking spaces, 37 bicycle parking spaces and residential storage for the combined Stage 9. Four lifts provide access from the Stage 8 parking levels into the building above and six lifts provide access from the Stage 9 parking areas into the building above.

4.8. Private and Public Open Space

The proposed development provides three residential buildings which sit within a generously landscaped setting. A variety of communal open spaces are proposed including a central landscaped courtyard at ground level between the Stages 9A and 9B buildings as well as a large communal open space area adjacent to the Stage 8 building which is divided between a private swimming pool area and a public open space area. When combined with the through site links, a total area of 8,612 square metres or 52% of the site is provided for passive and active uses.

The development provides a number of ground floor apartments to enjoy large landscaped private open space area with the majority of these apartments having private open space greater than 25 square metres. The balconies for upper level apartments generally have a minimum depth of 2 metres whilst the majority of apartments have balcony depths between 2.4 metres and 3 metres.

4.0 DEVELOPMENT PROPOSAL

4.9. Trees

The proposal requires the removal of all trees within the site as detailed in the Arboricultural Impact Assessment prepared by Redgum Arboricultural and Horticulture Consultants which accompanies the application. The development of the site will however involve the comprehensive landscaping of both the subject site and surrounding public domain in a coordinated and generous fashion as illustrated in the Landscape Plan prepared by Place Design which accompanies the application.

4.10. Stormwater Infrastructure Upgrades and Public Domain Works

The proposal includes the following infrastructure upgrades and public domain works:

- Upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Nancarrow Road to the foreshore through the site;
- Upgrade of the road reserves adjacent to the development to the centre line of the carriageway, including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on Nancarrow Avenue; and
- The upgrade of the longitudinal pit and pipe network along Nancarrow Avenue to capture and convey the 20 year ARI flood.

4.11. Subdivision and Creation of Publicly Accessible Open Space

The proposed development includes the provision of two pedestrian links intended to be used for public access as illustrated in Figure 6 below. These include the primary central north-south publicly accessible through site links from Nancarrow Avenue to Rothersey Street, as well as an east-west link from Bowden Street between buildings 9A and 9B which connects to the primary central link. The central link is also the location for the an underground stormwater pipe and overland flow path to convey the 100 year ARI flood from Nancarrow Avenue to the foreshore through the site. It is expected that a condition of consent will be imposed requiring the creation of rights of public access to the three through-site links as well as the drainage reserve with the relevant instrument/s to be executed prior to the issue of the occupation certificate for any building on the site.



Figure 6:

The public routes intended to be provided via the creation of a right of public access are defined in the approved Concept Plan Figure 32A Rev 2

4.0 DEVELOPMENT PROPOSAL

4.12. Sustainable Travel Plan

The proposal is accompanied by a Sustainable Travel Plan prepared by Road Delay Solutions which outlines the initiatives to be undertaken by Holdmark with respect to community parking and bicycle provisions to deliver best practice sustainable outcomes to effectively reduce greenhouse gas emissions through diminished dependence upon private vehicle usage. The site benefits from alternative travel modes from public transport to walking and cycling. Both commuter and recreational trips can be adequately accommodated within the current local transport network while proposed provisions for car share will allow an opportunity to reduce the dependence on the private vehicle.

4.13. Public Art

The proposal is accompanied by a Public Art Plan prepared by Black Beetle. The plan explores the opportunities, processes and integration of artworks as part of the proposed development and outlines aims and objectives of Public artwork in relation to this development, thematic framework for developing artworks, and locations and concepts for site specific works within the development. The plan initiates a documentation process which will take the identified artworks through design briefs, design development, fabrication and installation.

4.14. Ecologically Sustainable Development

The proposal is accompanied by an ESD statement prepared by Integreco which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010.

4.15. Traffic Study and Intersection Upgrade

The proposal is accompanied by a traffic study prepared by Road Delay Solutions which identifies that the signalisation of the intersection of Constitution Road and Bowden Streets is required and proposed as part of the Stage 6 and 7 development.

4.16. Cost of Construction

The cost of construction of the project is estimated at \$149,508,944.20 (including GST). Refer to the QS Report prepared by Altus Page Kirkland which accompanies this application.

4.17. Dwelling and Car Parking Cap

A dwelling cap of 2,005 dwellings and a car parking cap of 2,976 applies to the entire Concept Plan area. Below is an approved, proposed and forecast tally in relation to these caps:

Stage	Dwellings	Car Parking
1	246	342
2 and 3	453	605
4 and 5	511	621
6 and 7	311	422
8 and 9	422	573
A	62	413

5.0 STATUTORY PLANNING FRAMEWORK

5.1. Environmental Planning & Assessment Act 1979

5.1.1. Consistency with Concept Plan

Clause 3B of Schedule 6A of the Environmental Planning and Assessment Act, 1979 applies to development for which a concept plan has been approved.

Specifically, Clause 3B(2) contains the following relevant provisions to the consideration of the proposed development:

(c) any development standard that is within the terms of the approval of the concept plan has effect,

(d) a consent authority must not grant consent under Part 4 for the development unless it is satisfied that the development is generally consistent with the terms of the approval of the concept plan,

(f) the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan,

The subject development application is to facilitate development of the site under Concept Plan MP09_0216. A detailed assessment of the proposal's consistency with the Concept Plan and its Statement of Commitments is located at Appendix A.

This Development Application is generally consistent with the Concept Plan approval in that it:

- The proposed buildings are generally contained within the approved building envelopes in both plan and elevation. Any encroachments are particularly minor, are more than balanced by parts of the buildings which are well inside the envelopes and do not compromise the appropriate characterisation of the proposed development as being 'generally in accordance with' the approved envelope;
- The proposed number of apartments when combined with the other stages will not exceed the dwelling cap of 2,005 apartments under the Concept Plan;
- Where the proposed stages do not meet the rules of thumb within the Residential Flat Design Code for solar access and cross ventilation, they meet the additional amenity requirements specified under the Concept Plan;
- Basement parking levels do not exceed greater than 1 metre above finished ground level and do not extend into street setbacks;
- The proposal includes all road and stormwater infrastructure and public domain improvements as required by the Concept Plan;
- The proposal incorporates all publicly accessible through-site links as required by the Concept Plan;
- The proposal provides car and bicycle parking in accordance with the rates required under the Concept Plan;
- The proposal provides 10% of apartments as adaptable housing as required by the Concept Plan;
- The proposal incorporates a commitment to public art as required by the Concept Plan; and
- The proposal incorporates industry best practice ESD principles in the design, construction and ongoing operation phases.

5.0 STATUTORY PLANNING FRAMEWORK

5.1.2. Integrated Development

The site is within 40 metres of the ‘bed’ of Shepherds Bay, being waterfront land, and is therefore a controlled activity pursuant to the Water Management Act 2000. In addition, the proposal involves de-watering associated with the excavation works and dewatering requires the approval of the NSW Office of Water under Section 91 the Water Management Act 2000. The proposed development is therefore ‘integrated development’ pursuant to Section 91 of the EP&A Act.

5.1. Environmental Planning Instruments

5.1.1. Sydney Regional Environmental Plan – Sydney Harbour Catchment 2005

The Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 provides aims and controls to protect the values of the Harbour. The Plan primarily provides planning provisions relating to the foreshore and waterways area as identified under the SREP. The subject site is included within the foreshores and waterways area and therefore such provisions apply to this proposal. The following table provides an assessment of the proposed development against the relevant provisions of the SREP.

Control	Comment
Part 1 Preliminary - Aims	
<p>(1) This plan has the following aims with respect to the Sydney Harbour Catchment:</p> <p>(a) to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected, enhanced and maintained:</p> <p>(i) as an outstanding natural asset, and</p> <p>(ii) as a public asset of national and heritage significance, for existing and future generations,</p> <p>(b) to ensure a healthy, sustainable environment on land and water,</p> <p>(c) to achieve a high quality and ecologically sustainable urban environment,</p> <p>(d) to ensure a prosperous working harbour and an effective transport corridor,</p> <p>(e) to encourage a culturally rich and vibrant place for people,</p> <p>(f) to ensure accessibility to and along Sydney Harbour and its foreshores,</p> <p>(g) to ensure the protection, maintenance and rehabilitation of watercourses, wetlands, riparian lands, remnant vegetation and ecological connectivity,</p> <p>(h) to provide a consolidated, simplified and updated legislative framework for future planning.</p> <p>(2) For the purpose of enabling these aims to be achieved in relation to the Foreshores and Waterways Area, this plan adopts the following principles:</p> <p>(a) Sydney Harbour is to be recognised as a public resource, owned by the public, to be protected for the public good,</p> <p>(b) the public good has precedence over the private good whenever and whatever change is proposed for Sydney Harbour or its foreshores,</p>	<p>The proposal is consistent with the aims of the SREP in that:</p> <ul style="list-style-type: none"> • it will provide for a healthy, sustainable environment on the site; • it will achieve a high quality and ecologically sustainable development on the site through its high environmental performance • the proposed development does not prevent public access to the foreshore of the Parramatta River and provides publicly accessible through site links to assist in providing access towards the River foreshore.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
(c) protection of the natural assets of Sydney Harbour has precedence over all other interests.	
Part 2 - Planning Principles	
<p>Sydney Harbour Catchment</p> <p>The planning principles for land within the Sydney Harbour Catchment are as follows:</p> <p>(a) development is to protect and, where practicable, improve the hydrological, ecological and geomorphological processes on which the health of the catchment depends,</p> <p>(b) the natural assets of the catchment are to be maintained and, where feasible, restored for their scenic and cultural values and their biodiversity and geodiversity,</p> <p>(c) decisions with respect to the development of land are to take account of the cumulative environmental impact of development within the catchment,</p> <p>(d) action is to be taken to achieve the targets set out in Water Quality and River Flow Interim Environmental Objectives: Guidelines for Water Management: Sydney Harbour and Parramatta River Catchment (published in October 1999 by the Environment Protection Authority), such action to be consistent with the guidelines set out in Australian Water Quality Guidelines for Fresh and Marine Waters (published in November 2000 by the Australian and New Zealand Environment and Conservation Council),</p> <p>(e) development in the Sydney Harbour Catchment is to protect the functioning of natural drainage systems on floodplains and comply with the guidelines set out in the document titled Floodplain Development Manual 2005 (published in April 2005 by the Department),</p> <p>(f) development that is visible from the waterways or foreshores is to maintain, protect and enhance the unique visual qualities of Sydney Harbour,</p> <p>(g) the number of publicly accessible vantage points for viewing Sydney Harbour should be increased,</p> <p>(h) development is to improve the water quality of urban run-off, reduce the quantity and frequency of urban run-off, prevent the risk of increased flooding and conserve water,</p> <p>(i) action is to be taken to achieve the objectives and targets set out in the Sydney Harbour Catchment Blueprint, as published in February 2003 by the then Department of Land and Water Conservation,</p> <p>(j) development is to protect and, if practicable, rehabilitate watercourses, wetlands, riparian corridors, remnant native vegetation and ecological connectivity within the catchment,</p> <p>(k) development is to protect and, if practicable, rehabilitate land from current and future urban salinity processes, and prevent or</p>	<p>The proposal is consistent with the planning principles set out in this clause, as follows:</p> <ul style="list-style-type: none"> the proposal is for the erection of four new buildings in accordance with Water Sensitive Urban Design principles and will not adversely impact on the water quality of the River; and the proposal is of a high architectural quality which will contribute positively upon the appearance of the site as viewed from the Parramatta River.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
<p>restore land degradation and reduced water quality resulting from urban salinity,</p> <p>(l) development is to avoid or minimise disturbance of acid sulfate soils in accordance with the Acid Sulfate Soil Manual, as published in 1988 by the Acid Sulfate Soils Management Advisory Committee.</p>	
<p>Foreshores and Waterways Area</p> <p>The planning principles for land within the Foreshores and Waterways Area are as follows:</p> <p>(a) development should protect, maintain and enhance the natural assets and unique environmental qualities of Sydney Harbour and its islands and foreshores,</p> <p>(b) public access to and along the foreshore should be increased, maintained and improved, while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation,</p> <p>(c) access to and from the waterways should be increased, maintained and improved for public recreational purposes (such as swimming, fishing and boating), while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation,</p> <p>(d) development along the foreshore and waterways should maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands and foreshores,</p> <p>(e) adequate provision should be made for the retention of foreshore land to meet existing and future demand for working harbour uses,</p> <p>(f) public access along foreshore land should be provided on land used for industrial or commercial maritime purposes where such access does not interfere with the use of the land for those purposes,</p> <p>(g) the use of foreshore land adjacent to land used for industrial or commercial maritime purposes should be compatible with those purposes,</p> <p>(h) water-based public transport (such as ferries) should be encouraged to link with land-based public transport (such as buses and trains) at appropriate public spaces along the waterfront,</p> <p>(i) the provision and use of public boating facilities along the waterfront should be encouraged</p>	<p>The proposal is consistent with the planning principles set out in this clause, as follows:</p> <ul style="list-style-type: none"> • the proposal will enhance the natural assets and unique environmental quality of the foreshore by delivering a built form of an appropriate scale which defines the Parramatta River and achieves an appropriate architectural solution which celebrates its setting; • the proposal allows for full public access to the foreshore and achieves a high level of permeability which adheres to the principle of view sharing of the River; • the proposal is of a high architectural quality which will contribute positively and enhance the appearance of the site as viewed from the Parramatta River.
<p>Part 3 Foreshores and Waterways Area - Matters for Consideration</p>	
<p>General</p> <p>The matters referred to in this Division (together with any other relevant matters):</p> <p>(a) are to be taken into consideration by consent authorities before</p>	<p>The consent authority is required to consider the matters set out in this Part.</p>

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
<p>granting consent to development under Part 4 of the Act, and (b) are to be taken into consideration by public authorities and others before they carry out activities to which Part 5 of the Act applies.</p>	
<p>Biodiversity, ecology and environment protection</p> <p>The matters to be taken into consideration in relation to biodiversity, ecology and environment protection are as follows:</p> <p>(a) development should have a neutral or beneficial effect on the quality of water entering the waterways,</p> <p>(b) development should protect and enhance terrestrial and aquatic species, populations and ecological communities and, in particular, should avoid physical damage and shading of aquatic vegetation (such as seagrass, saltmarsh and algal and mangrove communities),</p> <p>(c) development should promote ecological connectivity between neighbouring areas of aquatic vegetation (such as seagrass, saltmarsh and algal and mangrove communities),</p> <p>(d) development should avoid indirect impacts on aquatic vegetation (such as changes to flow, current and wave action and changes to water quality) as a result of increased access,</p> <p>(e) development should protect and reinstate natural intertidal foreshore areas, natural landforms and native vegetation,</p> <p>(f) development should retain, rehabilitate and restore riparian land,</p> <p>(g) development on land adjoining wetlands should maintain and enhance the ecological integrity of the wetlands and, where possible, should provide a vegetative buffer to protect the wetlands,</p> <p>(h) the cumulative environmental impact of development,</p> <p>(i) whether sediments in the waterway adjacent to the development are contaminated, and what means will minimise their disturbance.</p>	<p>The proposed development will have a positive impact in relation to biodiversity, ecology and environment protection having regard to the following:</p> <ul style="list-style-type: none"> • the proposed development will not adversely impact on the water quality of Parramatta River. • the site is setback from the waters edge and therefore will have no impact on aquatic life. • there is no existing terrestrial vegetation communities on the subject site.
<p>Public access to, and use of, foreshores and waterways</p> <p>The matters to be taken into consideration in relation to public access to, and use of, the foreshores and waterways are as follows:</p> <p>(a) development should maintain and improve public access to and along the foreshore, without adversely impacting on watercourses, wetlands, riparian lands or remnant vegetation,</p> <p>(b) development should maintain and improve public access to and from the waterways for recreational purposes (such as swimming, fishing and boating), without adversely impacting on watercourses, wetlands, riparian lands or remnant vegetation,</p> <p>(c) if foreshore land made available for public access is not in public ownership, development should provide appropriate tenure and management mechanisms to safeguard public access to, and public use of, that land,</p>	<p>The subject site does not have direct access to the foreshore of the Parramatta River.</p>

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Control	Comment
<p>(d) the undesirability of boardwalks as a means of access across or along land below the mean high water mark if adequate alternative public access can otherwise be provided,</p> <p>(e) the need to minimise disturbance of contaminated sediments.</p>	
<p>Maintenance of a working harbour</p> <p>The matters to be taken into consideration in relation to the maintenance of a working harbour are as follows:</p> <p>(a) foreshore sites should be retained so as to preserve the character and functions of a working harbour, in relation to both current and future demand,</p> <p>(b) consideration should be given to integrating facilities for maritime activities in any development,</p> <p>(c) in the case of development on land that adjoins land used for industrial and commercial maritime purposes, development should be compatible with the use of the adjoining land for those purposes,</p> <p>(d) in the case of development for industrial and commercial maritime purposes, development should provide and maintain public access to and along the foreshore where such access does not interfere with the use of the land for those purposes.</p>	<p>The site is set well back from the foreshore edge and will not result in any impact to the working harbour.</p>
<p>Interrelationship of waterway and foreshore uses</p> <p>The matters to be taken into consideration in relation to the interrelationship of waterway and foreshore uses are as follows:</p> <p>(a) development should promote equitable use of the waterway, including use by passive recreation craft,</p> <p>(b) development on foreshore land should minimise any adverse impact on the use of the waterway, including the use of the waterway for commercial and recreational uses,</p> <p>(c) development on foreshore land should minimise excessive congestion of traffic in the waterways or along the foreshore,</p> <p>(d) water-dependent land uses should have priority over other uses,</p> <p>(e) development should avoid conflict between the various uses in the waterways and along the foreshores.</p>	<p>The site is set well back from the foreshore edge and has no impact to the equitable use of the waterway.</p>

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
<p>Foreshore and waterways scenic quality</p> <p>The matters to be taken into consideration in relation to the maintenance, protection and enhancement of the scenic quality of foreshores and waterways are as follows:</p> <p>(a) the scale, form, design and siting of any building should be based on an analysis of:</p> <p>(i) the land on which it is to be erected, and</p> <p>(ii) the adjoining land, and</p> <p>(iii) the likely future character of the locality,</p> <p>(b) development should maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands, foreshores and tributaries,</p> <p>(c) the cumulative impact of water-based development should not detract from the character of the waterways and adjoining foreshores.</p>	<p>The siting of the proposed buildings is dictated by the approved Concept Plan. The scale of the buildings along the foreshore is appropriate and the form and design of the buildings provide a high level of visual interest through the use of a variety of architectural languages and materials. The proposal has been carefully designed to enhance the visual qualities of the foreshore through the delivery of a high quality architectural expression.</p>
<p>Maintenance, protection and enhancement of views</p> <p>The matters to be taken into consideration in relation to the maintenance, protection and enhancement of views are as follows:</p> <p>(a) development should maintain, protect and enhance views (including night views) to and from Sydney Harbour,</p> <p>(b) development should minimise any adverse impacts on views and vistas to and from public places, landmarks and heritage items,</p> <p>(c) the cumulative impact of development on views should be minimised.</p>	<p>The proposed development has been specifically designed to provide a high level of permeability through the buildings to provide increased views to the foreshore from both the public domain and for the occupants. The proposal is considered to provide an improvement to views to and from public places as it serves to frame the views of the foreshore and also provides an attractive backdrop to the River.</p>

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Control	Comment
Part 3 Foreshores and Waterways Area - Special Provisions	
<p>Requirement for master plans</p> <p>(1) Development consent must not be granted for the carrying out of development on a strategic foreshore site unless:</p> <p>(a) there is a master plan for the site, and</p> <p>(b) the consent authority has taken the master plan into consideration.</p> <p>(2) The Minister may waive compliance with the requirements of subclause (1):</p> <p>(a) if satisfied that preparation of a master plan is unnecessary because of:</p> <p>(i) the nature of the proposed development, or</p> <p>(ii) the fact that the proposed development will affect only a small proportion of the site, or</p> <p>(iii) the adequacy of other planning controls applying to the proposed development, or</p> <p>(b) for such other reason as the Minister considers sufficient, so long as the Minister is satisfied that the proposed development will not compromise the application of the planning principles set out in clauses 13, 14 and 15.</p> <p>(3) If the Minister is not the consent authority, the Minister is to notify the relevant consent authority, in writing, of a waiver of the requirements of subclause (1).</p> <p>(4) A master plan does not have to be prepared for the City Foreshores Area or for Garden Island, as shown on the Strategic Foreshore Sites Map, unless the Minister so directs.</p> <p>(5) This clause does not apply to minor development specified in Schedule 3.</p>	<p>Shepherds Bay within which the site is located is identified as a Strategic Foreshore Site under the terms of SREP 2005. The site is subject to the Meadowbank Employment Area – Master Plan.</p>

5.1.2. State Environmental Planning Policy (Infrastructure) 2007

This SEPP provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process.

Clause 102 of the SEPP relates to the impact of road noise or vibration on residential development, which is located on land adjacent to a road with an annual average daily traffic volume of more than 40,000 vehicles. The site is not located adjacent to a road with an annual average daily traffic volume or more than 40,000 vehicles and so the acoustic criteria of the SEPP does not apply to the proposed development.

The need for a traffic report is outlined in Clause 104 (Traffic-generating development), which must address such issues as access and any parking or traffic impacts of the proposed development.

Residential Flat Building developments with more than 300 dwellings with access to any road are required to be referred to the RMS for comment. The proposal has 422 residential apartments and

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so will need to be referred to the RMS for comment during the assessment process. The proposed development is accompanied by a Traffic Impact Assessment prepared by Road Delay Solutions which includes the provision of a signalisation of the intersection of Constitution Road and Bowden Street with Stages 6 and 7 in order to ensure a satisfactory performance of the local road network following completion of the entire development approved under the Concept Plan.

5.1.3. State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Urban Land)

Some of the key objectives of the policy, which apply to the site, are to promote urban consolidation; ensure that suitable urban land for multi-unit housing is made available and to provide a greater diversity of housing to meet demand generated by changing demographics and housing needs.

The proposal supports this policy in encouraging higher-density residential development in an existing urban area with good access to transport and services.

5.1.4. State Environmental Planning Policy No.55 – Remediation of Land

State Environmental Planning Policy No. 55 - Remediation of Land applies to all land and aims to provide for a State-wide planning approach to the remediation of contaminated land.

Clause 7 of SEPP 55 requires the consent authority to consider whether land is contaminated prior to granting consent to carrying out of any development on that land and if the land is contaminated, it is satisfied that the land is suitable in its current state or will be suitable after remediation for the purpose for which the development is proposed to be carried out.

Environmental Investigations have prepared an Environmental Site Assessment which accompanies this application. The Assessment included a desktop analysis as well as 27 test boreholes across the site with multi-level soil sampling undertaken for laboratory analysis for relevant analytical parameters. The results of the soil sampling reported concentrations of the screened heavy metals to be below the adopted human health based SILs for residential with minimal access to soils for most boreholes. In addition, the identified elevated groundwater concentrations for heavy metals are considered by Environmental Investigations to be within background fluctuations of naturally occurring levels for these heavy metals in the Sydney metropolitan groundwater catchment area and do not pose an immediate threat to human health or the environment.

Environmental Investigations concludes that overall widespread contamination was not identified however the identified PAH concentrations beneath the western industrial complex will require further investigation. Environmental Investigations have also prepared a Remediation Action Plan which accompanies this application.

Based on the above, it is considered reasonable for a conditional consent to be issued to require the sampling and testing following demolition of all buildings on the site and based on the results of the testing, the need for remediation and validation if required can be established. It is considered that based on this approach Council can be satisfied that the site can be made suitable for the proposed development subject to the imposition of appropriate conditions of consent.

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5.1.5. State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development

State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development (SEPP 65) aims to improve the design quality of residential flat developments, provide sustainable housing in social and environmental terms that is a long-term asset to the community and delivers better built form outcomes.

In order to satisfy these aims and improve the design quality of residential flat buildings in the State, the plan sets design principles in relation to context, scale, built form, density, resources, energy and water efficiency, landscaping, amenity, safety and security, social dimensions and aesthetics.

SEPP 65 applies to new residential flat buildings, the substantial redevelopment/refurbishment of existing residential flat buildings and conversion of an existing building to a residential flat building.

Clause 3 of SEPP 65 defines a residential flat building as follows:

Residential flat building means a building that comprises or includes:

- a) 3 or more storeys (not including levels below ground level provided for car parking or storage, or both, that protrude less than 1.2 metres above ground level), and
- b) 4 or more self-contained dwellings (whether or not the building includes uses for other purposes, such as shops), but does not include a class 1a building or a class 1b building under the Building Code of Australia.

The development meets the definition of a residential flat building. As such the provisions of SEPP 65 are applicable to the proposed development.

SEPP 65 requires any development application for residential flat development to be assessed against the 10 principles contained in clauses 9-18 of SEPP 65 and the matters contained in the Residential Flat Design Code (RFDC). The 10 principles of SEPP 65 and the matters contained in the RFDC are addressed in the Architects statement at Appendix C.

5.1.6. State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 applies to the development and aims to encourage sustainable residential development.

BASIX certificates for each building accompany the development application and demonstrates that the proposal achieves compliance with the BASIX water, energy and thermal efficiency targets.

5.1.7. Ryde Local Environmental Plan 2014

Zoning and Permissibility

The site is located within the B4 Mixed Use zone pursuant to the Ryde Local Environmental Plan 2014 (RLEP). An extract of the Land Zoning Map is included as Figure 7.

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Figure 7:

Extract from RLEP 2014 zoning map

Pursuant to the Land Use Table of the RLEP both residential accommodation and commercial premises are permitted with consent in the B4 zone. The application proposes residential apartments as well as a commercial building likely to be used for a cafe and is therefore permissible with consent.

Clause 2.3(2) of the Ryde LEP provides that the consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.

The objectives of the B4 Mixed Use zone are:

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To create vibrant, active and safe communities and economically sound employment centres.
- To create safe and attractive environments for pedestrians.
- To recognise topography, landscape setting and unique location in design and land-use.

The proposed development incorporates a commercial tenancy with frontage to Bowden Street and thereby retains employment generating uses on the site. The size of the commercial building proposed allows for only a relatively small business to be established that will not impact on the economic strength of nearby centres whilst remaining of sufficient proportions to support a tenant's economic sustainability.

The proposed development also provides for residential uses which are compatible with the broader mix of uses within the area and will not result in any conflict with the commercial uses intended in the area of the zone which is closer to the Meadowbank train station.

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The site is located close to various transport methods including Meadowbank train station and ferry wharf which will assist in maximising public transport patronage and the development itself will encourage walking and cycling through the provision of through site links and a cycleway along Nancarrow Avenue. The pedestrian networks through the site will be well lit and benefit from a high level of passive surveillance which will ensure a safe and attractive environment for pedestrians. The proposed buildings are contained within the approved envelopes which are the result of a considered approach towards the unique topography of the site. For the reasons given the proposal is considered to be consistent with the objectives of the B4 zone.

Height of Buildings

In accordance with clause 4.3 'Height of Buildings' the height of a building on any land is not to exceed the maximum height shown for the land on the 'Height of Buildings Map'. The maximum heights shown for the site are 15.5 metres, 18.5 metres and 21.5 metres as shown in Figure 8.

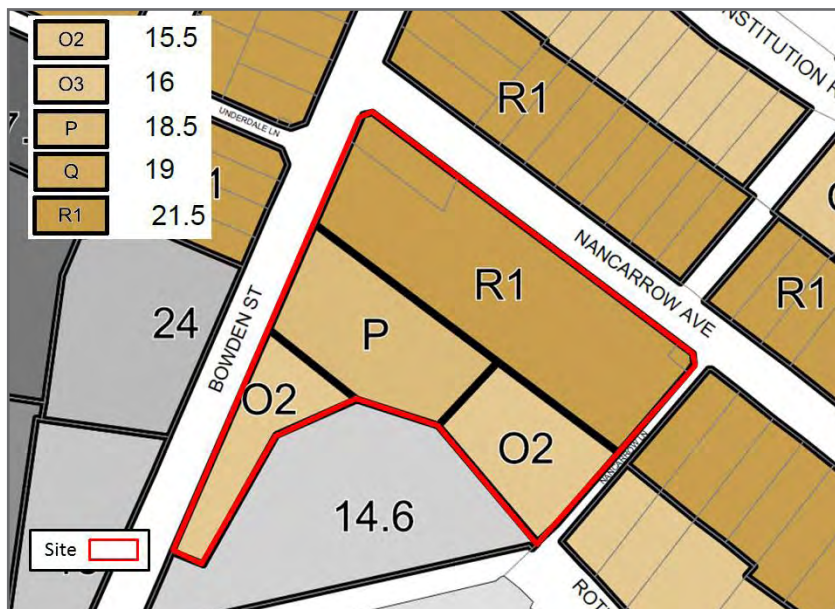


Figure 8:

Extract from RLEP 2014
height of buildings map

The proposed development does not comply with the height limits under the RLEP 2014, however, the proposal is consistent with the specific heights provided for the site under the Concept Plan.

Clause 3B(2)(f) of Schedule 6A of the Environmental Planning and Assessment Act, 1979 applies to development for which a concept plan has been approved and provides that:

(f) the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan

As the heights under the RLEP are inconsistent with the approved heights under the Concept Plan they have no effect.

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Floor Space Ratio

Clause 4.4 of the RLEP 2014 provides that the maximum floor space ratio for a building on any land is not to exceed the floor space ratio shown for the land on the Floor Space Ratio Map.

The site is within an area that is identified as having an FSR of 2:1. The proposed development proposes a floor space ratio of 2.23:1 which exceeds the 2:1 control. However, the approved Concept Plan does not mandate any FSR or a cap on Gross Floor Area (other than non-residential floor space) and instead relies upon a cap of 2,005 apartments for the entire Concept Plan. The proposed development does not exceed the dwelling cap.

Clause 3B(2)(f) of Schedule 6A of the Environmental Planning and Assessment Act, 1979 applies to development for which a concept plan has been approved and provides that:

(f) the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan

As the FSR control under the RLEP is inconsistent with the Concept Plan it has no effect.

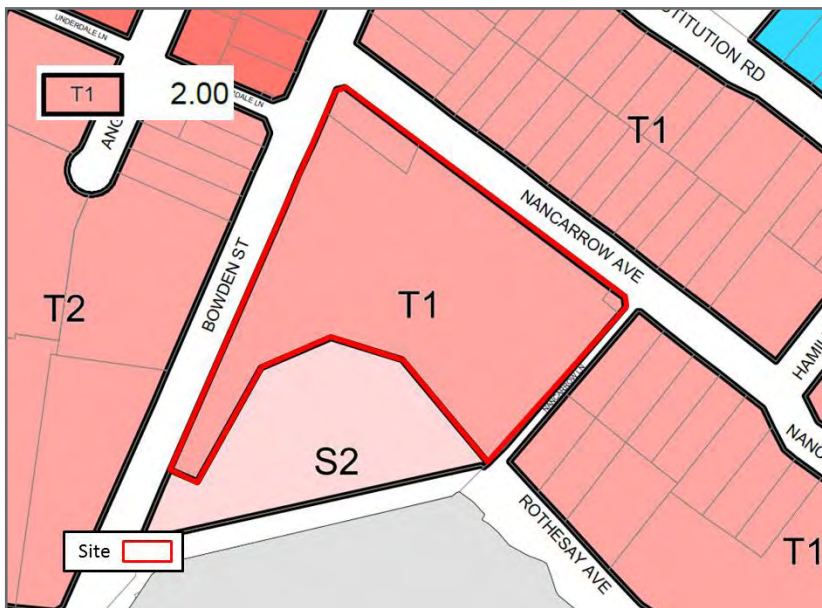


Figure 9:

Extract from Ryde LEP 2014 Floor Space Ratio map

Preservation of Trees or Vegetation

The proposal requires the removal of all of the trees on the site as detailed in the Arboricultural Impact Assessment prepared by Redgum Arboricultural and Horticulture Consultants which accompanies the application. The development of the site will however involve the comprehensive landscaping of both the subject site and surrounding public domain in a coordinated and generous fashion as illustrated in the Landscape Plan prepared by Place Design which accompanies the application.

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Heritage Conservation

Locally listed heritage item number 180 being the Former Automatic Totalisators Ltd Factory is located within close proximity to the subject site as illustrated in Figure 10 below and is the location for Stages 6 and 7 of the Shepherds Bay Concept Plan. In accordance with clause 5.10(4) of the RLEP the consent authority must consider the effect of the proposed development on land that is within the vicinity of a heritage item.



Figure 10:

Extract from Ryde LEP
2014 Heritage map

The Concept Plan approval considered the issue of demolition of heritage item number i80 and the Department's assessment report concludes that it is necessary to demolish the item in order to provide flood mitigation infrastructure works. The development application for the Stage 6 and 7 site is accompanied by a Heritage Impact Statement, full photographic record and interpretation strategy prepared by Rappaport as required by clause 5.10(4) of the RLEP as well as the Concept Plan approval. The redevelopment of the subject site will not result in an adverse impact to the heritage item on the site opposite to the north across Nancarrow Avenue and the redevelopment of that site will incorporate appropriate heritage interpretation as a component of the development.

Acid Sulfate Soils

Clause 6.1 of the RLEP 2014 relates to acid sulfate soils. The objective of the clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.

Environmental Investigations have prepared an Environmental Site Assessment which accompanies this application. The Assessment included a desktop analysis as well as 27 test boreholes across the site with multi-level soil sampling undertaken for laboratory analysis for relevant analytical parameters. The results of the soil sampling result in the conclusion that the majority of soils present at the site do not show the potential presence of acid sulphate soils, however, soils present within the drainage line within the centre of the site do indicate the potential for acid sulphate soils. The Assessment recommends the preparation of an Acid Sulphate Soils Management Plan for the removal of alluvial soils present within the drainage line at the centre of the site by a qualified environmental consultant, to enable appropriate offsite disposal. It is anticipated that this

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requirement can be adequately dealt with via a condition of consent.

Earthworks

Clause 6.2 of the RLEP relates to earthworks. The objective of the clause are to consider the following matters:

- (a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,
- (b) the effect of the proposed development on the likely future use or redevelopment of the land,
- (c) the quality of the fill or the soil to be excavated, or both,
- (d) the effect of the proposed development on the existing and likely amenity of adjoining properties,
- (e) the source of any fill material and the destination of any excavated material,
- (f) the likelihood of disturbing relics,
- (g) the proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area

The proposed earthworks will not result in any detrimental impact to drainage patterns as they include the upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Nancarrow Avenue to the foreshore through the site.

The proposed earthworks will achieve a positive outcome for the area because they will achieve basement levels with minimal protrusion above finished ground level which will serve to reduce the apparent mass and scale of the development and provide an improved relationship between the buildings and surrounding public domain. The proposed earthworks will be undertaken only with the implementation of the appropriate environmental management measures to ensure that they do not result in adverse impact to the Parramatta River.

Flood Planning

Clause 6.3 of the RLEP applies to land at or below the flood planning level and provides that development consent must not be granted to development unless the consent authority is satisfied that the development is compatible with the flood hazard of the land, and is not likely to significantly adversely affect flood behaviour to the detriment of other properties, and incorporates appropriate measures to manage risk of life from flood.

A Flood Assessment prepared by BG&E accompanies the proposal which provides an assessment of the flood risk on the site and to adjacent sites associated with the proposed development. The report concludes the following:

- The upgraded trunk stormwater drainage network is shown to convey the 100 year ARI flood from Ann Thorn Park to

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the foreshore. Flood depths in Ann Thorn Park are in the order of 1 m for the 100 year ARI flood, and 2 m for the PMF;

- Lowering Constitution Road and upgrading the trunk stormwater network reduces flood depths within Ann Thorn Park by approximately 2 m. This will reduce flood risk to properties surrounding Ann Thorn Park, and minimise the risk and consequence associated with embankment failure at Constitution Road;
- Under 100 year ARI design flood conditions the overland flowpath would only be subject to flows from direct rainfall and building runoff. Flood depths and velocities would be minor creating a low hazard zone. Should the underground pipe system become blocked, or be exceeded (events larger than 100 years ARI), significant flow could occur along the overland flowpath, creating a high hazard/risk zone;
- Flood depths in the order of 1 m could occur within the overland flowpath during the PMF. On-site refuge is available to habitable areas above PMF flood levels;
- Finished levels across the site are above the PMF flood level due to riverine flooding in Shepherds Bay (2.0 mAHD);
- The proposed development incorporates several landscaped open space areas, stormwater management measures and stormwater drainage upgrade works. The development is expected to reduce the risk of flooding within the site and improve the quality of stormwater runoff discharging to Shepherds Bay.

The floor levels within the proposed development and the vehicular and pedestrian entries/exits into the basement are above the 100 year ARI + freeboard levels as specified in the Flood Assessment. Overall, the proposed development provides a significant public benefit in relation to localised flooding in that it upgrades of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Nancarrow Road to the foreshore through the site.

Stormwater Management

Clause 6.4 of the RLEP seeks to minimise the impacts of urban stormwater on land to which this clause applies and on adjoining properties, native bushland and receiving waters. The subject application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's stormwater management requirements.

5.2. Draft Environmental Planning Instruments

5.2.1. Draft State Environmental Planning Policy No. 65 - Design Quality of Environmental Planning Development (Amendment 3)

In accordance with section 79C(1)(a)(ii) of the Environmental Planning and Assessment Act 1979 any proposed instrument that is or has been the subject of public consultation is a relevant matter

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for consideration in the assessment of a development application.

Amendments to State Environmental Planning Policy No. 65 were on public exhibition from 23 September 2014 to 31 October 2014. The draft amendments are therefore a relevant matter for consideration.

All submissions received during the public exhibition period must now be considered and a report will be prepared with final recommendations. This report will then be put to the Minister for Planning for a decision. Any final changes will then be made to SEPP 65. Given the process which is to be followed, the draft SEPP cannot be considered 'certain and imminent'. Accordingly, the provisions of the SEPP and the Apartment Design Guide should not be given determining weight. Notwithstanding this the draft SEPP is a relevant matter for consideration. The proposed development is generally consistent with the amended provisions of the SEPP and the Apartment Design Guidelines.

5.3. Ryde Development Control Plan 2014

The following table outlines the proposed development's compliance with the relevant provisions of the Ryde Development Control Plan 2014 (Ryde DCP 2014).

5.3.1. Part 4.2 Shepherds Bay, Meadowbank

The following table summarises the proposal against the relevant controls contained in Part 4.2 of the Ryde DCP 2014:

Control	Comment
4.1 Development and the Public Domain	
Public Domain, Access and Pedestrian and Cyclist Amenity	
The achievement of maximum heights and density is contingent on meeting the public domain provisions of this plan and all public domain items being provided by the proponent.	The proposed development provides all of the public domain upgrades surrounding the site as identified in the DCP and the Concept Plan.
New development must be provided with a minimum of one barrier free access point to the main entry.	The proposed development has a particularly high level of pedestrian permeability with multiple barrier free access points to the site.
Publicly accessible pedestrian and cycle ways must be provided through large sites.	The proposed development includes multiple through-site links through the site as identified in the Concept Plan including a primary central pedestrian and cycle path.
New pedestrian and cycleway access points, gradients and linkages are to be designed to be fully accessible by all.	The through-site links are all designed to be fully accessible by all.

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Control	Comment
New roads, shared ways, pedestrian and cycle paths shall be provided in accordance with Figure 4.2.03.	The proposed development provides the shareways and pedestrian and cycle links identified in the Concept Plan. Whilst the DCP suggests a new road through the site, this is inconsistent with the approved Concept Plan and so has no effect.
The design of new roads, shared ways, footpaths and cycle paths shall be in accordance with Figure 4.2.03 to Figure 4.2.06.	The design of the new road, footway and cycle path is generally in accordance with the DCP requirements. The proposal also includes a new separated cycleway along the southern side of Nancarrow Road in addition to the requirements of the DCP.
The design and location of vehicle access to developments should minimise conflicts between pedestrian and vehicles on footpaths, particularly along high volume pedestrian streets.	Each driveway crossing has been located at each end of the development on Nancarrow Avenue to minimise conflict between pedestrians and vehicles.
Service vehicle access is to be combined with parking access and limited to a maximum of one access point per building.	All vehicular entry into the site occurs from the one driveway into each building from Nancarrow Avenue.
Wherever practicable, vehicle access is to be a single crossing, perpendicular to the kerb alignment.	Vehicle access into each building is a single crossing.
Vehicle access ramps parallel to the street frontage will not be permitted.	There are no vehicle access ramps parallel to the street.
Vehicle entries are to have high quality finishes to walls and ceiling as well as high standard detailing. No service ducts or pipes are to be visible from the street.	It is intended that the walls of the vehicle entry and exit ramps will have high quality finishes and will not contain any service ducts or pipes.
The ground floor of all development is to be flush with the street footpath for the predominant level of the street frontage and at the main entry to the building.	There is a significant fall on the site, however, the ground floor of the buildings has been designed to relate as closely as possible to the footpath level and the buildings step up the site to ensure that apartment entries align with the pedestrian routes through the site where possible.
Recesses for roller doors and fire escapes are to be wide and shallow to provide for personal security. Narrow, deep recesses are to be avoided.	The roller doors will be provided at the ends of the entrance driveway ramps which will enable a vehicle wishing to enter the basements to queue on the ramp rather than the road. The recesses that are provided will not affect the streetscape nor will they adversely affect the safety of any pedestrians.

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Control	Comment
Implementation - Infrastructure, Facilities and Public Domain Improvements	
The public land such as the road verge adjoining a development site is to be embellished and if required dedicated to Council as part of any new development. The design and construction of the works are to be undertaken in accordance with section Figure 4.2.03 to 4.2.08.	The public domain surrounding the site will be significantly embellished as part of the development works. The proposal will introduce through-site links which will be available to the public via a right-of-way registered on title, rather than dedicated to Council. This is considered an superior outcome as it fulfils the requirement for public access without requiring the transfer of the asset to Council which will become a future maintenance burden for the Council.
Views & Vistas	
Panoramic views of Parramatta River are to be maintained from Faraday Park, Settlers Park, Anderson Park and Helene Park.	The development will not interfere with any views from the identified parks.
Development is to ensure that vistas towards Parramatta River are maintained.	Views of Parramatta River from the nearby residential flat buildings will not be unreasonably affected by this development as the buildings are consistent with the building envelopes approved under the Concept Plan.
Development must reflect the topography of the area taking into consideration views from the Rhodes Peninsula, Railway Bridge and Ryde Bridge.	The development has reflected the topography of the area by stepping with the fall of the site and ensuring that the ground level is as close as possible to the street level. The development is consistent with the prescribed building envelopes in the approved Concept Plan which were determined to result in any acceptable view impact. The development will not adversely affect the views from the Rhodes Peninsula, Railway Bridge or Ryde Bridge.
Maintain views for pedestrians and cyclists along the public open space to the Parramatta River.	The development will not adversely affect the views for pedestrians and cyclists along the public open space adjacent to the Parramatta River.
New buildings are to take into account the existing views on the subject site and adjoining sites.	The development will open up view corridors through the site from the existing public domain as well provided new opportunities for views from the publicly accessible links through the site.
Orientate new development to take advantage of water views and vistas.	The development has been designed to allow the upper floor apartments to obtain an outlook towards the Parramatta River.

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Control	Comment
New developments are not to materially compromise views of the northern ridgeline of Meadowbank.	As the development is consistent with the building envelopes approved under the Concept Plan, it will not unreasonably compromise views of the northern ridgeline of Meadowbank.
Landscaping & Open Space	
All development proposals are to be accompanied by a Landscape Plan prepared by a qualified and suitably experienced landscape architect. This is to include an Arborist report in respect of trees.	A Landscape plan has been prepared by Place Design and is submitted with the application for development. An arborist report is also included with respect to tree removal.
Roof gardens are encouraged and must be considered in any landscaping.	Significant ground floor communal open space is provided for residents and so roof gardens are not necessary in this instance.
All existing mature trees that enhance the quality of the area are to be retained.	The building envelopes approved under the Concept Plan as well as the public domain improvements require the removal of all trees. However, these will be replaced by a generous provision of coordinated landscaping as illustrated in the landscape plan prepared by Place Design which accompanies the subject application.
Provide adequate deep planting zones above car parking and other concrete and similar structures to allow sustainable planting.	The car parking levels for Stage 9 extend underneath the courtyard between buildings 9A and 9B. The area above this car park is to be extensively landscaped with substantial soil cover as illustrated in the landscape plan prepared by Place Design which accompanies the subject application.
Provide at ground floor level, where possible, open space for dwelling units and contiguous open garden areas to create common large landscaped space.	Open space is provided at ground level for dwellings which is contiguous with the open garden areas within the development and together provides a generously landscaped setting for the development.
Where appropriate, developments should incorporate landscaping like planter boxes integrated into the upper levels of building to soften building form.	The proposed development incorporates planter boxes on the upper levels which serves to soften the building form.
Building setbacks are to allow for landscaping/ planting as in Section 4.2.2 Setbacks. For corner buildings a reduction of the landscape setback on one side will be considered on its merit.	Each street frontage of the site contains a landscaped perimeter consistent with the requirement of the control.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
Where a proposal involves redevelopment of a site the developer shall arrange for electricity and telecommunications utilities to be undergrounded along the entire length of all street frontages.	The public domain improvements surrounding the site include the undergrounding of utilities. This issue can be addressed via a condition of consent.
Permeable landscape surface materials are to be maximised to allow maximum penetration of stormwater and urban runoff.	Permeable landscape surface materials have been maximised to allow maximum penetration of stormwater and urban runoff. A fundamental design component of the central through-site link is a dry creek bed to naturally convey overland flow through the site.
Street Furniture & Public Art	
All development proposals are to be accompanied by a landscape plan, prepared by a qualified and suitably experienced landscape architect, indicating how public domain improvements including paving, street furniture and lighting will be incorporated into the development.	A Landscape plan has been prepared by Place Design and is submitted with the application for development. The landscape plan illustrates the proposed public domain improvements to integrate the proposal properly with the surrounding footpaths.
Public domain finishes including the style, colour and installation methods of street furniture, paving and street lighting shall be in accordance with Ryde Public Domain Technical Manual.	The specific detail of the public domain finish can be addressed via conditions of consent which identify what is required in respect of the public domain and require approval of the public domain plan prior to the issue of a Construction Certificate.
Public art is to be provided in accordance with Council's Public Art Policy. Developers must examine opportunities to incorporate public art in both internal and external public spaces and indicate how public art will be incorporated into major developments.	The subject development application is accompanied by a Public Art Plan prepared by Black Beetle. The plan explores the opportunities, processes and integration of artworks as part of the proposed development and outlines aims and objectives of Public artwork in relation to this development, thematic framework for developing artworks, and locations and concepts for site specific works within the development. The plan initiates a documentation process which will take the identified artworks through design briefs, design development, fabrication and installation.
Safety	

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
Public spaces need to be designed to meet Crime Prevention Through Environmental Design (CPTED) Principles.	The proposed through site pedestrian links will be appropriately lit and will be subject to a high level of passive surveillance as apartments face each link.
Open sightlines and landscaping needs to be provided that allows for high levels of public surveillance by residents and visitors.	The landscaping along the street frontages and within the development will not obscure sight lines from, towards or within the development. In addition, the design also allows for passive surveillance from the apartments to the public spaces by residents and visitors.
Lighting is to be provided to all pedestrian ways, building entries, corridors, laundries, lifts, stairwells, driveways and car parks to ensure a high level of safety and security for residents and visitors at night.	This matter can be addressed as a condition on the consent.
4.2 -Architectural Characteristics	
Height	
The maximum building height is to comply with the heights shown in DLEP 2014. Buildings must comply with the maximum number of storeys shown in Figure 4.2.1 0.	The issue of height has already been addressed in this report. The DCP identifies a height of 4 to 6 storeys for the site. The heights of the proposed development are consistent with the approved Concept Plan and the DCP height provisions have no effect due to their inconsistency with the approved Concept Plan.
The ground floor height shall be four metres floor regardless of use.	The ground floor heights are not required to be four metres under the Concept Plan.
Any car parking above ground will have a minimum three metres (floor to underside ceiling) to allow for potential future conversion.	There is no proposed above ground car parking. All car parking levels do not exceed greater than 1 metre above finished ground level.
Setbacks	
Setbacks must be consistent with the setback map. New development to have 4 metre setbacks.	The proposal provides a 4 metre setback from Nancarrow Avenue and Bowden Street.
Setbacks for buildings of four storeys and above to be consistent with Figure 4.2.13.	Figure 4.2.13 relates to Church Street and Porter Street and is not relevant to the subject site.
Roof Form	
Buildings below RL 15 must have articulated roofs as they will be viewed from buildings above.	This is not applicable to the development as the building is not below RL 15.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
The use of solar panels on roofs is permitted where possible.	The application does not include the provision for the installation of solar roof panels.
Attic roofs are to be avoided as they are not in character with the locale.	Attic roofs are not proposed.
Building Facades and Articulation	
Building facades should be articulated within a 3 metre zone to provide entries, external balconies, porches, glazed balcony enclosures, terraces, verandahs, sun shading elements etc.	The proposed building is highly articulated with a variety of balconies, terraces, sunshading elements etc providing modulation and visual interest for the building facades.
Penthouses should be set a minimum of four metres from any building facade.	The development does not involve any penthouses.
Articulate buildings to respond to orientation, views, acoustic requirements, street widths and the relationship of the building to external garden spaces.	The building has been designed and orientated to take advantage of northerly aspect for solar access and views to the south-east.
Articulate buildings vertically and horizontally: materials and building setbacks on the upper storeys are to be used to reduce the perceived bulk of buildings.	The composition of the building facades incorporates a horizontal emphasis for the lower buildings and a vertical emphasis for the taller levels, with a high level of facade modulation achieved through the stepping of various elements of the buildings.
Provide and denote entries along street frontages and public domain spaces where appropriate.	Entries are clearly identifiable from the public domain.
Buildings are to address streets, open spaces and the river foreshore. Street frontages are to be parallel with or aligned to the street alignment.	The proposed development addresses each street frontage with lobby entries from both Nancarrow Avenue and Bowden Street and individual apartment entries from the through-site links. Street frontages are parallel with each street alignment.
Provide balconies and terraces, particularly where buildings overlook public spaces.	Each apartment has been provided with a terrace or a balcony.
All facades visible from the public domain are to be durable, low maintenance and of high quality.	All facades are proposed to be finished in durable yet high quality materials and finishes as illustrated in the architectural package.
External glass to be non-reflective and have a maximum 20% tint.	This matter can be addressed via a condition of consent.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
Private and Communal Open Space	
No more than 50% of communal open space provides at ground level shall be paved or of other non-permeable materials.	The majority of the communal open space areas at the ground floor are landscaped with permeable materials. Hard paving has been minimised. Having regard to the circumstances of the site, the proposed paving arrangement of the common open space areas is considered acceptable.
Residential Amenity	
Apartments below a sloping ground level shall apply the SEPP 65 guideline for lightwells.	There are no apartments below ground level.
4.3 - Ecological Sustainability	
Energy Efficient Design	
Residential development must be designed in accordance with principle outlined in the Building Sustainability Index (BASIX)	A BASIX Certificate accompanies the application which demonstrates that the proposal complies with the necessary energy efficiency requirements.
Noise and Vibration Attenuation	
New residential developments, including those within a mixed use building, are required to consider noise attenuation and acoustic treatment in their design.	The site is not within a location which is subject to high levels of noise such as an arterial road. Notwithstanding this, an acoustic report accompanies this application and outlines measures to be employed to ensure that a suitable acoustic environment is achieved for the apartments.
New units are to be constructed in accordance with AS 3671-1989 and AS 3671-1987.	The Australian Standard refers to road traffic noise intrusion - building siting and construction. The development is capable of complying with these Australian Standards and a condition of consent can be imposed to address this matter.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
4.4 Parking Access and Loading	
All new buildings are required to provide on-site loading and unloading facilities. Loading docks shall be located in such a position that vehicles do not stand on any public road, footway, laneway or service road and vehicles entering and leaving the site move in a forward direction.	<p>The proposed residential components of the development do not require a dedicated loading dock. Waste collection is intended to occur from a dedicated on street loading bay in Nancarrow Avenue.</p> <p>Whilst there is no specific loading dock provided for the single storey commercial building, this is considered acceptable in this instance as the proposed commercial tenancy is modest in size and unlikely to require servicing from vehicles other than vans.</p>
4.5 Flooding and Stormwater Drainage	
Development must comply with Part 8.6 Floodplain Management of this DCP.	A Flood Assessment prepared by BG&E accompanies the proposal which provides an assessment of the flood risk on the site and to adjacent sites associated with the proposed development. The proposed development reduces flood risk to surrounding properties as it includes the lowering of Constitution Road. The floor levels within the development comply with the specified floor levels provided in the Flood Assessment.
Precinct Specific Development Controls - Precinct 3: Waterfront	
<p>Objectives</p> <ol style="list-style-type: none"> 1. To provide predominantly residential uses, although a mix of uses is encouraged on the ground floor. 2. To ensure the built form does not create a “walled” effect along the waterfront. 3. To provide public domain improvements that mitigate the impacts of increased density in the area 	The proposed development is consistent with the objectives for the Waterfront Precinct in that it comprises predominantly residential uses and does not create a walled effect along the waterfront due to it’s limited frontage to the waterfront and the arrangement and configuration of buildings on the site. The proposal provides the necessary public domain improvements as identified in the DCP and the approved Concept Plan.

5.0 STATUTORY PLANNING FRAMEWORK

Control	Comment
The impact of new buildings on views from the Parramatta River to the site and the treed ridgeline to the north are to be considered. Similarly, views from this precinct to the Parramatta River are to be optimised.	The development will open up view corridors through the site from the existing public domain as well provided new opportunities for views from the publicly accessible links through the site. The development has been designed to allow the upper floor apartments to obtain an outlook towards the Parramatta River. As the development is consistent with the building envelopes approved under the Concept Plan, it will not unreasonably compromise views.
Facades should be articulated within a zone of 3 metres and be built to street edge behind the required landscape setback.	Facades are proposed to be built to the street edge behind the 4 metre setback from Nancarrow Avenue and Bowden Street. The facades are highly articulated with a variety of balconies, terraces, sunshading elements etc providing modulation and visual interest for the building facades.
Enhance street planting along Bowden Street to facilitate the perception of a boulevard providing direct access to the Parramatta River	The proposal is accompanied by a landscape plan prepared by Place Design which illustrates a comprehensive planting to the Bowden Street setback area and public domain.
Ensure that new developments are responsive to and add to the landscape quality by providing adequate deep planting zones above car parking to allow sustainable planting which takes into account solar access and views	The proposal provides generous deep soil planting above the car parking area between buildings 9A and 9B to allow sustainable planting which takes into account solar access and views as illustrated on the landscape plan which accompanies this application.

5.3.2. Part 7.1 Environment

Part 7.1 of the City of Ryde DCP 2014 relates to provision of sustainable development throughout the City of Ryde. Objectives include encouraging the design of energy efficient buildings, optimising solar access, decreasing total energy consumption and generally to reduce green house gas emissions and natural resource consumption.

A BASIX Certificate for the proposed development from Integreco accompanies the application which details the measures which will be implemented to minimise energy consumption and demonstrate how the intent of the DCP in relation to energy efficiency has been met. In addition, an ESD statement from Integreco also accompanies the application which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010 as required by the approved Concept Plan.

5.0 STATUTORY PLANNING FRAMEWORK

5.3.3. Part 7.2 Waste Minimisation and Management

Part 7.2 of the City of Ryde DCP 2014 relates to waste minimisation and management during construction and the continued operation of proposed development. Objectives include minimising resource requirements and construction waste, maximising recycling and re-use opportunities and to minimise overall environmental impacts.

A Waste Management Plan prepared by Elephants Foot accompanies this application and addresses the objectives for Waste Minimisation and Management as set out within this Part.

The proposed development provides adequate space for the sorting and storage of waste receptacles within the basement area.

5.3.4. Part 8.1 Construction Activities

Part 8.1 of the City of Ryde DCP 2014 includes objectives which encourage consideration of Ecologically Sustainable Development and site management as well as those related to protection of the environment and local amenity during construction.

An Erosion and Sediment Control Plan has been prepared and has considered the provisions within clause 2.1.2 with regard to the proposed development. Site clearing, demolition activities, water diversion, gutter bunding, signage, amenities, vehicle access, road cleaning and safety can be adequately addressed within a Construction Management Plan and dealt with by way of appropriate conditions of consent.

5.3.5. Part 8.2 Stormwater Management

Part 8.2 of the City of Ryde DCP 2014 includes provisions relating to the management of stormwater associated with development. The subject application is accompanied by a concept stormwater plan prepared by Harris Page & Associates including OSD details to address Council's stormwater management requirements.

5.3.6. Part 8.3 Driveways

Part 8.3 of the City of Ryde DCP 2014 includes specific provisions concerning the design of driveways. The proposed development is capable of meeting these requirements.

5.3.7. Part 8.4 Title Encumbrances

Part 8.4 of the City of Ryde DCP 2014 includes specific provisions concerning title encumbrances. The proposed through-site links are designed to provide public access from Nancarrow Avenue to Rothesay Street and from Bowden Street to Rothesay Street and it is expected that Council will impose a condition of consent requiring the registration of a right of way created under Section 181A of the Conveyancing Act 1919 and registered on the title of the property at completion of the development.

5.3.8. Part 8.5 Public Civil Works

Part 8.5 of the City of Ryde DCP 2014 includes specific provisions concerning design and

5.0 STATUTORY PLANNING FRAMEWORK

construction standards in relation to public domain elements such as footpaths, public roads, and kerb and gutter. The proposal is accompanied by a Civil Package prepared by BG&E as well as a landscape plan prepared by Place Design which illustrate the intended design and treatment of the public civil works associated with the proposed development. The public civil works have been designed having regard to the provisions of Part 8.5 of the DCP.

5.3.9. Part 8.6 Floodplain management

Part 8.6 of the City of Ryde DCP 2014 includes specific provisions to guide development to ensure danger to life and property damage associated with flooding and overland flow are minimised in a manner consistent with the Policies of Council formulated under the NSW Flood Policy and Floodplain Development Manual (FDM).

A Flood Assessment prepared by BG&E accompanies the proposal which provides an assessment of the flood risk on the site and to adjacent sites associated with the proposed development. The report concludes that the upgrading the trunk stormwater network through the site in combination with the lowering of Constitution Road to be completed in the Stage 6 and 7 development will reduce flood risk to properties surrounding Ann Thorn Park, and minimise the risk and consequence associated with embankment failure at Constitution Road. The development is expected to reduce the risk of flooding within the site and improve the quality of stormwater runoff discharging to Shepherds Bay.

The floor levels within the proposed development and the vehicular and pedestrian entries/exits into the basement are above the 100 year ARI + freeboard levels as specified in the Flood Assessment. Overall, the proposed development provides a significant public benefit in relation to localised flooding in that it facilitates the conveyance of flood waters through the site to the Parramatta River which substantially improves the safety to surrounding properties and the public.

5.3.10. Part 9.2 Access for People with Disabilities

The DCP requires that the residential flat buildings must provide an accessible path of travel to all units as well as the provision of 10% adaptable units. The application is accompanied by an Access Report prepared by Design Confidence which demonstrates that the development will comply with the access requirements as well as providing 10% adaptable apartments.

5.3.11. Part 9.3 Parking Control

The Car Parking DCP requires parking to be provided at the following rates for the residential component:

- 0.6 to 1 space per one bedroom dwelling
- 0.9 to 1.2 spaces per two bedroom dwelling
- 1.4 to 1.6 spaces per three bedroom dwelling
- 1 visitor space per 5 dwellings.

The car parking figures for each stage are provided below:

5.0 STATUTORY PLANNING FRAMEWORK

Stage 8	Lower Limit	Upper Limit
51 x 1 bedroom	31	51
85 x 2 bedroom	77	102
17 x 3 bedroom	24	28
Visitor	31	
TOTAL	163	212

Stage 9	Lower Limit	Upper Limit
117 x 1 bedroom	71	117
130 x 2 bedroom	117	156
22 x 3 bedroom	31	36
Visitor	54	
TOTAL	273	363

The proposed development provides a total 211 car spaces comprised 180 residential car spaces and 31 visitor spaces for Stage 8 and a total of 362 car spaces comprised 308 residential car spaces and 54 visitor spaces for Stage 9 which complies with the DCP car parking control.

The minor commercial component is anticipated to primarily serve the residential use within and adjoining the subject site and any minor level of vehicle parking demand associated with the commercial component has therefore been assigned to be accommodated on-street.

5.3.12. Part 9.5 Tree Preservation

Part 9.5 of the City of Ryde DCP 2014 includes specific provisions concerning the retention and protection of trees. The proposal requires the removal of all of the trees on the site as detailed in the Arboricultural Impact Assessment prepared by Redgum Arboricultural and Horticulture Consultants which accompanies the application. The development of the site will however involve the comprehensive landscaping of both the subject site and surrounding public domain in a coordinated and generous fashion as illustrated in the Landscape Plan prepared by Place Design which accompanies the application.

6.0 SECTION 79C CONSIDERATIONS

The following matters are to be taken into consideration when assessing an application pursuant to section 79C of the Environmental Planning and Assessment Act 1979. Guidelines to help identify the issues to be considered have been prepared by the Department of Urban Affairs and Planning and are included below.

6.1. The provisions of any planning instrument, draft environmental planning instrument, development control plan or regulations

The proposal is permissible pursuant to the Ryde Local Environmental Plan 2014 (RLEP) and is generally in conformity with the general and specific development type controls contained within the Ryde Development Control Plan 2014 where those controls are not inconsistent with the approved Concept Plan. The proposed development is generally consistent with the approved Concept Plan for the site and in particular the proposed buildings are consistent with the established arrangement and scale of building of the Concept Plan.

6.2. The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

6.2.1. Context and Setting

What is the relationship to the region and local context in terms of:

- the scenic qualities and features of the landscape?
- the character and amenity of the locality and streetscape?
- the scale, bulk, height, mass, form, character, density and design of development in the locality?
- the previous and existing land uses and activities in the locality?

The surrounding area is currently undergoing significant change with the demolition of many of the former industrial warehouse developments and the construction of mixed use and residential developments. This change in context is reflective of the subject site and surrounding area being zoned for mixed use. The proposed development is responsive to the emerging context for the area and represents the anticipated future development within the area.

The siting, scale, bulk, height, massing etc for the site has already been determined by the approved Concept Plan and the proposed buildings represent an appropriately designed development within the parameters of the Concept Plan.

What are the potential impacts on adjacent properties in terms of:

- relationship and compatibility of adjacent land uses?
- sunlight access (overshadowing)?
- visual and acoustic privacy?
- views and vistas?
- edge conditions such as boundary treatments and fencing?

The proposed development provides for buildings within the approved Concept Plan envelopes

6.0 SECTION 79C CONSIDERATIONS

and issues such as compatibility with adjacent uses, view impacts and overshadowing have already been considered. The proposed development incorporates appropriate design elements to ameliorate potential amenity impacts, and in particular visual and acoustic privacy within the development and particular care has been given to dealing with corner interfaces within the buildings. Edge conditions respond to the requirements of the Concept Plan to provide generously landscaped setbacks and through-site links and the ground floor plane has been designed to relate to the context around each building.

6.2.2. Built Environment

The siting, scale, bulk, height, massing etc for the site has already been determined by the approved Concept Plan. The proposed buildings are generally contained within the envelopes and have been designed to provide a unique architectural expression.

Internal amenity has been maximised with solar access achieved for 70.6% of apartments and cross ventilation achieved for 69% of all of the apartments, utilising the method for additional amenity provided by the Concept Plan. Privacy between buildings is acceptable as the separation distances exceed the minimum recommended distances in the Residential Flat Design Code. Privacy within the buildings is achieved through careful consideration of placement of balconies, the use of blade walls and notches in the buildings, and separation of living rooms and bedrooms in adjacent apartments.

The proposed development introduces a variety of building elements and utilises a visually engaging architectural language with a selection of appropriate materials and finishes. The proposed built form and composition of the new buildings respond to the emerging character of the area and therefore provides a positive contribution to the visual quality of Ryde.

The proposed development also includes the provision of public art throughout the site.

6.2.3. Natural Environment

There is no significant flora or fauna which currently occupies the site. The proposed development requires the removal of all trees within the site in order to construct the buildings and implement the public domain and infrastructure upgrades. However, the redevelopment of the site will incorporate a generous landscaping provision with a variety of landscape elements which will significantly enhance the natural environment of the site. The new landscaping incorporates best practice water management and will create a desirable microclimate for residents and pedestrians passing through the site.

The proposed development incorporates a range of sustainability measures as outlined in the ESD statement prepared by Integreco which accompanies this application.

6.2.4. Access, transport and traffic

Would the development provide accessibility and transport management measures for vehicles, pedestrians, bicycles and the disabled within the development and locality, and what impacts would occur on:

- travel demand?

6.0 SECTION 79C CONSIDERATIONS

- dependency on motor vehicles?
- traffic generation and the capacity of the local and arterial road network?
- public transport availability and use (including freight rail where relevant)?
- conflicts within and between transport modes?
- traffic management schemes?
- vehicular parking spaces?

The issue of car parking and traffic impacts associated with the proposal were closely examined during consideration of the Concept Plan which resulted in a cap on total car parking within the Concept Plan and road infrastructure upgrades necessary to ensure the acceptable performance of the local road network. The proposed development provides car parking within the range specified in Council's DCP, incorporates road infrastructure improvements, and does not exceed the maximum cap on car parking for the Concept Plan area. In addition, the proposed development incorporates pedestrian and cycleways to maximise use of alternative forms of transport and the application is accompanied by a sustainable travel plan which outlines measures to maximum the patronage of the various public transport opportunities which are in close proximity to the site.

6.2.5. Public domain

The proposal includes the provision of a range of significant public domain and infrastructure upgrades including upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore including the provision of a landscaped overland flowpath from Nancarrow Avenue to the foreshore through the site, and the upgrade of the road reserves adjacent to the development including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle way on Nancarrow Avenue, and the upgrade of the longitudinal pit and pipe network along Nancarrow Avenue to capture and convey the 20 year ARI flood.

The property's presentation in a streetscape context will be significantly enhanced as a consequence of the proposed works which will achieve progress on a site which has been dormant for many decades.

6.2.6. Utilities

Existing utility services will adequately service the development.

6.2.7. Waste collection

A Waste Management Plan prepared by Elephants Foot accompanies this application and addresses Council's objectives for Waste Minimisation and Management. The proposed development provides adequate space for the sorting and storage of waste receptacles within the basement area.

6.2.8. Natural hazards

The site is not affected by any known hazards other than flood waters from Ann Thorp Park which will be substantially resolved as part of the proposed development.

6.0 SECTION 79C CONSIDERATIONS

6.2.9. Economic impact in the locality

The proposed development will provide temporary employment through the construction of the development and ongoing employment associated with the new commercial building. The proposal will introduce an increased residential population which will contribute to the economic success of surrounding retail and business activities.

6.2.10. Site design and internal design

Is the development design sensitive to environmental conditions and site attributes including:

- size, shape and design of allotments?
- the proportion of site covered by buildings?
- the position of buildings?
- the size (bulk, height, mass), form, appearance and design of buildings?
- the amount, location, design, use and management of private and communal open space?
- landscaping?

The impact of the proposal with respect to design and site planning is positive. The scale of the development is appropriate given the proposal is consistent with the scale and density provided for the site under the Concept Plan. The design outcome will contribute positively to the built form quality of the housing stock located in the Shepherds Bay Precinct and greater Ryde area.

How would the development affect the health and safety of the occupants in terms of:

- lighting, ventilation and insulation?
- building fire risk - prevention and suppression/
- building materials and finishes?
- a common wall structure and design?
- access and facilities for the disabled?
- likely compliance with the Building Code of Australia?

The proposal complies with the relevant standards pertaining to health and safety and will not have any detrimental effect on workers or the general public.

6.2.11. Construction

What would be the impacts of construction activities in terms of:

- the environmental planning issues listed above?
- site safety?

The proposed works will be carried out in accordance with the provisions of the Protection of the Environment Operations Act 1997. Normal site safety measures and procedures will ensure that no site safety or environmental impacts will arise during construction.

6.0 SECTION 79C CONSIDERATIONS

6.3. The suitability of the site for the development

Does the proposal fit in the locality?

- are the constraints posed by adjacent developments prohibitive?
- would development lead to unmanageable transport demands and are there adequate transport facilities in the area?
- are utilities and services available to the site adequate for the development?

The adjacent development does not impose any insurmountable development constraints. There will be no excessive levels of transport demand created.

Are the site attributes conducive to development?

The site does not have any physical or engineering constraints which would prevent the proposed early works from occurring. The site is not subject to any geotechnical or contamination constraints which would prevent the development from occurring and the proposal will assist in resolving a known public flood risk and potential for embankment failure along Constitution Road.

6.4. Any submissions received in accordance with this Act or the regulations

It is envisaged that any submissions made in relation to the proposed development will be appropriately assessed by Council.

6.5. The public interest

The proposed development will provide a positive contribution to the streetscape of Nancarrow Avenue, Nancarrow Lane and Bowden Street. The development has been carefully designed to be compatible with the emerging pattern and character of development in the area. The development maximises internal amenity for future occupants. The proposal is also consistent with the objectives of the relevant planning provisions and the design parameters provided by the approved Concept Plan. Finally, the proposal will contribute to the resolution of conveyance of flood waters from Ann Thorp Park through the site to the Parramatta River as well as delivering substantial upgrades to the public domain and introducing publicly accessible links through the site. For these reasons the approval of the development is considered to be in the public interest.

7.0 CONCLUSION

The relevant matters for consideration under section 79C of the Environmental Planning and Assessment Act 1979 have been addressed in this report and the proposed development has been found to be consistent with the objectives of all relevant planning provisions.

Careful consideration has been given to the location, size and design of the proposed development to ensure that a high quality outcome will be achieved which is consistent with the emerging character of the Shepherds Bay area.

The proposed development is consistent with the approved Concept Plan and complies with the intent of the applicable built form controls and responds positively to the particular site circumstances, without adverse impact to the amenity of adjoining development generally. The proposed development delivers substantial public benefits and contributes to the resolution of the existing flooding issues in the area.

For reasons outlined in this Statement of Environmental Effects the proposed development for Stages 8 and 9 at 116-122 Bowden Street, Meadowbank should be granted development consent.

APPENDIX A

CONSISTENCY WITH CONCEPT PLAN MP09_0216

A

Sutherland & Associates Planning

Condition	Proposal
<p>SCHEDULE 2 PART A-ADMINISTRATIVE CONDITIONS</p>	
<p>Development Description</p> <p>A1 Concept approval is granted to the development as described below:</p> <p>Use of the site for a mixed use development including residential, retail, commercial and community uses incorporating:</p> <ul style="list-style-type: none"> • building envelopes for 12 buildings incorporating basement level parking; • infrastructure works to support the development including: • upgrades to the local road network; • stormwater infrastructure works; • publically accessible open space and through site links; and • pedestrian and cycle pathways. <p>MOD 1</p> <ul style="list-style-type: none"> • amendment to Building Storeys Plan to allow for additional storeys at ground level in Stages 1 to 3; • expand/connect the basement building envelopes between Stage 2 and 3 and Stage 4 and 5; • revision to the construction staging; • revised timing of the delivery of the open space to be in conjunction with Stage 3 (rather than Stage 1); • provision of an additional storey to provide a 6 storey element to the building on the corner of Belmore Street and Constitution Road; • flexible application of the solar access requirement of the RFDC; • amendment of ESD measures; and • amendments to terms of approval, future environmental assessment requirements and Statement of Commitments. 	<p>The proposal is for demolition of existing buildings on the site and new buildings, landscaping and public domain and infrastructure works to in accordance with the approved Concept Plan.</p>
<p>DEVELOPMENT IN ACCORDANCE WITH THE PLANS AND DOCUMENTATION</p> <p>A2 The development shall be undertaken generally in accordance with MP09_0216, as modified by MP09_0216 MOD1, and:</p> <ul style="list-style-type: none"> • the Environmental Assessment dated 7 January 2011 prepared by Robertson + Marks Architects and PLACE Design Group, except where amended by the Preferred Project Report dated July 2012, including all associated documents and reports; • the S75W Modification Application dated November 2013 prepared by Robertson + Marks Architects and City Plan Services including all documents and reports, except where amended by the: <ul style="list-style-type: none"> • Response to Submissions report dated 28 March 2014 prepared by City Plan Services; and • Proponents Comments in Response to Council's Submission dated 29 April 2014 prepared by City Plan Services. 	<p>The proposal is for demolition of existing buildings on the site and new buildings, landscaping and public domain and infrastructure works in accordance with the approved Concept Plan.</p> <p>The proposed buildings are generally contained within the approved building envelopes in both plan and elevation. Any encroachments are particularly minor, are more than balanced by parts of the buildings which are well inside the envelopes and do not compromise the appropriate characterisation</p>

APPENDIX A

- the Draft Statement of Commitments prepared by Robertson + Marks Architects updated on 5 October 2012, except where amended by the Revised Draft Statement of Commitments prepared by Holdmark dated March 2014; and
- the following drawings:

of the proposed development as being 'generally in accordance with' the approved envelope.

Drawings Prepared by Robertson & Marks Architects		
Drawing No	Name of Plan	Date
FIGURE 11 REV 2	PREFERRED CONCEPT PLAN	July 2012
PPR 001-D	MAXIMUM HEIGHT WITH SETBACKS	02/11/13
PPR 007-E	INDICATIVE STAGING	09/24/13
S 001/B	SLOPES ON SITE	03/25/2014
FIGURE 14 REV 4	STAGE 1 BUILDING ENVELOPE CONTROLS	28/06/2012
FIGURE 15 REV 4	STAGE 2 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 16 REV 4	STAGE 3 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 17 REV 4	STAGE 4 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 18 REV 4	STAGE 5 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 19 REV 4	STAGE 6 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 20 REV 4	STAGE 7 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 21 REV 4	STAGE 8 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 22 REV 4	STAGE 9 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 23 REV 4	STAGE 10 BUILDING ENVELOPE CONTROLS	01/18/12
FIGURE 29 REV 2	LANDSCAPE PLAN	July 2012
FIGURE 30 REV 2	VEHICULAR ACCESS AND PUBLIC TRANSPORT PLAN	July 2012
SK01 REV E	PEDESTRIAN AND CYCLEWAY ROUTES	18 June 2013
FIGURE 32A REV 2	INDICATIVE ACCESSIBLE CIRCULATION PLAN	July 2012
FIGURE 33 REV 2	INDICATIVE COMMUNITY, RETAIL 7 / OR COMMERCIAL USES LOCATION MAP	July 2012
FIGURE 50 REV 1	CONCEPT PLAN LANDSCAPE PLAN	28/07/2014
PPR 003-5	OPEN SPACE AREA PLAN	11/01/13

except for as modified by the following pursuant to Section 75O(4) of the Act.

Inconsistencies Between Documentation
 A3 In the event of any inconsistency between modifications of the Concept Plan approval identified in this approval and the drawings/documents including Statement of Commitments referred to above, the modifications of the Concept Plan shall prevail.

Noted.

<p>Building Envelopes</p> <p>A4 Building footprints and setbacks are to be generally consistent with the Concept Plan building envelope parameter diagrams for each site, except where amended by the Modifications in Part B of this Approval.</p>	<p>The proposed building footprints and setbacks are generally consistent with the Concept Plan building envelope parameter diagrams. in both plan and elevation.</p> <p>The approved building envelope control plan provides the following definition for pop-ups: "POPUP'S - 60% FOOTPRINT OF THE TYPICAL FLOOR PLATE BELOW". There are no prescribed setbacks from the edge of the floor below on the approved plans which dictate the configuration and layout of the pop-ups.</p> <p>The proposed development introduces a two storey expression to the top of the building to satisfy the pop-up requirement. This provides a distinctive character to the buildings and generates a high level of visual interest. The repetitive two storey design also provides a high level of environmental performance for the top two floors by allowing generous natural light and ventilation to move around the floors.</p> <p>The floor area for the top two floors each do not exceed 60% of the footprint of the typical floor of the building as illustrated in the architectural package. Accordingly, the proposed approach towards the pop-up controls is considered to be generally consistent with the provisions of the Concept Plan whilst achieving a high quality urban form outcome.</p>
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<p>Maximum Gross Floor Area (GFA)</p> <p>A5 1. The maximum GFA for commercial, retail or community uses shall not exceed 10,000m².</p> <p>2. The maximum number of dwellings shall not exceed 2,005</p>	<p>A tally is provided at Section 4.18 of this Statement which illustrates that proposal will not exceed the maximum number of dwellings of 2,005.</p>
<p>Publicly Accessible Open Space, Drainage Reserves and Through Site Links</p> <p>A6 All public open spaces, drainage reserves and through site links shall be publicly accessible and maintained in private ownership by the future body corporate unless otherwise agreed by the Council.</p>	<p>The proposal provides all through-site links through the site as required by the Concept Plan. A condition of consent is anticipated which will require the registration of an easement over these links which will also be maintained in private ownership.</p>
<p>Lapsing of Approval</p> <p>A7 Approval of the Concept Plan shall lapse 5 years after the determination date shown on this Instrument of Approval, unless an application is submitted to carry out a project or development for which concept approval has been given.</p>	<p>The subject development application has been lodged within 5 years of the date of approval of 6 March 2013.</p>

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SCHEDULE 2 TERMS OF APPROVAL PART B - MODIFICATIONS	
<p>Amended Concept Plan</p> <p>B1 The Concept Plan shall be amended to:</p> <p>(a) comply with the modified maximum heights (as per plans in Schedule 5), setbacks etc. under this approval and the project application approval for Stage 1 (MP09_0219). The maximum building height applies to either the number of storeys or RL levels, whichever is the lower;</p> <p>(b) provide at least one contiguous open space, of a minimum of 3,000m², to accommodate both active and passive recreational needs. The open space shall include deep soil area and receive a minimum of 2 hours of sunlight to a minimum of 50% of the area on 21 June;</p> <p>(c) provide a public domain plan which illustrates the proposed public domain treatment including streets and setback areas, landscaping, lighting and public and communal open spaces and which is in accordance with Ryde City Council's Public Domain Technical Manual;</p> <p>(d) increase the width of the proposed through site links/view corridors to a minimum width of 20m;</p> <p>(e) provide an integrated water sensitive urban design (WSUD) strategy for the entire site; and</p> <p>(f) include a pedestrian and cycleways plan that demonstrates that the proposed routes are both viable and integrated with Council's plans for the surrounding area. The amended concept plan, demonstrating compliance with these modifications shall be submitted to, and approved by, the Director General prior to the issue of the first construction certificate.</p>	<p>The requirements of this condition has been previously satisfied as confirmed by the Department in their letter dated 24/6/2013 and signed by Ben Lusher, Acting Director Metropolitan & Regional Projects, South. The proposed development is consistent with the relevant elements of this condition and in particular provides a 20m wide through-site link through the site.</p>
<p>Amended Foreshore Link</p> <p>B1A. The delivery of the foreshore link shall be split between Stage 1 and Stage 2 in accordance with the Response to Submissions prepared by City Plan Services for MP09_0216 MOD1 dated 29 April 2014</p>	<p>Not applicable to the subject Stages.</p>
<p>Sustainable Travel Plan</p> <p>B2 Prior to issue of an Occupation Certificate for Stage 1 or prior to the submission of a Development Application for future stages (whichever occurs first), a Sustainable Travel Plan for the Concept Plan site shall be submitted to and approved by the Council. Options for provision of a Car Sharing Scheme for the site are to be explored and incorporated into the Sustainable Travel Plan as is a Parking Management Strategy.</p>	<p>A Sustainable Travel Plan prepared by Road Delay Solutions Pty Ltd accompanies this development application.</p>

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<p>Amended Maximum Number of Storeys Above Ground Level (Finished) Plan</p> <p>B3 The plan entitled Indicative Concept Plan Storeys Plan shall be amended to:</p> <p>(a) Change the title to “Maximum Number of Storeys Above Ground Level (Finished) Plan”, and</p> <p>The amended plan, demonstrating compliance with these modifications shall be submitted to, and approved by, the Secretary within 1 month of the date of this approval.</p>	<p>The requirements of this condition has been satisfied and the proposal complies with the maximum number of storeys above finished ground level.</p>
<p>SCHEDULE 3 FUTURE ENVIRONMENTAL ASSESSMENT REQUIREMENTS</p>	
<p>Design Excellence</p>	
<p>1. Future Development Application/s for Stage A (the signature building fronting Church Street) shall demonstrate design excellence in accordance with the Director General’s Design Excellence Guidelines.</p>	<p>Not applicable to the subject Stages.</p>
<p>Dwelling Cap</p> <p>1A. Future Development Applications shall provide for a total number of dwellings up to a maximum of 2,005 across the Concept Plan site (including Stage 1). Future Development Applications shall include a projected dwelling forecast for each remaining stage demonstrating that the total dwelling numbers will adhere to the dwelling cap.</p>	<p>A tally is provided at Section 4.18 of this Statement which illustrates that proposal will not exceed the maximum number of dwellings of 2,005.</p>
<p>2. Future Development Applications shall demonstrate that the development achieves a high standard of architectural design incorporating a high level of modulation / articulation of the building and a range of high quality materials and finishes.</p>	<p>The architectural package which accompanies this application demonstrates a high standard of architectural design with a varied composition to the facades, high level of articulation, and a range of high quality and materials.</p>
<p>Built Form</p>	
<p>3. Notwithstanding the approved maximum building heights in RL, future Development Applications shall demonstrate that:</p> <p>(a) buildings along Constitution Road are a maximum of 5 storeys with the exception of the element of Stage 4 located on the corner of Constitution Road and Belmore Street (as shown on PPR 002-B), which is permitted to a maximum of 6 storeys; and</p> <p>(b) the southern building element of Stage 8 is a maximum of 5 storeys</p>	<p>The proposed southern building element of Stage 8 is a maximum of 5 storeys.</p>

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<p>Maximum Storeys on Steeply Sloping Topography</p> <p>3A. Future Development Applications shall satisfy the 'Maximum Number of Storeys Above Ground Level (Finished) Plan'. An exception to the maximum storey height may be given to buildings within Stages 2 and 3 on steeply sloping topography (being at the locations indicated on drawing S 001/B not including the area shown within Stage 4) where it can be demonstrated that:</p> <ul style="list-style-type: none"> a) the overall building height satisfies the maximum permitted RL; b) no more than 1 additional storey is provided; c) an acceptable level of amenity can be achieved for any additional apartment(s) provided in accordance with the requirements of Future Environmental Assessment Requirement 21; and d) the additional storey is required to appropriately activate the ground level. 	<p>Not applicable to the subject Stages.</p>
<p>4. Future Development Applications shall ensure that basement parking levels do not exceed 1 metre above ground level (finished) and are located below the building footprint and do not encroach into street setback areas (with the exception of basements connecting Stages 2 and 3 and Stages 4 and 5) without encroachment into street setback areas.</p>	<p>The architectural package and landscape plan both demonstrate that the development has been designed to ensure that the basement parking levels do not exceed greater than 1m above finished ground level.</p> <p>The basement for the Stage 9 building extends under the courtyard area between Buildings 9A and 9B, however, it does not extend into the setback area in accordance with the requirement of the condition. This is consistent with the approach adopted for Stages 1, 2, 3, 4 and 5 by the Planning Assessment Commission and is therefore considered a reasonable response to the Concept Plan provisions because substantially greater than 25% of the common open space area is delivered as deep soil. The overall proposal is considered to remain generally consistent with the approved Concept Plan.</p>

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<p>5. Future Development Applications shall demonstrate an appropriate interface with surrounding streets and public domain areas at pedestrian level, and an appropriate design treatment to provide an adequate level of privacy to ground level apartments.</p>	<p>The proposed buildings have been carefully designed to comply with the flood levels as well as providing an appropriate interface with surrounding streets and public domain. The buildings are stepped with the fall of the site and individual entries are provided to ground floor apartments where possible which activates the ground floor plane of the development. The use of deep planted terraces at the front of the courtyards for ground floor apartments provides privacy through landscaping for those apartments without the need for unattractive blank walls.</p>
<p>6. Future Development Application/s for Stage 3 shall provide the following minimum setbacks to the south-western boundary (common boundary with 12 Rothesay Avenue): (a) 6 metres up to 4 storeys; and (b) 9 metres above 4 storeys.</p>	<p>Not applicable to the subject Stages.</p>
<p>7. Future Development Application/s for Stage A shall provide the following minimum setbacks to Parsonage and Wells Streets: (a) Podium – 4 metres (b) Tower – 5 metres</p>	<p>Not applicable to the subject Stages.</p>
<p>8. Future Development Application/s for Stage 3 shall provide a minimum one metre setback to the existing Council owned pedestrian access way along the north-western boundary.</p>	<p>Not applicable to the subject Stages.</p>
<p>9. Future Development Application/s for Stage 9 shall provide a minimum 4 metre building setback to the single storey building fronting Bowden Street. Eaves, pergolas, outdoor seating areas or other unenclosed structures are permitted to encroach into the setback providing that the design does not result in unacceptable impacts to the streetscape or view lines.</p>	<p>The proposal provides a 4 metre building setback to the single storey building fronting Bowden Street.</p>
<p>10. Future Development Applications shall provide for utility infrastructure, including substations, within the building footprint, wherever possible. If this is not possible, infrastructure shall be located outside of the public domain and appropriately screened.</p>	<p>The substations are discreetly located along Bowden Street and Nancarrow Avenue within the property boundary and appropriately screened within a landscaped setting.</p>

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Landscaping	
11. Future Development Applications shall include detailed landscape plans for public and private open space areas, street setbacks areas and for the landscape treatment of all adjoining public domain areas and road reserves in accordance with the approved Public Domain Plan.	The proposed development is accompanied by a Landscape Plan prepared by Place Design which includes the detailed design for public and private open space areas, street setbacks areas and for the landscape treatment of all adjoining public domain areas and road reserves.
Public Domain	
12. Future Development Applications shall provide the detailed design for the upgrade of all road reserves adjacent to the development to the centre line of the carriageway, including landscaping, street trees, accessible pedestrian pathways, street lighting, cycle ways on Constitution Road and Nancarrow Avenue, and any other necessary infrastructure in accordance with the approved Public Domain Plan. Where the detailed design necessitates an increase in the width of the road reserve, building setbacks are to be increased to retain the approved setback to the road reserve alignment. The road reserve works are to be completed by the proponent prior to occupation of each stage.	The proposed development is accompanied by a Landscape Plan prepared by Place Design as well as a Civil Packager prepared by BG&E which together provide the detailed design for the upgrade of all road reserves adjacent to the development including all necessary detail.
Cycle Facilities	
13. Future Development Applications shall provide bicycle parking at the minimum rate of 1 space per 10 car parking spaces.	The proposal provides 58 bicycle spaces which exceeds 10% of the 573 car parking spaces.
14. Future Development Applications shall demonstrate appropriate 'end of trip facilities' for cyclists within all non-residential developments in accordance with Council's requirements.	End of trip facilities including a shower and locker are provided in the commercial building.
Open Space/Public Access	
15. Future Development Applications shall include detailed landscape plans for the embellishment of publicly accessible open space areas. These areas shall include high quality landscaping and paved areas and a variety of recreation facilities which may include BBQs, seating, water features, grassed areas, paths, shade trees, bicycle racks and exercise equipment/games.	The proposed development is accompanied by a Landscape Plan prepared by Place Design which includes the detailed design for the embellishment of publicly accessible open space areas.

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<p>15A. The contiguous open space required in Modification B1(b) shall be completed, delivered and handed over to Council prior to the issue of the first Occupation Certificate for Stage 3.</p> <p>The land is to be dedicated, at no cost, to Council. Arrangements for the dedication shall be finalised before the issue of the Occupation Certificate for Stage 3. If Council does not accept the dedication, the land shall provide access to the public and be in private ownership by the relevant body corporate and appropriately maintained.</p>	<p>Not applicable to the subject Stages.</p>
<p>15B Prior to the issue of an Occupation Certificate for Stage 2 an easement shall be registered over the foreshore link, which is located between Stage 1 and Stage 2 (in favour of Council) providing for public access. The terms of the easement are to be approved by Council.</p>	<p>Not applicable to the subject Stages.</p>
<p>16. Future Development Applications shall include detailed landscape plans which demonstrate accessible paths of travel for all persons for at least two of the north-south routes between Constitution Road and the Foreshore with one of the routes including the Lower Riparian linear park and a second path either along the Central Spine or the public pathway associated with Stage 1. Landscape plans will also include the detailed design of at least 1 north-south cycle path linking Constitution Road through the site to the existing foreshore cycleway.</p>	<p>The proposed development is accompanied by a Landscape Plan prepared by Place Design that demonstrate accessible paths of travel for all persons for the north-south route through the site as well as the detailed design of a north-south cycle path linking Nancarrow Avenue through the site to the existing foreshore cycleway.</p>
<p>17. Future Development Applications shall clearly set an appropriate legal mechanism for creating rights of public access to all publicly accessible areas of open space, drainage reserves and through site links, with the relevant instrument/s to be executed prior to the issue of the occupation certificate.</p>	<p>The proposed development includes the provision of the publicly accessible through site links. The central link is also the location for the an underground stormwater pipe and overland flow path to convey the 100 year ARI flood from Constitution Road to the foreshore through the site. It is expected that a condition of consent will be imposed requiring the creation of rights of public access to the through-site links as well as the drainage reserve with the relevant instrument/s to be executed prior to the issue of the occupation certificate for any building on the site.</p>

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Community Facilities	
<p>18. Any future Development Application/s for the 1000th dwelling shall include, at no cost to Council, the delivery of an appropriate community space within the development, which can be used by Council members of the community for community purposes and related uses.</p> <p>a. The community facility must be a minimum of 1,000m² in area and be primarily located on ground level. The configuration of floorspace should be designed in consultation with Council or a Council nominated community organisation(s). Any dispute in the quantum of floorspace to be provided should be referred to the Director-General, whose decision shall be final.</p> <p>b. The primary use of the designated community floor space must be for community uses. A range of other activities, such as private functions, community markets and garage sales, may be undertaken within the community facility provided that they are subsidiary to the core community function.</p> <p>c. The designated community floor space must not be used for any other commercial, retail or residential use unless Council decides not to accept the designated floorspace.</p> <p>d. The provision of the community floorspace is in addition to Council's Section 94 Contributions for future development.</p> <p>e. The facility to be delivered is to be located around the contiguous central public open space area in either Stage 2 or 3.</p>	<p>Not applicable to the subject Stages.</p>
Public Art	
<p>19. Future Development Applications shall provide the detailed design of public art in locations throughout open space areas generally in accordance with the Public Art Strategy submitted with the PPR.</p>	<p>The proposal is accompanied by a Public Art Plan prepared by Black Beetle which explores the opportunities, processes and integration of artworks as part of the proposed development. The plan initiates a documentation process which will take the identified artworks through design briefs, design development, fabrication and installation.</p>

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<p>20. Future Development Application/s for Stage 2 shall include a Arts and Cultural Plan developed by a professional public artist including consideration of:</p> <ul style="list-style-type: none"> (a) materials to be used, with particular attention to durability; (b) location and dimension of artwork; (c) public art themes to respond to site history and or social, cultural or natural elements; (d) integration into the site and surrounds; (e) budget and funding; and (f) Council’s Public Art Guide for Developers. 	<p>Not applicable to the subject Stages.</p>
<p>Residential Amenity</p>	
<p>21. Future Development Applications shall demonstrate compliance with the provisions of the State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) and the accompanying Residential Flat Design Code 2002 (RFDC), except where modified below:</p> <p>In particular, future application/s shall demonstrate that:</p> <ul style="list-style-type: none"> (a) a minimum of 60% of apartments within each stage are capable of being cross ventilated; and (b) a minimum of 70% of apartments within each stage receive a minimum of 2 hours solar access to living areas and balconies mid winter; and (c) where less than 70% of apartments achieve 2 hours of solar access in mid winter, these apartments (beyond the first 30%) shall be designed to provide improved amenity by: <ul style="list-style-type: none"> • including extensive glazing (minimum 70% of the external façade) to living rooms; • permitting cross-ventilation specifically to those apartments; and • exceeding RFDC guidelines by at least 20% in both of the following areas: <ul style="list-style-type: none"> • increased floor to ceiling height; or and • increased minimum apartment areas, being greater than 50sqm for 1 bedroom, 70sqm for 2 bedroom and 95sqm for 3 bedroom apartments. (d) a minimum of 25% of open space area of the site is deep soil zone (e) the proposed landscaped areas provide sufficient deep soil in accordance with the RFDC. 	<p>The proposed development achieves solar access, or “improved amenity”, to 70.6% of apartments and cross ventilation to 69% of all of the apartments.</p> <p>The “improved amenity” apartments meet the additional requirements of Part (c) of the condition including additional floor to ceiling height as detailed in the architectural package.</p> <p>The proposed development provides 87% of the open space area of the site as deep soil which substantially exceeds the 25% minimum requirement.</p>

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ESD	
<p>22. Future Development Applications shall demonstrate the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010. Where no base target is provided within this report, the development should strive to achieve the stretch target (where relevant and feasible).</p> <p>In accordance with the EnviroDevelopment philosophy, four of the categories will be targeted to show 'industry best practice'. Where the categories of water and energy are applied, BASIX will be used to test 'industry best practice' for water and energy, which will be treated as 10% better than the BASIX pass mark.</p>	<p>The proposal is accompanied by an ESD statement prepared by Integreco which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010.</p>
Car Parking	
<p>23. Future Development Applications shall provide on-site car parking in accordance with Council's relevant Development Control Plan up to a maximum of 2,976 spaces across the Concept Plan site.</p> <p>Future Development Applications shall provide:</p> <p>(a) a car parking rate which relates to the site-wide car parking provision and demonstrates that car parking may be provided for future stages within the total car parking figure of 2,976; and</p> <p>(b) a projected car parking forecast for each remaining stage demonstrating that the total car parking provision can be adhered to.</p> <p>Provision shall also be made for adequate loading and unloading facilities for service vehicles, suitably sized and designed for the proposed use.</p>	<p>The proposed development provides car parking in accordance with the rates in the Ryde DCP 2014. A tally of car parking spaces is provided at Section 4.7 of this Statement which demonstrates the proposed and forecast car parking provision in the other stages and demonstrates that the maximum car parking provision of 2,976 under the Concept Plan will not be exceeded.</p> <p>Loading is provided via dedicated loading bays within the rod reserve.</p>

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Nancarrow Road Extension and Road Reserve Upgrades	
<p>24. Future Development Application/s for Stage 4 shall include the following infrastructure works:</p> <ul style="list-style-type: none"> (a) Nancarrow Avenue extension; (b) Nancarrow Avenue Local Area Traffic Management (LATM) measures and all road reserve upgrades including associated pedestrian footpaths and cycleways; (c) implementation of left-in/left-out arrangement at Belmore Street/ Hamilton Crescent intersection; <p>The detailed design is to be prepared by a suitably qualified engineer in accordance with Council's requirements and to be approved by Council before issue of the first Occupation Certificate for Stage 1. All works must be completed by the proponent prior to the issue of the occupation certificate for Stage 4.</p>	Not applicable to the subject Stages.
<p>24A. Future Development Application/s for Stage 2 shall include the following Infrastructure works:</p> <ul style="list-style-type: none"> (a) installation of a temporary east/west pedestrian link, which connects the stairway at the northern end of the foreshore link between Stages 1 and 2 to Nancarrow Avenue along the northern boundary of Stage 2. The pedestrian link shall provide access to residents the public on a 24 hour basis and maintained until the provision of the Nancarrow Avenue extension (note: this temporary pedestrian access is not a public right of way access). (b) Underdale Lane Local Area Traffic Management (LATM) measures; (c) installation of a pedestrian crossing facility at Bowden Street / Nancarrow Avenue; and (d) installation of roundabout at Belmore Street / Rothesay Avenue. <p>The detailed design is to be prepared be a suitably qualified engineer in accordance with Council's requirements and to be submitted to Council's for approval before the lodgement of any future development application for Stage 2. All works must be completed by the proponent prior to the issue of the occupation certificate for Stage 2.</p>	Not applicable to the subject Stages.
<p>25. Future Development Application/s for the stage of development containing the 800th dwelling shall provide the detailed design for the implementation of left-in/left-out arrangement at Belmore Street/ Yerong Street intersection. The works are to be completed prior to issue of the first occupation certificate of any building of this stage.</p>	Not applicable to the subject Stages.

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Roads and Maritime Services Requirements	
<p>26. Future Development Application/s for each stage of development following the first two stages shall include a traffic study which includes figures on the current number of vehicles and pedestrians at the Railway Road pedestrian crossing at Meadowbank Station and at the Constitution Road / Bowden Street intersection. The traffic study is to be carried out to the RMS's and Council's satisfaction and shall model the impact of the anticipated increase in vehicle and pedestrian traffic for that stage. Where the study reveals that RMS warrants would be met for the provision of signalisation at either of these locations, concept design of the upgrade of the intersection to Council's and RMS's satisfaction is to be included with the Development Application and the works are to be completed by the proponent prior to the issue of first occupation certificate of any building of that stage.</p>	<p>A Traffic Impact Assessment prepared by Road Delay Solutions Pty Ltd accompanies this application which demonstrates that the signalisation of the intersection of Constitution Road and Bowden Street will need to be provided as part of the Stage 6 and 7 development. This is also required by the Statement of Commitments. The Traffic Impact Assessment includes the concept design for the upgrade of the intersection.</p>
<p>27. Future application/s for Stage A shall demonstrate that the RMS requirements have been met in relation to access to RMS infrastructure on the adjoining land, including retention of existing access, parking and turning area for maintenance vehicles.</p>	<p>Not applicable to the subject Stages.</p>
Site Specific Sustainable Travel Plan	
<p>28. Future Development Applications for each stage shall include a site specific sustainable travel plan incorporating a workplace travel plan and/or travel access guide. The travel plan will be in accordance with the Concept Plan Sustainable Travel Plan required by Modification B2.</p>	<p>A Sustainable Travel Plan prepared by Road Delay Solutions Pty Ltd accompanies the subject development application.</p>
Heritage	
<p>29. Future Development Application/s for Stage 6 involving the demolition of the existing heritage item at 37 Nancarrow Avenue shall include:</p> <ul style="list-style-type: none"> (a) a detailed heritage assessment of the site which includes a professionally written history of the site; (b) a full photographic record; and (c) an interpretation strategy to display the heritage values of the existing building on the newly developed site. 	<p>Not applicable to the subject Stages.</p>
<p>30. Future Development Application/s for Stage A shall include a Statement of Heritage Impact providing an assessment of the impact of the development on the adjoining heritage listed Church Street Bridge. Applications are to demonstrate that the design of the building takes into account relevant recommendations of the heritage assessment.</p>	<p>Not applicable to the subject Stages.</p>

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Section 94 Contributions	
31. Future Development Applications shall be required to pay developer contributions to the Council towards the provision or improvement of public amenities and services. The amount of the contribution shall be determined by Council in accordance with the requirements of the Contributions Plan current at the time of approval.	Noted.
Noise and Vibration	
32. Future Development Application/s for Stage A shall provide an acoustic assessment which demonstrates that the internal residential amenity of the proposed apartments is not unduly affected by the noise and vibration impacts from Church Street, to comply with the requirements of Clause 102 of State Environmental Planning Policy (Infrastructure) 2007 and the Department of Planning's 'Development Near Rail Corridors and Busy Roads – Interim Guidelines'.	Not applicable to the subject Stages.
Adaptable Housing	
33. Future Development Applications shall provide a minimum of 10% of apartments as adaptable housing in accordance with Australian Standard 4229-1995.	The proposed development provides 42 adaptable apartments which meets the 10% requirement.
Stormwater Infrastructure Upgrades	
34. Future Development Applications for Stage 6, 7, 8 or 9 (whichever occurs first) shall provide the detailed design of the following infrastructure works: (a) the piped drainage system and overland flow path from Ann Thorn Park to Parramatta River; and (b) works to eliminate the risk of embankment failure of Constitution Road. The works will be required to be completed by the proponent prior to construction commencing for any residential buildings within these stages.	The proposal for the Stage 6 and 7 development includes the detailed design for the lowering of Constitution Road to eliminate the risk of embankment failure of Constitution Road as well as the upgrade of the existing stormwater pit and pipe network from Ann Thorn Park to the Shepherds Bay foreshore to convey the 100 year ARI flood including the provision of a landscaped overland flowpath from Constitution Road to the foreshore through the site. This documentation has been prepared by BG&E and is located in the Civil Package.

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Flooding and Stormwater	
35. Future Development Applications for each stage of the development shall include flood assessments to determine the minimum floor levels, any required mitigation measures and evacuation strategy required.	A Flood Assessment prepared by BG&E accompanies the application and informs the floor levels of the proposed development.
36. Future Development Applications for each stage of the development shall include a Stormwater Management Plan in accordance with Council's requirements.	A Stormwater Plan prepared by Harris Page accompanies this application.
Sydney Water Requirements	
37. Future Development Applications shall address Sydney Water's requirements in relation to: (a) required amplification works to existing drinking water mains; (b) required amplification works to the wastewater system; (c) approval for discharge of trade wastewater (where necessary); and (d) application for Section 73 certificates as necessary.	Details concerning the Sydney Water requirements for the proposed development prepared by Greg Houston Plumbing accompany the subject application.
Contamination, Acid Sulphate Soils and Salinity	
38. Future Development Applications shall include a detailed contamination assessment (involving sampling and testing of soil) including an assessment of the presence of acid sulphate soils and salinity.	An Environmental Assessment including consideration of acid sulphate soils prepared by Environmental Investigations accompanies the subject application. The conclusions of the assessment are discussed under the SEPP 55 discussion in this Statement.
39. A groundwater assessment (involving sampling and testing of groundwater) shall be undertaken across the entire Concept Plan prior to the first Development Application being lodged for Stage 2 or any other stage of the development.	A Groundwater Assessment prepared by Environmental Investigations for the entire Concept Plan site accompanies the subject application.

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<p>40. Future Development Applications where necessary shall include a targeted groundwater assessment for the specific stage (based on the recommendations of the groundwater assessment undertaken for the entire Concept Plan).</p>	<p>The Groundwater Assessment prepared by Environmental Investigations for the entire site identified that there is a low risk of widespread groundwater contamination within the Shepherds Bay Urban Renewal Project and that any groundwater impact is unlikely to prevent the redevelopment of the sites for residential and open space development.</p>
<p>SCHEDULE 4 STATEMENT OF COMMITMENTS</p>	
<p>Staging of Development and Occupation</p>	
<p>The development is to be constructed in ten indicative stages as illustrated in Appendix 1 of MP09_0216 Mod 1.</p> <p>An updated Development Staging Plan will be submitted with each subsequent Project Application.</p>	<p>There are no proposed changes to the indicative stages as illustrated in Appendix 1 of MP09_0216 Mod 1 and therefore no need for an updated staging plan to be submitted with this development application.</p>
<p>Approval Conditions</p>	
<p>The proponent will ensure that all relevant parties engaged to carry out work are aware of and will comply with relevant conditions of consent issued under Major Project No. 09_0216. (as amended)</p>	<p>Noted.</p>
<p>Accessibility</p>	
<p>The proponent commits to providing access to and within buildings within the Concept Plan site in accordance with the Building Code of Australia. Where topography permits, publicly accessible open spaces within the Concept Plan are to be designed to provide appropriate access to people of all mobility levels.</p>	<p>The public open spaces have been appropriately designed to provide access for people of all mobility levels.</p>
<p>Landscaping</p>	
<p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site detailed documentation and specifications will be prepared for all landscape works and public space improvements.</p> <p>The landscaping is to be designed so that the view corridors identified on the Concept Plan are maintained.</p>	<p>The proposed development is accompanied by a Landscape Plan prepared by Place Design which includes the detailed design for all landscape works and the embellishment of publicly accessible open space areas.</p>

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Community Benefits	
The Proponent will enter into discussions with the City of Ryde to establish a Voluntary Planning Agreement.	The Proponent has commenced discussions with the City of Ryde to establish a Voluntary Planning Agreement.
Housing Choice	
A mix of apartment sizes will be provided including one bedroom units. The increased housing supply in the area and proposed apartment mix will increase housing choice and ease affordable housing issues in the area. The opportunity for locals to “downsize” together with the additional availability will promote affordability.	The proposed development provides a balanced mix of 1 bedroom (39.8%), 2 bedroom (50.9%) and 3 bedroom (9.2%) apartments.
Adaptable Housing	
The Proponent commits to approximately 10% of apartments within the Concept Plan site being designed to be accessible. Pathways from development to communal areas and car parking will also be designed to be accessible.	The proposal provides 42 adaptable apartments which equates to 10% of the development. Pathways from the development to communal areas and car parking are also designed to be accessible.
Road Verges and Footpaths	
The proponent commits to providing and/or upgrading road verges and footpaths prior to the issue of the relevant occupation certificate for each Stage.	Noted.
Publicly Accessible Open Spaces	
The proponent commits to providing a total of 18,304sqm of publicly accessible public domain with the Concept Plan site that will be owned and maintained by the various owners’ corporations. These areas will include 4 new publicly accessible open spaces, landscaped pedestrian connections, landscaped overland flow paths, to be owned and maintained in community title by the relevant stage development owner groups. These will include: <ol style="list-style-type: none"> 1. New Foreshore Link publicly accessible open space (Development Stage 2) 2. New Upper Level Public Square (Development Stage 2, 3 & 5) 3. New Central Spine (Development Stage 3) 4. New Central Foreshore Plaza (Development Stage 3) 5. New upper eastern pedestrian link (Stages 4 and 5) 6. New Pedestrian Spine 2 (North) publicly accessible open space (Development Stage 6) 7. New Upper Riparian Foreshore Link publicly accessible open space (Development Stages 6 & 7) 	The proposed development provides the following publicly accessible open space areas relevant to the subject Stage 8 and 9 development: <ul style="list-style-type: none"> • New Lower Riparian Foreshore Link publicly accessible open space (Development Stages 8 & 9) • New Pedestrian Spine 1 South publicly accessible open space (Development Stages 8)

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<p>8. New Lower Riparian Foreshore Link publicly accessible open space (Development Stages 8 & 9)</p> <p>9. New Pedestrian Spine 1 South publicly accessible open space (Development Stages 8)</p> <p>10. Gateway Building Central Plaza and pedestrian link (Development Stage A)</p>	
<p>Road Works</p>	
<p>The proponent commits to providing the following new road infrastructure and up-gradings which are illustrated on Map 11 below.</p> <ol style="list-style-type: none"> 1. Pedestrian signals replacing the zebra crossing on Railway Road at the Station. To be completed prior to the issue of an Occupation Certificate for Stage 3 of the Development. 2. Signalling Bowden Street/Constitution Road. To be completed prior to the issue of an Occupation Certificate for Stage 6 of the Development. 3. Roundabout at Rothesay Ave/Belmore Street. To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development. 4. Yerong/Belmore left in/out. To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development. 5. Hamilton "Lane" and Nancarrow "Lane" LATM and two-way construction between Belmore and Bowden. To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development. 6. Underdale Lane LATM scheme. To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development. 7. Hamilton Lane/Belmore Street left in/left out. To be completed prior to the issue of an Occupation Certificate for Stage 2 of the Development. 8. Introduction of a pedestrian facility on Bowden Street at Underdale Lane. To be completed prior to the issue of an Occupation Certificate for Stage 4 of the Development. 9. Lowering of Constitution Road. To be completed prior to the issue of an occupation certificate for Stage 8 of the Development. 10. Re-grading works associated with the construction of the new Nancarrow Avenue Link Road. To be completed prior to the issue of an Occupation Certificate for Stage 3 of the Development . 	<p>There are no specific new road infrastructure works which need to be completed in associated with Stages 8 and 9. The Signalling of the Bowden Street/Constitution Road intersection and lowering of Constitution Road will be undertaken as part of the Stages 6 and 7 development.</p>

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Land to be Dedicated	
<p>Land comprising the two-way road link to be constructed between Belmore and Bowden Streets, being the connection of Nancarrow Ave to Hamilton Crescent. This requires the dedication by the Proponent an area of land of approximately 325sqm to the Council.</p> <p>To be dedicated to Council prior to the issue of an occupation certificate for Stage 2 of the Development.</p>	Not relevant to the subject stages.
Tree Management	
<p>Tree protection measures will be implemented for trees to be retained as recommended in the Arborist Report at Annexure 23 to the submitted EA.</p>	Noted.
Crime Prevention Through Environmental Design	
<p>The design of the public domain, landscaping and building design facilitates the achievement of CPTED principles. Prior to commencement of construction of any subsequent Project Applications CPTED Assessments will be provided.</p> <p>Planting near footpaths will need to be maintained on a regular basis to avoid concealment opportunities for criminals who may hide in dense shrubbery.</p>	Noted.
Environmentally Sustainable Development	
<p>All Residential development within the Concept Plan site will meet the following Sustainability targets:</p> <ul style="list-style-type: none"> • The BASIX water consumption benchmark • The BASIX energy consumption benchmark <p>In addition, the proponent commits to further investigate the opportunity for including the following ESD principles:</p> <ul style="list-style-type: none"> • Design internal apartment layouts to maximise natural ventilation and to capture prevailing winds; • Utilise roof forms to capture natural light and ventilation; • Use of high thermal mass materials within apartments; • Ensure natural light and ventilation is provided to common areas to minimise energy consumption; • Divide the layout of the apartments into zones to reduce heat and cooling energy consumption; • Utilise low water flow fixtures and tap ware; • Harvesting of stormwater where feasible; and • Recycling of water where feasible 	<p>A BASIX Certificate accompanies the subject application. In addition, the proposal is accompanied by an ESD statement prepared by Integreco which demonstrates the incorporation of ESD principles in the design, construction and ongoing operation phases of the development, in accordance with the base targets within ESD Guidelines Report prepared by Ecospecifier Consulting dated October 2010.</p>

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Stormwater Management	
<p>The Proponent is committed to providing the necessary stormwater upgrades, the details of which will be included in the final VPA when negotiated with Council.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site the Proponent commits to preparation of an Integrated Stormwater Management Plan for the relevant development stage.</p>	<p>The subject application is accompanied by a Stormwater Plan prepared by Harris Page.</p>
Noise	
<p>All Project or Development Applications within the Concept Plan site for all development Stages are to comply with the relevant acoustic standards and controls contained in the BCA.</p>	<p>The subject application is accompanied by an Acoustic Report prepared by Acouras Consultancy which details the necessary acoustic attenuation measures for the proposal</p>
Site Contamination	
<p>All Project or Development Applications within the Concept Plan site for all development stages will be required to comply with the requirements of SEPP 55 Remediation of Land.</p>	<p>Noted. SEPP 55 has been discussed previously in this Statement.</p>
Construction Management	
<p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Construction Management Plan will be prepared by the proponent for each development stage and will be submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.</p> <p>All construction materials, vehicles, waste and the like will be stored within the site.</p> <p>All demolition and all construction and associated work will be restricted to between the hours of 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No work is to be carried out on Sunday or public holidays.</p> <p>Prior to commencement of construction of all Project or Development Applications within the Concept Plan site a Traffic Management Plan (TMP) for the relevant development stage, which addresses construction access and egress to the site, including vehicle routes and parking for workers, staging and timing of construction of internal road network and other relevant issues, will be prepared and submitted to the satisfaction of Principal Certifying Authority. The TMP will be prepared in accordance with the RTA's guidance on TMP's</p>	<p>Noted. A Construction Management Plan will be prepared and submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.</p>

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Utilities	
<p>A Section 73 Certificate from Sydney Water will be obtained as required.</p> <p>All existing aerial services (including low voltage Energy Australia electricity and subscriber television services) along the frontage of the Concept Plan Site are to be relocated underground prior to the occupation of the development stages. The cost of this work is to be borne by the developer.</p> <p>Documentary evidence will be obtained from Energy Australia to confirm that they have been consulted and that their requirements have been met by the Concept Plan and all subsequent Project or Development Applications within the Concept Plan site.</p>	Noted.
Arborist Report	
All subsequent development stages will be required to comply with the requirements of the Arborist Report (Annexure 23 to the submitted Environmental Assessment).	Noted.
Environmental Management Plan	
<p>Prior to commencement of construction of Project or Development Applications within the Concept Plan site, a development Stage-specific Environmental Management Plan (EMP) will be prepared and submitted to and approved by the Principal Certifying Authority. The EMP will comprise:</p> <ul style="list-style-type: none"> a. Hours of construction work b. Sediment and Erosion Control; c. Waste Management; d. Noise and Vibration Management; e. Air Quality and dust control; f. Use of cranes, plant and machinery g. Use of ladders, tapes, scaffolding and plant /machinery of conductive material h. Excavation and boring i. Plant and vehicle movements including - ingress and egress of vehicles to the site, loading and unloading, including construction zones, transportation of material, including contaminated material, predicted traffic volumes, types and routes j. TMP; k. Piling, sheet piling, batter and anchors 	Noted. An Environmental Management Plan will be prepared and submitted to the satisfaction of the Principal Certifying Authority prior to any new building work within the Concept Plan site.

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Flooding	
All Development or Project Applications for individual development stages within the Concept Plan site are to be accompanied by a detailed Flood Impact Assessment Report using the Concept Plan Flood Study Report findings. These studies are to include such safety management measures as safe flood evacuation routes and refuge areas.	The subject application is accompanied by a Flood Assessment prepared by BG&E.
Waste Management	
Prior to commencement of construction of all Project or Development Applications within the Concept Plan site, a Waste Management Plan will be prepared for the relevant development stage which includes demonstration of the fact that the road network is capable of being serviced by Council's Waste vehicles.	A Waste Management Plan prepared by Elephant's Foot accompanies the subject application.
Sustainable Travel Plan	
Prior to issue of Occupation Certificates for any habitable areas in any development within the Concept Plan site a Sustainable Travel Plan for the Concept Plan site will be submitted to and approved by the Department of Planning. Individual Project or Development Applications will be accompanied by Development stage- specific Sustainable Travel Plans that are consistent with the Concept Plan Sustainable Travel Plan.	A Sustainable Travel Plan prepared by Road Delay Solutions Pty Ltd accompanies the subject application.
Groundwater	
As required by the NSW Office of Water: Groundwater: Licences under Part V of the Water Act 1912 are required for the works for the purposes of temporary dewatering as part of the proposed construction. <ul style="list-style-type: none"> • General and Administrative Issues • Specific Conditions • Formol Application Issues 	Noted.
SCHEDULE 5 MAXIMUM BUILDING HEIGHT CONTROL PLANS	
Refer to Plans	The proposed buildings are generally contained within the approved building envelopes in both plan and elevation.

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SURVEY PLAN

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H Ramsay

APPENDIX C

**ARCHITECTURAL DRAWINGS AND SEPP 65
DESIGN VERIFICATION STATEMENT**

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Turner Architects

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LANDSCAPE & PUBLIC DOMAIN PLANS

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Place Design

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DETAILED DESIGN OF PUBLIC ART

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Black Beetle

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CIVIL PACKAGE

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FLOOD ASSESSMENT

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ACOUSTIC REPORT



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WASTE MANAGEMENT PLAN (OPERATIONAL)



Elephants Foot

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SYDNEY WATER REQUIREMENTS



Greg Houston Plumbing

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GEOTECHNICAL REPORT



Asset Geotechnical