

NOTICE OF LOCAL PLANNING PANEL MEETING PUBLIC AGENDA

A Local Planning Panel meeting will be held via audio-visual means on Tuesday, 15 November 2022 at 3:30pm.

Bryan Hynes
ACTING CHIEF EXECUTIVE OFFICER



**CITY OF
PARRAMATTA**

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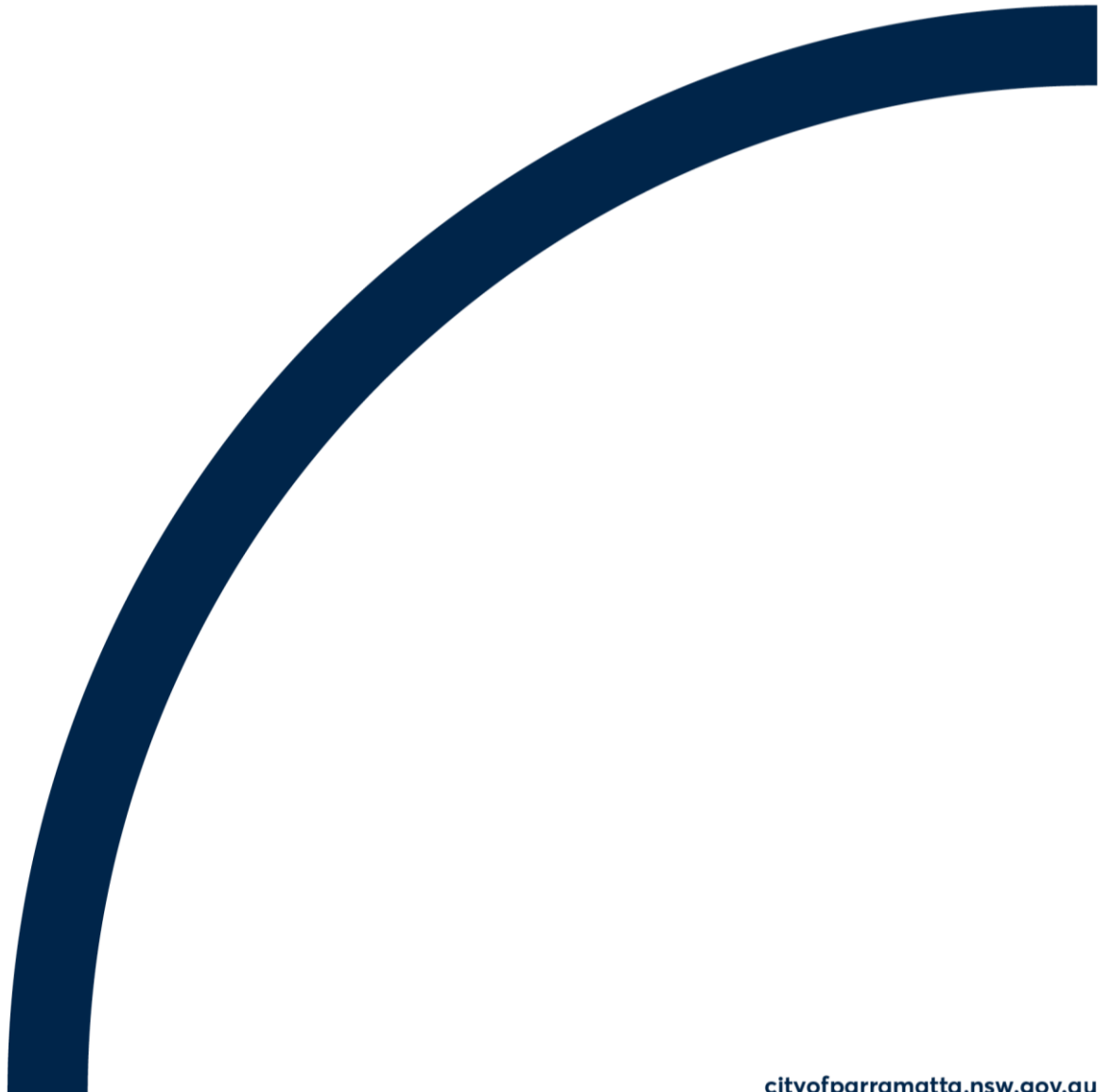


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2	WEBCASTING ANNOUNCEMENT	
	<i>This public meeting will be recorded. The recording will be archived and available on Council's website.</i>	
	<i>All care is taken to maintain your privacy; however if you are in attendance in the public gallery, you should be aware that your presence may be recorded.</i>	
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DEVELOPMENT APPLICATIONS

15 NOVEMBER 2022

5.1	PUBLIC MEETING: 136 Church Street, PARRAMATTA NSW 2150 (Lot 1 DP 774940)	6
5.2	OUTSIDE PUBLIC MEETING: 2-4 Boundary Street and 85 Railway Street, PARRAMATTA NSW 2150 (LOT 2 DP 202700, LOT 6 DP 16496, LOT 1 DP 202700)	107

DEVELOPMENT APPLICATION

ITEM NUMBER	5.1
SUBJECT	PUBLIC MEETING: 136 Church Street, PARRAMATTA NSW 2150 (Lot 1 DP 774940)
DESCRIPTION	Alterations and additions and provision of signage to the existing building for use as a licenced pub operating 10am to 4am Monday to Saturday and 10am to midnight Sunday.
REFERENCE	DA/10/2022 - D08716327
APPLICANT/S	Think Planners
OWNERS	H S Wong and X H W Liu
REPORT OF RECOMMENDED	Group Manager Development and Traffic Services Approval

DATE OF REPORT 6 OCTOBER 2022

REASON FOR REFERRAL TO LPP

The application is referred to the Parramatta Local Planning Panel:

1. as the proposal seeks approval for the use of the premises as a licensed premise (pub) and
2. the application has ten (10) unique objections

EXECUTIVE SUMMARY

This is a summary of the full assessment of the application, the Section 4.15 Assessment Report, **Attachment 1**.

Site

The subject site is known as 136 Church Street, Parramatta (Lot 1 DP 774940). The site has an area of 413.7m² and currently accommodates a 2-storey retail building. The site has dual frontage to Church Street of 9.145 metres and a secondary frontage to Fire Horse Lane of 9.11 metres.

It is located within the Parramatta CBD which is characterised by high density developments comprising a range of uses such as residential, commercial, and retail. The site is also in proximity to public transport.

Adjoining the subject site at 140 Church Street is a heritage listed building which was formerly used as a fire station (I649) pursuant to Schedule 5 of Parramatta Local Environmental Plan (PLEP) 2011. Whilst the site has since been redeveloped comprising a 26-storey mixed use building, it retained remnants of the fire station.

The Proposal

Consent is sought for the alterations and additions to the existing 2 storey building on the site to facilitate its use as a pub. The proposed development includes the following components:

1. Construction of a basement level that will contain the keg room, garbage room, storage, staff room office and staff amenities.
2. Changes to the internal layout of the premises to facilitate its use as a pub including the insertion of a passenger lift.
3. Additions to the ground floor including the extension of the building to the rear (Fire Horse Lane) and provision of a goods lift that will service the basement and first floor.
4. Additions to the first floor including a rear extension to facilitate the use of the premises as a pub. This area of the pub will contain a second bar and the dining area with an associated kitchen, amenities and balcony and;
5. Creation of a Mechanical plant room on the roof.
6. The hours of operation of the pub are 10am to 4am Monday to Saturday and 10am to midnight Sunday.
7. Approval is sought for up to 450 patrons to be on the premises, reduced to 200 patrons after midnight.
8. The proposal also seeks approval for 3 x business identifications to be located on both the front and rear facades of the building.

Notification

In accordance with the requirements contained within Appendix 1 of Council's Community Engagement Strategy, owners and occupiers of adjoining and surrounding properties were given notice of the application between 20 January 2022 and 11 February 2022. In response, 10 unique submissions objecting to the proposal were received. The issues raised in these submissions were:

1. Increase in anti-social behaviour;
2. Site is not ideal location for a pub;
3. Adverse Acoustic impacts;
4. Excessive hours of operation;
5. Misleading application description;
6. Details contained in Plan of Management;
7. Street activation;
8. Stormwater;
9. Location of other heritage items;
10. Onsite manoeuvring; and
11. Referral to NSW Police.

Assessment

The application is made pursuant to Parramatta Local Environmental Plan 2011, which permits the proposed development on land within the B4 Mixed Use zone.

The application was assessed against the relevant environmental planning instruments, including *SEPP (Resilience and Hazards) 2021*, *SEPP (Biodiversity and Conservation) 2021*, *SEPP (Industry and Employment) 2021* and *Paramatta LEP 2011*, as well as *Paramatta DCP 2011*.

It is noted that the proposal is generally compliant with the relevant planning provisions applicable to the development. However, the hours of operation have been reduced to the following to protect the amenity of the area.

Day	Hours	Balcony
Sunday to Thursday	10am to 12 midnight	10pm
Friday and Saturday	10am to 2am	10pm

Council's Development Engineer, Landscape and Tree Management Officer, Traffic and Transport Officer, Infrastructure Officer, and Environmental Health Officer – (General Waste, Acoustic and Contamination), catchment Management, City Safe and Operations Manager, Civil Assets, Heritage Adviser, Urban Design (Public Domain), Universal Access, Social Outcomes supported the development proposal, subject to appropriate conditions. NSW Police also reviewed the proposal and raised no objections subject to conditions.

After consideration of the development against the relevant statutory and policy provisions, the proposal is suitable for the site and is in the public interest.

RECOMMENDATION

- (a) **That**, the Parramatta Local Planning Panel, exercising the functions of Council, pursuant to Section 4.17 of the *Environmental Planning and Assessment Act 1979*, grant **development consent** to DA/10/2022 for a period of five (5) years within which physical commencement is to occur from the date on the Notice of Determination, subject to conditions of consent in **Attachment 1**.
- (b) **Further, that** submitters are advised of the decision.






REASONS FOR APPROVAL

1. To facilitate the orderly implementation of the objectives of the *Environmental Planning and Assessment Act 1979* and the aims and objectives of Parramatta Local Environmental Plan 2011.
2. The proposal is permissible within the B4 Mixed Use zone and is satisfactory when considered against Section 4.15 of the *Environmental Planning and Assessment Act 1979*;
3. The development will be compatible with the emerging and planned future character of the area; and
4. Approval of the application is in the public interest.

Denise Fernandez

Senior Development Assessment Officer

ATTACHMENTS:

- | | | | |
|---|---|--|----------|
| 1 |  | Assessment Report and Draft Conditions | 40 Pages |
| 2 |  | Locality Map | 1 Page |
| 3 |  | Plans used for Assessment | 23 Pages |
| 4 |  | Plan of Management | 18 Pages |
| 5 |  | Gaming Plan of Management | 15 Pages |

REFERENCE MATERIAL



City of Parramatta	
File No:	DA/10/2022

SECTION 4.15 ASSESSMENT REPORT

Environmental Planning & Assessment Act 1979

1. Summary

DA No:	DA/10/2022
Property:	LOT 1 DP 774940, 136 Church Street, PARRAMATTA NSW 2150
Proposal:	Alterations and additions and provision of signage to the existing building for use as a licenced pub operating 10am to 4am Monday to Saturday and 10am to midnight Sunday.
Date of receipt:	10 January 2022
Applicant:	Think Planners
Owner:	Mr H S Wong and Ms X H W Liu
Property owned by a Council employee or Councillor:	The site is not known to be owned by a Council employee or Councillor
Political donations/gifts disclosed:	None disclosed on the application form
Submissions received:	10 submissions
Recommendation:	Approval
Assessment Officer:	Denise Fernandez

2. Legislative Requirements

Relevant provisions considered under section 4.15(1)(a) of the Environmental Planning and Assessment Act 1979	<ul style="list-style-type: none"> • State Environmental Planning Policy (Resilience and Hazards) 2021 • State Environmental Planning Policy (Biodiversity and Conservation) 2021 • State Environmental Planning Policy (Industry and Employment) 2021 • Parramatta Local Environmental Plan 2011 (LEP 2011) • Parramatta Development Control Plan 2011 (DCP 2011)
Zoning	B4 Mixed Use
Bushfire Prone Land	No
Heritage	No, but adjoins <i>1649 Shop (former fire station)</i> at 140 Church Street
Heritage Conservation Area	No
Integrated development	No
Clause 4.6 variation	No
Delegation	Parramatta Local Planning Panel (PLPP) – New licenced premises

3. Site Description and Conditions

The subject site is known as 136 Church Street, Parramatta. The current property description is Lot 1 DP 774940. The site is a mid-block allotment and has a 1.5m slope from the front to the rear of the site over a distance of 44.9 metres.

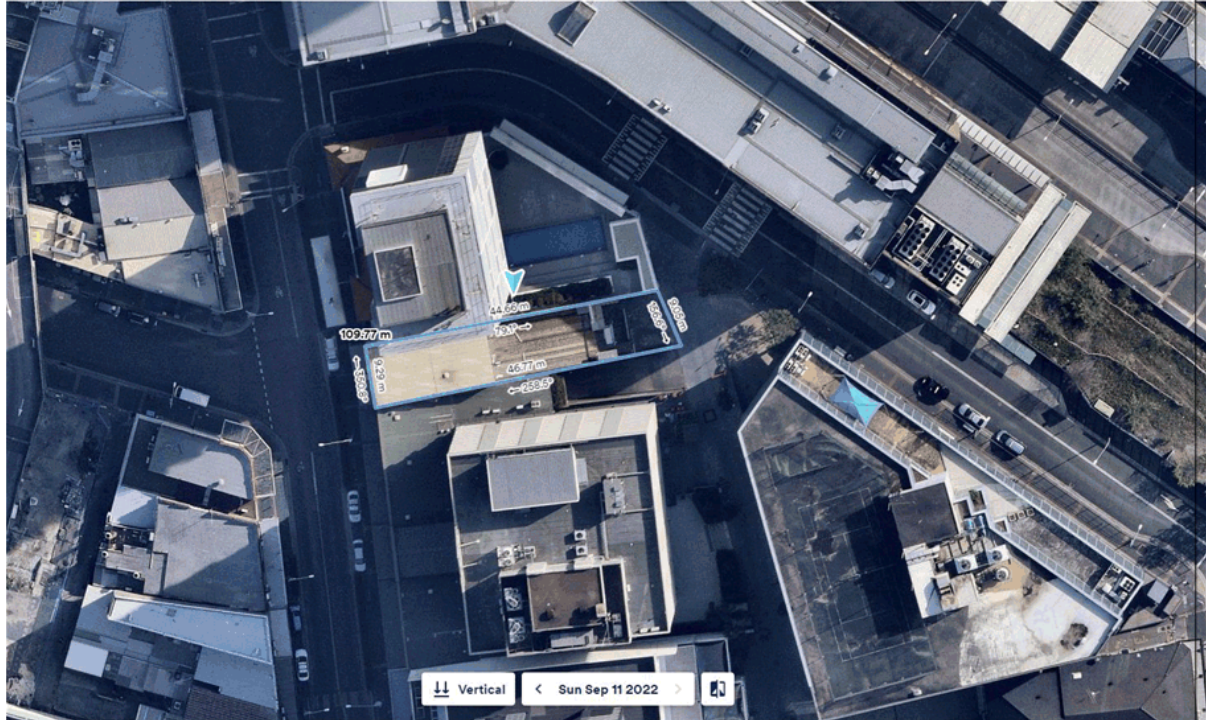
The subject site has the following area and dimensions (based on Survey Plan):

Area – 413.7 square metres
 Rear – 9.11 metres
 Frontage – 9.145 metres
 North – 44.965 metres
 South – 45.77 metres

The subject site currently accommodates a 2 storey commercial/retail building with a metal roof. It is located within the Parramatta CBD which is characterised by high density developments comprising a range of uses such as a mix of residential, commercial and retail. The site is also in proximity to public transport.

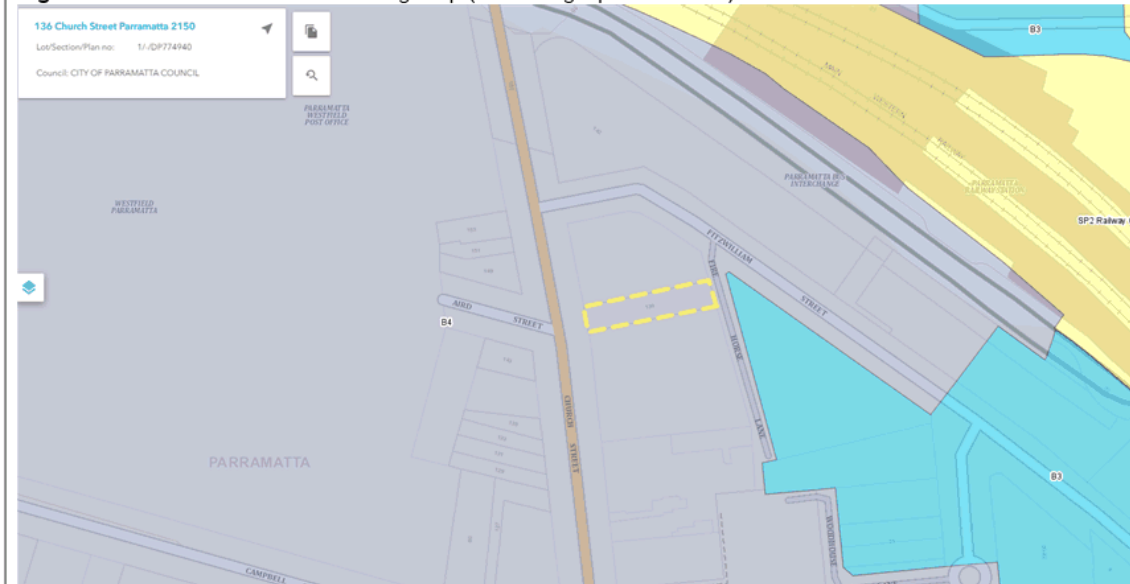
Adjoining the subject site at 140 Church Street is a heritage listed building which was formerly used as a fire station (1649) pursuant to Schedule 5 of PLEP 2011. Whilst the site has since been redeveloped comprising a 26 storey mixed use building, it retained remnants of the fire station.

Figure 1: Aerial photo of the 136 Church Street (Nearmap, 11 September 2022)



The subject site and the sites to the north, south and west are zoned as B4 Mixed Use. The sites to the rear of 136 Church Street are zoned B3 Commercial Core.

Figure 2: Parramatta LEP 2011 Zoning Map (ePlanning Spatial Viewer)



4. Relevant Site & Application History

Date	Comment
12 October 2004	Development Application DA-847/2004 for <i>Alterations and additions to the existing commercial/retail building that is an item of heritage significance</i> approved by Council. The subject site is no longer identified as a heritage item under PLEP 2011.
16 January 2014	Development Application DA/757/2013 for <i>Use of the ground floor as a Chinese Grocery store including the sale of alcohol</i> approved by Council.
20 October 2021	Pre-Lodgement Meeting PL/109/2021 for <i>Alterations and additions to the existing 2 storey building on the site to facilitate its use as Food and Drink Premises - 'Pub'</i> held with the Applicant.
10 January 2022	Subject Development Application lodged.

SECTION 4.15 EVALUATION

5. The Proposal

The subject application is for the alterations and additions to the existing 2 storey retail/commercial building on the site to facilitate its use as a Food and Drink Premises - 'Pub'. The proposed development includes the following components:

- Construction of a basement level that will contain the keg room, garbage room, storage, staff room office and staff amenities;
- Changes to the internal layout of the premises to facilitate its use as a pub including the insertion of a passenger lift;
- Additions to the ground floor including the extension of the building to the rear (Fire Horse Lane) and provision of a goods lift that will service the basement and first floor. This level of the pub will contain the general bar and gaming area;
- Additions to the first floor including a rear extension to facilitate the use of the premises as a pub. This area of the pub will contain a second bar and the dining area with an associated kitchen, amenities and balcony; and
- Creation of a Mechanical plant room on the roof.

The proposed hours of operation of the pub are 10am to 4am Monday to Saturday and 10am to midnight Sunday.

Approval is also sought for up to 450 patrons to be on the premises, but this is reduced to 200 patrons after midnight. A security guard is proposed to be present from 7pm each evening, with increased numbers proposed for peak trading periods.

The proposal also seeks approval for 3 x business identifications to be located on both the front and rear facades of the building.

It is noted that the application involves the transfer of an existing hotel licence from within the Parramatta CBD. The license is being transferred from 111 Argyle Street Parramatta, that is located approximately 50 metres from the site. This premises formerly contained the Argyle St Hotel Parramatta, prior to it being acquired by Transport for NSW as part of the Parramatta Station and Bus Interchange upgrade. (It is noted that since July 2021 this licence is temporarily being utilised to run the Collector Hotel at 100 George Street, as part of the client managing its entire operations).

6. Land Zoning

6.1 Permissibility

The site is zoned as B4 Mixed Use under the Parramatta Local Environmental Plan 2011 (LEP 2011). The proposed use being defined as a *pub* is permissible with consent under the B4 Mixed Use zone.

LEP 2011 defines the proposed use as:

pub means licensed premises under the Liquor Act 2007 the principal purpose of which is the retail sale of liquor for consumption on the premises, whether or not the premises include hotel or motel accommodation and whether or not food is sold, or entertainment is provided on the premises.

6.2 Objectives

The objectives of B4 Mixed Use are the following:

- 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 encourage development that contributes to an active, vibrant and sustainable neighbourhood.
- To create opportunities to improve the public domain and pedestrian links.
- To support the higher order Zone B3 Commercial Core while providing for the daily commercial needs of the locality.
- To protect and enhance the unique qualities and character of special areas within the Parramatta City Centre.

The proposed development is consistent with the aims and objectives of the B4 Mixed Use zoning applying to the land as the proposed works allow for a mixture of compatible land uses located within the Parramatta CBD.

7. Environmental Planning Instruments

7.1 STATE ENVIRONMENTAL PLANNING POLICY (RESILIENCE AND HAZARDS) 2021 – CHAPTER 4 REMEDIATION OF LAND

- A Site inspection reveals the site does not have an obvious history of a previous land use that may have caused contamination;
- Historic aerial photographs were used to investigate the history of uses on the site;
- A search of Council records did not include any reference to contamination on site or uses on the site that may have caused contamination;
- A search of public authority databases did not include the property as contaminated;
- The Statement of Environmental Effects states that the property is not contaminated; and
- There is no specific evidence that indicates the site is contaminated and is suitable for the pub use.

Therefore, in accordance with Clause 4.7 of the State Environmental Planning Policy SEPP (Resilience and Hazards) 2021 – Chapter 4 Remediation of Land, the land is suitable for the use as a pub.

7.2 STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY AND CONSERVATION) 2021

7.2.1 CHAPTER 2 VEGETATION IN NON-RURAL AREAS

The application has been assessed against the requirements of SEPP. This Chapter seeks to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

The application does not propose the removal of trees.

7.2.2 CHAPTER 10 SYDNEY HARBOUR CATCHMENT

The site is not located on the foreshore or adjacent to a waterway and therefore, except for the principle of improved water quality, the principles contained within Chapter 10 of the SEPP are not applicable to the proposed development.

The development is consistent with the controls contained within Chapter 20 of the SEPP.

7.3 STATE ENVIRONMENTAL PLANNING POLICY (TRANSPORT AND INFRASTRUCTURE) 2021 – CHAPTER 2 INFRASTRUCTURE

Chapter 2	Comment
Clause 2.45 – electricity infrastructure	N/A. The proposal does not require the provision of a new substation.
Clause 2.48 - Development likely to affect an electricity transmission or distribution network	N/A. The subject site is not within proximity to electricity infrastructure or substation and therefore does not require a referral to an electricity supply authority.
Clause 2.100 – Development in or adjacent to rail corridors	N/A. The subject site does not adjoin a rail corridor.
Clause 2.119 – frontage to a classified road	N/A. This portion of Church Street is not a classified road.
Clause 2.120 - Impact of road noise or vibration on non-road development	N/A. The application does not propose a sensitive land use.
Clause 2.122 – Traffic Generating Development	N/A. Despite proposing a floor area of more than 300m ² , the proposed pub is not located within 90m of a classified road. Accordingly, no referral is required to the TfNSW.

7.4 STATE ENVIRONMENTAL PLANNING POLICY (INDUSTRY AND EMPLOYMENT) 2021 – CHAPTER 3 ADVERTISING AND SIGNAGE

The application proposes to remove 9 existing signs and the installation of 3 new signs. The new signage include:

- 1 x LED backlit illuminated Building identification sign on the upper level of the Church Street façade with dimensions of 1620mm high and 3200mm wide;
- 1 x Non illuminated Facia sign along Church Street with dimensions of 285mm high and 2270mm wide; and
- 1x LED backlit illuminated Building identification sign on the Fire Horse Lane façade with dimensions of 1620mm high and 3200mm wide;

Figure 3: Location of signage on building façade. Blue boxes denote proposed signs.



It is noted that signage does not extend over the boundary. The blue boxes denote signage location.

The proposed signs are subject to the provisions of SEPP (Industry and Employment) 2021 – Chapter 3. The aims of this Chapter in accordance with clause 3.1 (1a) are:

- to ensure that signage (including advertising):
 - is compatible with the desired amenity and visual character of the area, and
 - provides effective communication in suitable locations, and
 - is of high quality design and finish, and
- to regulate signage (but not content) under Part 4 of the Act, and

- (c) to provide time-limited consents for the display of certain advertisements, and
- (d) to regulate the display of advertisements in transport corridors, and
- (e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.

Clause 3.6 of SEPP (Industry and Employment) 2021 states the following:

"A consent authority must not grant development consent to an application to display signage unless the consent authority is satisfying:

- a) that the signage is consistent with the objectives of this Chapter as set out in section 3.1(1)(a), and;
- b) that the signage the subject of the application satisfies the assessment criteria specified in Schedule 5.

Schedule 5 - Assessment Criteria

The following table outlines the manner in which the proposed signage satisfies the assessment criteria of SEPP (Industry and Employment) 2021.

Consideration	Compliance
1 Character of the area	
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed signage is compatible with the existing and desired character of Parramatta CBD.
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed signage is consistent with the outdoor advertising in the locality.
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposed signage does not detract from the visual quality of the local area and is particularly sympathetic in design and size to the adjacent heritage item.
3 Views and vistas	
Does the proposal obscure or compromise important views?	Important views will not be compromised or obscured from the installation of the business identification signage.
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed business identification signage will not dominate the skyline or reduce the quality of vistas.
Does the proposal respect the viewing rights of other advertisers?	The proposed business identification signage respects the viewing rights of other advertisers.
4 Streetscape, setting or landscape	
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The proposed signage is of an appropriate scale and proportion for the streetscape.
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed business identification signage will contribute to the visual interest of the streetscape.
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	The proposal contains three business identification signs. The proposal is consistent with the streetscape and reduces clutter of existing advertising.
Does the proposal screen unsightliness?	The proposed business identification signage will add to the visual interest of the pub.
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed business identification signage does not protrude over any object or structure.
Does the proposal require ongoing vegetation management?	The proposed business identification signage will not require ongoing vegetation management.
5 Site and building	
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage is compatible with the scale, proportion and other characteristics of the site and building.
Does the proposal respect important features of the site or building, or both?	The proposal respects important features of the site and the building.

Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The signage is of high quality and demonstrates innovation and imagination appropriate for the use of the premises as a pub.
6 Associated devices and logos with advertisements and advertising structures	
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	No.
8 Safety	
Would the proposal reduce the safety for any public road?	The proposed business identification signage will not reduce the safety for any public road.
Would the proposal reduce the safety for pedestrians or bicyclists?	The proposed business identification signage will not reduce safety for pedestrians or bicyclists.
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed business identification signage will not reduce safety for pedestrians, particularly children by obscuring sightlines from public areas.

7.5 PREVIOUS STATE ENVIRONMENTAL PLANNING POLICIES

Commencement of the Consolidated State Environmental Planning Policies occurred on 1 March 2022. A comparison of the previous and consolidated SEPPS are demonstrated in the table below.

Old SEPP/SREP	New SEPP	New Location
(Vegetation in non-rural areas) 2017 and (Sydney Harbour Catchment) 2005	(Biodiversity and Conservation) 2021	<ul style="list-style-type: none"> Chapter 2 and 10
No 64—Advertising and Signage	(Industry and Employment) 2021	<ul style="list-style-type: none"> Chapter 3
No 55—Remediation of Land	(Resilience and Hazards) 2021	<ul style="list-style-type: none"> Clause 7 = cl4.6 Clause 17 & 18 = cl4.16 & cl4.17
(Infrastructure) 2007	(Transport and Infrastructure) 2021	<ul style="list-style-type: none"> Chapter 2

8. Parramatta Local Environmental Plan 2011

The relevant matters to be considered under Parramatta Local Environmental Plan 2011 (LEP 2011) for the proposed development are outlined below.

Standards and Provisions	Compliance
Part 4 Principal Development Standards	
Cl. 4.3 Height of buildings	Complies Maximum = 15m (for site area ≤ 950 square metres as per Cl. 4.3(2A)) Proposed = 12.515m
Cl. 4.4 Floor space ratio	Complies Proposed = 1.4865:1 (GFA 615m ²) The subject site is mapped on the Clause 4.4 Floor Space Ratio Map as 6:1. However, Clause 7.2 states that for any site that is mapped with an FSR of 6:1 but has a site area of less than 1,000m ² , the applicable FSR is to be 4:1.
Part 5 Miscellaneous provisions	
Cl. 5.1A Development on land intended to be acquired for public purposes	The subject site is not subject to land reservation acquisition.
Cl. 5.4 Controls relating to miscellaneous permissible uses	These provisions do not apply to the development proposal.
Cl. 5.6 Architectural roof features	An architectural roof feature is not proposed.

Cl. 5.7 Development below mean high water mark	The proposal is not for the development of land that is covered by tidal waters.
Cl. 5.10 Heritage conservation	The subject site does not contain a heritage item and does not fall within a heritage conservation area. However, the site adjoins a heritage item located on 140 Church Street. Council's Heritage Adviser has reviewed the proposal and relevant information and raised no objections to the proposal.
Cl. 5.20 Standards that cannot be used to refuse consent – playing and performing music	There are no recommendations to refuse the application on types of music performance, dancing activity, dance floor area, stage locations, and decorations. The noise activities in the pub can be managed and minimised to an acceptable level. A review of the submitted Acoustic Report submitted with the application recommends several measures to ensure noise from the pub are adequately mitigated. These include acoustic absorption, glazing, location of amplification speakers, noise limiter and timing of use of external speakers. The report and these recommendations are supported by Council's Health Officer who provided conditions to be incorporated in the consent.
Cl. 5.21 Flood planning	The site is not identified to be flood prone land.
Part 6 Additional local provisions - generally	
Cl. 6.1 Acid sulfate soils	Yes, the site is identified as containing Class 5 Acid Sulfate Soil. An Acid Sulphate Soils Management Plan is not required to be prepared in this instance.
Cl. 6.2 Earthworks	The site is an irregular allotment and has a slope from the rear to the front of the site of approximately 1.5m. The application proposes one basement level. Council's Development Engineer has reviewed the application support the proposal with regards to the proposed earthworks.
Cl. 6.4 Biodiversity protection	The site is not identified on this map.
Cl. 6.5 Water protection	The site is not identified on this map.
Cl. 6.6 Development on landslide risk land	The site is not identified on this map.
Cl. 6.7 Affected by a Foreshore Building Line	The site is not located in the foreshore area.
Part 7 Additional local provisions – Parramatta City Centre	
Cl. 7.3 Floor space ratio	Complies Maximum = 4:1 (GFA 1,654.8m ²) Proposed = 1.4865:1 (GFA 615m ²) with balcony 591.5m ² without balcony
Cl. 7.5 Sun access	Complies The proposed height of 12.715m does not cast any shadows to Lancer Barracks or Jubilee Park.
Cl. 7.8 Active Frontages	N/A Despite the subject site benefiting from 2 street frontages, both frontages accommodate entries to the pub.
Cl. 7.15 Car parking	Complies Cl. 7.15 requires certain uses to be subject to maximum car parking spaces to be provided on site. The proposed use being defined as a <i>pub</i> is not subject to a maximum car parking space in this clause. One (1) loading bay capable of accommodating a Small Rigid Vehicle (SRV) is proposed at the rear of the property fronting Fire Horse Lane.
Cl. 7.20 Managing Heritage Impacts	Complies The site adjoins a heritage listed item on 140 Church Street. The submitted SoEE has provided an assessment of impacts of the development on the heritage item and which was reviewed by Council's Heritage Adviser. Upon review Council's Heritage Adviser raised no objections to the proposal.
All other clauses within Part 7 of LEP 2011 do not apply to the development proposal.	

8. Parramatta Development Control Plan 2011

The relevant matters to be considered under the Parramatta Development Plan (DCP) 2011 for the proposed development are outlined below.

Control	Proposal	Compliance
Part 2 – Site Planning		
2.4 Site Considerations		
<u>2.4.1 Views and vistas</u>	The proposed alterations and additions do not affect any significant views and vistas within vicinity to the subject site as identified in Appendix 2 of the DCP.	Yes
<u>2.4.2 Water Management</u>	The proposal does not impact waterways and groundwater.	Yes
<u>2.4.3 Soil Management</u>	The proposed earthworks are considered satisfactory. An adequate sedimentation plan has been provided to ensure adjoining properties are not impacted. Whilst the subject site is identified to contain Class 5 acid sulphate soils, the proposed earthworks are considered satisfactory and complies with Clause 6.1 of LEP 2011.	Yes
<u>2.4.5 Air quality</u>	The proposal does not impact on air quality. Any vents/plants discharging air from the site will be conditioned to comply with the relevant standards and controls.	Yes, subject to conditions.
<u>2.4.6 Development on sloping land</u>	The site is generally on flat land and the proposed additions are acceptable.	Yes
<u>2.4.7 Biodiversity</u>	The site does not have biodiversity communities.	Yes
<u>2.4.8 Public domain</u>	The proposal meets the controls. Council's Public Domain Specialist and Pavement and Projects Engineer reviewed the proposal and raised no objections to the works.	Yes

Part 3 – Development Principles		
3.1 Preliminary Building Envelope	Site specific CBD controls apply, refer to Section 4.3.3.1 below.	N/A
3.2.1 Building Elements		
<u>3.2.1 Building Form and Massing</u>	The proposal is for alterations and additions to an existing two storey building. In this regard, the proposal maintains a similar bulk when viewed from the Church Street frontage. Similarly, despite the additions to the rear, the development maintains a 2 storey form along the Fire Horse Lane frontage. The development therefore responds to the topography and shape of the site. The proposed height and mass of the pub does not in this instance result in unreasonable loss of amenity to adjacent properties.	Yes
<u>3.2.2 Building Facades and Articulation</u>	The works incorporate a façade with a balance of horizontal and vertical elements that ensures compatibility with the design of the existing building. Entries on both frontages provide a sense of address and visual interest whilst being easily identifiable when viewed from the street. These entries are linked to pedestrian paths.	Yes
<u>3.2.3 Roof Design</u>	The roof for the pub is predominantly flat with only the plant room roof pitched. Given this, the roof form as proposed maintain sympathy with existing development along the streetscape.	
<u>3.2.4 Energy Efficient Design</u>	Conditions of consent will be imposed to ensure compliance with the energy efficiency provisions in accordance with the NCC.	Yes
<u>3.2.5 Streetscape</u>	The urban context of the wider locality is a mix of low to high density commercial, retail, and residential. The development is of an appropriate bulk and scale and design to compliment the streetscape. As such, the development is consistent with	Yes

	<p>the B4 Mixed Use zoning of the site and the future streetscape character of the area.</p> <p>Basement carparking is provided to minimise the impact of parking structures on the building façade.</p>	
3.3 Environmental Amenity		
<u>3.3.3 Visual and Acoustic Privacy</u>	<p>Due to the proposed use of the premises as a pub, the application was submitted with an Acoustic Report that provided recommendations to ensure that the development does not result in adverse acoustic impacts. These recommendations were reviewed by Council's Health (Acoustic) Officer who raised no objections to the report or recommendations, which will be incorporated into the consent.</p> <p>It is noted that due to the nil boundary setbacks, no window openings are proposed along the side elevations. The internal balcony also does not contain windows that address residential properties, it does however contain operable louvres that open at the roof level. It is recommended that the use of the balcony be restricted to ensure no impacts on the adjoining residential building. The use of the balcony will be prohibited after 10pm.</p> <p>As there are no current controls with regards to Late Night Trading within the LGA, a merit based assessment of the hours of operation have been conducted. See Section 10.</p> <p>To ensure that the visual and acoustic amenity of adjoining premises is protected, the hours of operation have been modified.</p>	Yes
<u>3.3.5 Solar Access and Cross Ventilation</u>	The building provides a finished floor level of 3.6m on the ground floor and 3.76m on the first floor to allow the pub use to work efficiently and to allow flexibility for future uses.	Yes
<u>3.3.6 Water Sensitive Urban Design</u>	Council's Development Engineer has advised that the concept OSD plan is satisfactory and appropriate conditions have been imposed to ensure it is designed appropriately at the construction certificate stage to achieve relevant objectives and design principles outlined in the DCP.	Yes
<u>3.3.7 Waste Management</u>	<p>The Waste Management Plan is satisfactory, detailing the types and amounts of waste that will be generated by the development and the methods of removal and disposal.</p> <p>The garbage room is located within the basement. Waste collection will be undertaken by a private contractor.</p>	Yes
3.4 Social Amenity		
<u>3.4.2 Access for People with Disabilities</u>	The application was submitted with an Access Report which was reviewed by Council's Accessibility Officer. Upon review, Council's Accessibility Officer raised no objections. The Access Report as well as standard conditions requiring compliance with the relevant NCC and Australian standards will be included in the consent.	Yes
<u>3.4.4 Safety and Security</u>	<p>The application was provided with a Plan of Management which details safety and security measures for visitors to the premises. These measures include CCTV, provision of security officers and enforcement of Responsible Service of Alcohol and Responsible Conduct of Gaming. The proposal along with the Plan of Management was reviewed by Council's City Safe Operations Manager and NSW Police who raised no objections to the proposal subject to conditions of consent.</p> <p>As previously noted, to ensure the safety and security of patrons and for adjoining premises the hours of operation have been reduced.</p>	Yes
3.5 Heritage	<p>The site does not contain a heritage item.</p> <p>The site is not within a heritage conservation area.</p>	Yes

	The site however adjoins a heritage listed item on 140 Church Street. Council's Heritage Adviser reviewed the proposal and raised no objections to the application.	
3.6 Movement and Circulation	The site is located within close proximity to Parramatta train station and bus interchange. Accordingly, a car share program or a travel plan is not required.	N/A
<u>3.6.2 Parking and Vehicular Access</u>	Vehicular access is not provided along the boundary adjacent to residential uses. Loading facilities is located within the site.	
Part 4 – Special Precincts: Parramatta City Centre		
4.3.3.1 Building Form		
<u>Minimum street frontage</u> 20m	The existing street frontages are 9.415m (Church Street) & 9.11m (Fire Horse Lane). As the proposal is for the alterations and additions to an existing building, it is not possible to achieve full compliance to this control. It is considered that the proposed 2 storey building achieves an appropriate overall horizontal proportion compared to their vertical proportions.	No , but acceptable.
<u>Building to street alignment and street setbacks</u> 0m setback	Ground Floor: 0m (Church Street) & 6.2m (Fire Horse Lane) First Floor: 0m (Church Street and Fire Horse Lane)	Yes
<u>Street wall frontage height</u> 4 storeys/14m (Fig. 4.3.3.1.6)	2 storeys & 12.715m	Yes
<u>Upper storeys setback</u> 6m	No additional upper storeys proposed.	N/A
<u>Building depth and bulk</u>	The site is not zoned B3 Commercial Core and does not propose a residential use or serviced apartments.	N/A
<u>Min. side setback</u> 0m	0m side setback proposed	Yes
<u>Building form and Wind Mitigation</u>	A wind report is not required for a two (2) storey building.	N/A
<u>Building Exteriors</u>	The building exteriors complement the existing buildings on both street frontages including the heritage item that adjoins the development site. The proposal provides a modest roof element, scale, appropriate locations for signage and complimentary materials and finishes. It is also noted that Council's Heritage Adviser raised no objections to the proposed building exterior.	Yes
<u>Sun Access to Public Spaces</u>	The proposed building form will not cast any shadows to either Lancer Barracks or Jubilee Park.	N/A
4.3.3.3 Public Domain and Pedestrian Amenity		
<u>Awnings</u>	The existing awning fronting Church Street is proposed to be retained.	Yes
4.3.3.4 Views and View Corridors	The proposed works does not impact the important views and view corridors of the Parramatta CBD.	Yes
4.3.3.5 Access and Parking		
<u>Location of Vehicle Access</u>	The proposed loading bay is located at the rear fronting Fire Horse Lane. No vehicle access is proposed to Church Street.	Yes
<u>Pedestrian Access and Mobility</u>	Both entry points from Church Street and Fire Horse Lane are clearly visible and are enhanced with awnings.	Yes

Vehicular Driveways and Manoeuvring Areas	An SRV vehicle can adequately enter and exit the site without impacting any street furniture on Fire Horse Lane.	
4.3.3.6 Environmental Management	New landscaping is provided along the southern edge of the building as well as within the setback along Fire Horse Lane. Council's Landscape Officer has reviewed the proposal and raised no objections subject to conditions of consent.	Yes

Part 5 – Other Provisions: Signage		
5.5 Signage	<p>The proposed signage complies with this section of PDGP as follows:</p> <ul style="list-style-type: none"> • The proposed signs are sited and designed so that it does not adversely impact on the amenity of the streetscape and the surrounding locality • The signs do not dominate or obscure other signs or result in visual clutter. • The signs are compatible with the design, scale and architectural character of the building on which they are to be placed. • The structures supporting the signs are of a high aesthetic appearance and does not impact on the visual amenity of the locality. • Materials used for the signs are durable, fade proof and of a high aesthetic quality. • The signs are for business identification purposes and does not protrude above the skyline. • The content of the signs relate directly to the pub use carried out on or associated with the building • The language of signs is accessible to the wider population. • The signs are structurally sound and constructed to ensure pedestrian and traffic safety. • The signs and their supporting structures are not hazardously located to passers-by and for traffic safety so is to obscure a driver's or pedestrian's view of road or rail vehicles, pedestrians or features of the road, railway or footpath • The signs whilst illuminated, will not cause discomfort to, or inhibit vision of drivers or pedestrians - mistaken as an official traffic sign and should not distract a drivers attention or be confused with traffic signal instructions. • The signs will be made to comply with the applicable requirements of the NCC via conditions of consent. • The illumination of the signs does not detract from the architecture of the supporting building during daylight. • The illumination of the signs is energy efficient. • The signs will not contribute to visual clutter. • The signs permit adequate identification while avoiding visual clutter. • The signs reflect the character of the mixed use locality in which they are located and is incorporated into the development • The signs do not address adjoining residences and generally face street frontages. 	Yes

9. Draft Late Night Trading Development Control Plan

The Draft Late Night Trading Development Control Plan was on public exhibition from 6 December 2021 to 31 January 2022. The intention of this DCP is to facilitate growth and diversification of the night-time economy by balancing night-time vibrancy and reasonable levels of residential amenity, encouraging a broad and inclusive mix of uses throughout the night, and ensuring good venue practices to promote safety and community amenity.

The draft DCP is neither imminent nor certain and therefore cannot be considered in the assessment of the current proposal. Impacts of the hours of operation and noise from the proposal are discussed elsewhere in this report.

Should the Draft Late Night Trading Development Control Plan be adopted, it would remain open to the proponent to seek consideration of hours against whatever provisions may apply to the intended use in this location.

10. Hours of Operations

Council does not currently have a Late Night Trading DCP that has been adopted by Council.

The applicant proposes the following hours of operation:

Monday to Saturday – 10am to 4am
Sunday – 10am to Midnight

Similar premises within the CBD and nearby to the site contain the following hours of operation:

- General Bourke – up to 6am (Fri-Sat), 4am (Mon-Thurs) and Midnight (Sun)
- Commercial Hotel – up to 6am (Fri), 5am (Sat), 4am (Mon-Thurs) and Midnight (Sun)
- Collector Hotel – 4am (Mon-Sat) and Midnight (Sun)

The above premises have been within Parramatta CBD for many years; however, none of these hotels are adjoining residential properties.

Council does not agree to the 4am opening time between Monday to Friday due to:

- Close vicinity to a residential property

Council proposes the following hours of operation.

Day	Hours	Balcony
Sunday to Thursday	10am to 12 midnight	10pm
Friday and Saturday	10am to 2am	10pm

11. Referrals

The application has been referred to Council's relevant internal teams for assessment. The referral responses have been summaries and discussed in the table below.

Internal	Comment				
Development Engineer	The proposed development is satisfactory subject to the imposition of conditions.				
Citysafe and Operations Manager	No objections, subject to conditions.				
Health (Acoustic) Officer	No objections, subject to conditions.				
Health (Food) Officer	No objections, subject to conditions.				
Health Officer (General)	No objections, subject to conditions.				
Traffic Engineer	No objections, subject to conditions.				
Waste	No objections, subject to conditions.				
Catchment Management	No objections, subject to conditions.				
Civil Assets	No objections, subject to conditions.				
Pavement and projects	No objections, subject to conditions.				
Heritage	No objections. <i>The site is identified as being of low significance by Council's Aboriginal Heritage Sensitivity Database. The alterations and additions proposed with this DA at 136 Church Street Parramatta, would not have a negative impact on the curtilage of the adjoining heritage listed item Former Fire Station (1649).</i>				
Urban Design Public Domain	No objections subject to conditions.				
Urban Design Universal Access	No objections.				
Social Outcomes	Whilst Council's Social Outcomes raised no objections to the proposal, they recommended that the following conditions be included within the consent. In response, the following comments are provided.				
	<table> <tr> <th>Recommended Condition</th><th>Planning Comment</th></tr> <tr> <td></td><td></td></tr> </table>	Recommended Condition	Planning Comment		
Recommended Condition	Planning Comment				

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	<p>That, there be no signage, either printed or digital, communicating either through words (e.g. 'VIP room') or imagery (e.g. gold coins, dragons) that there is an Electronic Gaming Machine (EGM) room onsite, and that this not be lodged as a separate DA, CDC or any other application at a later stage.</p>	<p>A condition will be imposed on the consent that there be no signage promoting the EGM.</p>
	<p>That, the applicant considers revising the hours of operation to 10am to 12am, Sunday to Wednesday, and 10am to 2am Thursday to Saturday, taking into consideration the family friendly nature of the area and the trading hours of neighbouring retail and dining.</p>	<p>As previously stated, the hours as proposed by the applicant have been reduced to take into consideration the context of the area.</p>
	<p>That, the applicant relocates the accessible toilet on the ground floor to a more suitable area, so that it may be accessed by patrons under the age of 18 and without having to go through the gaming room.</p>	<p>Due to the narrow nature of the site, accessible toilets on the ground floor as well as on the first floor (along with general access toilet facilities) is located closer towards the rear of the building where it is appropriately located without compromising the general layout. The application was reviewed by Council's Officer Universal Access and raised no objections to the location of the accessible toilet.</p>
	<p>That, the applicant clarifies the location of the designated smoking area on the ground floor, with consideration given to venue patrons and the amenity of the surrounding area.</p>	<p>A review of the plans indicates that there are no designated smoking areas on the ground floor. However, the gaming room on the ground floor can accommodate patrons smoking as it is open through the voids.</p>
	<p>That, the applicant erects 'No smoking' signs at the front and rear of the site, to support the use of the area by pedestrians.</p>	<p>To be conditioned.</p>
	<p>That, the applicant clarifies whether ATMs will be available onsite, and if so, their location on the premises.</p>	<p>Amended plans were submitted indicating that an ATM is located on the ground floor within proximity to the entrance from Church Street.</p>
	<p>That, the applicant clarifies the venue entrance for patrons and</p>	<p>PDCCP 2011 requires that there is an address and point of entry from both street frontages. The Plan of Management states that security officers will</p>

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	considers providing access via Church Street only, to minimise opportunities for loitering and antisocial behaviour in Fire Horse Lane.	take all practical steps to ensure that patrons leaving the premises do not loiter or linger in the area or cause nuisance in the neighbourhood.
	That, the applicant provides information regarding how complaints will be recorded and resolved.	The Plan of Management states that contact details of person/s handling complaints will be located outside the main entrance while the pub is in operation. Further, a condition will be imposed on the consent requiring the licensee keep and maintain a complaints register.
	That, the applicant provides information regarding management of deliveries to ensure Fire Horse Lane is not obstructed.	To be conditioned.
	That, the applicant provides details of an emergency evacuation plan, including escape routes for the venue.	To be conditioned.
	That, the applicant provides information regarding training for staff in the areas of responsible service of alcohol and gambling, and details on the protocols to identify and reduce harm.	This is contained in the Plan of Management.
	That, the applicant revises the gaming room shutdown hours to be 12am to 10am on Mondays, reflecting the gaming room trading hours of 10am to 12am on Sundays.	The gaming room hours is part of the reduced hours of operation Council has imposed via a condition of consent.
Design Excellence Advisory Panel (DEAP)	<p>The following comments were provided by DEAP at its meeting on 14 April 2022.</p> <ul style="list-style-type: none"> <i>This proposal has been submitted to the Panel to provide feedback and advice relative to how the application can satisfy Design Excellence. This is in part due to concerns that the proposed elevational resolution to both Church Street and Fire Horse Lane are not adequately responding to current and future context. It is noted that no DEAP pre-lodgement meeting has been undertaken.</i> <p>Applicant response – The proposal is for alterations and additions to a two-storey building. The development substantially improves the presentation of the building to Church Street and Fire Horse Lane. Notwithstanding this, the design of the building has been refined because of DEAP feedback.</p> <p>Council response – Council has reviewed the changes to DEAPs concerns and it is considered to be an improvement on the original submission.</p>	

	<ul style="list-style-type: none"> Given that the site fronts Church Street and Firehorse Lane being streets with a high volume of pedestrian traffic, and in close proximity to the train station, it is important that the street level presentations are of a high quality. The Panel believes that the current proposal should be reconsidered to better respond to context and provide a higher quality solution. Elevations that provide a well resolved compositional and proportional response that encourages both street activation and surveillance should be developed. <p>Applicant response – The design has been refined and simplified as requested by the panel. Most of the façade contains aluminium battens that provide the building with a modern look that is consistent with the new buildings in this precinct.</p> <p>The revised design provides increase street activation and passive surveillance of both Church Street and Fire Horse Lane.</p> <p>Council response - Council accepts the changes made to the proposal as it satisfactorily responds to DEAP's concerns.</p> <ul style="list-style-type: none"> Currently the West elevation presents as a closed and passive face to Church Street with fixed glazing along the frontage. The drawings make no distinction between clear and opaque glazing and this has a direct impact on the composition and presentation of the street frontage. An opaque central fixed window is assumed to be required at both levels as the lift core is pressed hard up against this opening for most of its width. Given the poorly resolved junction between these two elements clear glazing could not be supported. <p>Applicant response – The design has been refined with the internal layout altered to ensure that all five windows on this elevation are clear glazing with the ground floor windows capable of being open to provide a direct connection to the street.</p> <p>Council response - Council has reviewed the changes and is satisfied that changes have been made to address DEAP's concerns.</p> <ul style="list-style-type: none"> The planning of the proposed main entry also limits street activation as it only offers circulation routes to Ground and First floors with no added activity. <p>Applicant response – The lift core and stairwell have been swapped to provide increased activation of Church Street.</p> <p>Council response - Changes are accepted as it responds to DEAP's concerns.</p> <ul style="list-style-type: none"> It is the Panel's opinion that the lift core should be relocated further into the space to allow the street frontage to be redesigned to provide considered openings to the street via operable windows, sill seating etc. This would provide for the necessary street activation allowing passive interaction between patrons and pedestrians. It would also potentially improve the layout with the cocktail function extending along the frontage toward the entry. The amenity a vibrant Pub may offer could therefore be extended into the public realm, particularly along the rear lane. It is understood that there are general acoustic concerns given the proximity to residential units however this potential impact could be managed and balanced. <p>Applicant response – As requested the lift core has been relocated further into the building to increase activation.</p> <p>The entry sequence from Fire Horse lane has been improved with a glass awing and new paving provided to clearly identify this entrance.</p>
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	<p>Council response - Changes made and accepted.</p> <ul style="list-style-type: none"> <i>A similar window clash occurs on the first floor with an additional clash occurring at an adjacent window due to the location of booth seating and is not supported.</i> <p>Applicant response – The design has been refined and booth seating removed from the western end of the first floor to ensure an appropriate streetscape presentation.</p> <p>Council response - Changes made and accepted.</p> <ul style="list-style-type: none"> <i>It is understood that there is servicing and deliveries required for this type of use however the Panel considers it unfortunate that there is again no provision of activation along this Lane edge. It may be that a dual use is possible given that deliveries only occur at certain times of the day for a short period of time.</i> <p>Applicant response – The revised design improves the entry sequence to the building form Fire horse lane. There remains the opportunity for this space to be utilised by a food truck, coffee cart, etc when not being used for deliveries although this application does not seek approval for this.</p> <p>Council response - Changes made and accepted.</p> <ul style="list-style-type: none"> <i>Ideally both frontages should therefore open to the street responding to current and future context. It is considered likely over time that Council will seek to activate the Lane given its location within the CBD.</i> <p>Applicant response – The revised design improves the entry sequence to the building from Fire horse lane. There remains the opportunity for this space to be utilised by a food truck, coffee cart, etc although this application does not seek approval for this.</p> <p>Council response - Changes made and accepted.</p> <ul style="list-style-type: none"> <i>The rear façade currently proposes a solid awning extending over the proposed rear entry ramp and paved area. This limits passive surveillance of the rear lane and requires reconsideration. Aside from proposing a glazed awning to address this issue, an enclosed balcony is also suggested to provide increased amenity for patrons and the Lane.</i> <p>Applicant response – The design has been refined and a glazed awning provided.</p> <p>Council response - Changes made and accepted.</p> <ul style="list-style-type: none"> <i>The current facade treatments should also be further resolved as the aluminium batten placement in conjunction with rendered walls seems arbitrary. Taking the points above into consideration will require a redesign and it is important that any resubmission to the Panel contains a series of 3D views both from pedestrian eye level and to indicate streetscape context. A quality façade will require careful detailing and material choices and this should be clearly explained in the revised package.</i> <p>Applicant response – The design has been revised and simplified with a 3D photomontage of the proposed finishes included with the application. This demonstrates that the revised building appropriately responds to its context and will be a substantial visual improvement from what exists currently.</p> <p>Council response - 3D views provided. Changes made and accepted.</p>
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	<ul style="list-style-type: none"> <i>The Panel suggested that consideration to centralising the service functions of the plan layout on both levels would assist in reassessing both ends of the building.</i> <p>Applicant response – The services function has been retained in their current locations, however the other revisions have improved passive surveillance opportunities from the building.</p> <p>Council response – Due to the narrow nature of the site and the development, centralising services whilst addressing the necessary design requirements of the controls could not be achieved, Notwithstanding, the majority of DEAPs concerns were addressed and in this regard is considered acceptable.</p> <ul style="list-style-type: none"> <i>It is important that a series of cross sections be generated particularly given the balcony and glazed louvres proposed at roof level. This would also assist in understanding the internal landscape concept proposed, as this is currently not adequately explained. It is noted that the current roof level operable glazed louvre proposed to satisfy smoking regulations may have issues relative to acoustic impacts and this may require reconsideration if not resolvable.</i> <p>Applicant response – The revised architectural package includes eleven sections to assist with better understanding the proposed alterations and additions to the building.</p> <p>Council response – Additional elevations were provided. Council's Health (Acoustic) Officer reviewed the proposal along with the submitted Acoustic Report and raised no objections to the proposal subject to conditions of consent.</p> <ul style="list-style-type: none"> <i>The landscaped internal courtyard / lightwell has a major role in creating character and enhancing the ambience of the pub. This can be achieved through a combination of shade tolerant climbing and hanging plants, artwork or mirrors to amplify the spatial quality. Consideration should also be given to the integration of climbing plants on both front and rear facades, as appropriate, to contribute to the greening of Parramatta.</i> <p>Applicant Response – A landscape plan prepared by Create Landscape Architects accompanied the amended submission and details the proposed plantings within the building and to Fire Horse land that will enhance the landscaped setting of the building and Fire Horse Lane.</p> <p>Council Response – A landscape plan was prepared and submitted for Council's review. Upon review, Council's Landscape Officer raised no objections to the proposal subject to conditions of consent.</p>
External	Comments
Parramatta Police Area Command – Licensing Sergeant	<p>No objections, subject to conditions.</p> <p><i>The premises is to be operated at all times in accordance with the Plan of Management dated November 2021. The plan may be varied from time to time after consultation with and in agreement with the local Police Area Commander. A copy of the Plan of Management is to be kept on the premises and made available for inspection on the request of a police officer, council officer or Liquor and Gaming NSW inspector.</i></p>

12. Public Consultation

The application was notified in accordance with Council's *Consolidated Notification Requirements 2020*. In response ten (10) submissions were received. The issues raised within those submissions have been summarised and addressed below.

Issue	Response
Community Impacts	

Concerns are raised with the anti-social behaviour being generated from the premises.	The application was submitted with a Plan of Management that details how anti-social behaviour will be minimised through various safety measures as well as staff being appropriately trained in the service of alcohol as well as gaming management. The application was also reviewed by Council's Citysafe and Operations Manager and NSW Police who raised no objections to the proposal subject to conditions of consent. It is noted that the hours of operation have been modified to reduce instances of anti-social behaviour.
The site is not an ideal location as it will create alcohol and gambling issues to the general public.	The application was submitted with a Social Impact Statement which did not conclude any correlation between the proposed location of the pub and an increase in alcohol and gambling issues within the public. This report was reviewed by Council's Social Outcomes who raised no objections to the proposal subject to conditions of consent.
Acoustic impacts to the residents of 140 Church Street, Parramatta (western adjoining lot).	An Acoustic Report was submitted that indicated that the residents at 140 Church Street will only experience a slight exceedance of the noise criteria during daytime hours. Noise amelioration measures as recommended by the report will ensure compliance within all octave bands at 140 Church Street. The night time assessment of the proposal has the potential to exceed the noise criteria at 140 Church Street. However, noise attenuating measures applied to the development such as the use of acoustic absorption, glazing, location of first floor speakers, closing of external doors, installation of a noise limiter and maximum noise levels for external speakers will ensure compliance with the criteria for sensitive receivers such as the residents of 140 Church Street.
Music should cease at 10pm.	The Acoustic Report submitted with the application recommends that a noise limiter be installed on the venues internal speaker system. External speakers are also limited to a sound pressure level of no more than 70 dB(A) before midnight and 60 dB(A) after midnight. Council's Health (Acoustic) Officer reviewed this recommendation and raised no objections subject to conditions of consent.
The balcony should be closed from patrons at 10pm.	The balcony is contained within the building and is not anticipated to contribute to any additional adverse acoustic and/or smoke impacts.
The proposed hours of operation are not consistent with the Draft Late Night Trading DCP. The premises should not operate until 4AM.	This is addressed elsewhere in the report.
Clarification is required on the proposed development as the development description is misleading.	The description states that the application seeks approval for alterations and additions to an existing building for the use as a licensed pub.
Plan of Management	
The Plan of Management for the licenced premises has not been submitted.	The Plan of Management was submitted with the application.
No smoking signs are to be erected at the front and back entrances of the premises.	This is to be imposed as a condition of consent.
Concerns are raised as to whether patrons can access the premises from the rear at Fire Horse Lane (rear street). Patrons should only enter and exit from Church Street to minimise the interface with Fire Horse Lane.	Council's DCP requires that both street frontages provide access/address to ensure activation of the laneway.
Street Activation	
The proposed elevations do not contribute to the street activation or the amenity of the area. There should be amendments to ensure that passive surveillance and visual amenity is achieved.	Plans were amended to ensure that the elevations promote street activation and maintain amenity on the streetscape. The proposal provides an address and entries from both street frontages to ensure street activation.
Stormwater	

The drawing D2 titled "Basement Floor and Ground Floor/Site Plans + Details" prepared by Quantum Engineers shows a proposed discharge point for the site stormwater at a pit on Fitzwilliam Street which requires trenching across the driveway of 140 Church Street and demolition of ~20m of the new paving on Fire Horse Lane. There is a pit directly outside the Site, why is this not being connected to? Where is the current discharge point of the site?	An OSD is required for the site which cannot be located below the development as it would be difficult to maintain without disruption to the building. As such, an OSD is located on the Fire Horse Lane frontage below the loading bay. The nearest discharge point in the regard is the pit on Fitzwilliam Street.
Reference to 111 Argyle Street	
The Statement of Environmental Effects makes references to the old pub at 111 Argyle Street. There is no historical connection of the old pub with the new pub being proposed.	111 Argyle Street is referenced in the statement as the liquor license at these premises (previously known as the Argyle Street Hotel Parramatta) will be transferred to the pub subject of this application.
Vehicular Manoeuvring	
The swept paths submitted for vehicles that will service the site will impact the street furniture on Fire Horse Lane (rear street).	Council's Traffic Engineer has reviewed the proposal including the swept paths for vehicles on Fire Horse Lane and raised no objections to the proposal subject to conditions of consent.
Police	
The application should be referred to NSW Police for comments.	The application was reviewed by NSW Police who raised no objections to the proposal subject to conditions of consent.

Amended Plans

Yes

Summary of amendments

- Plans were amended in accordance with DEAP's recommendations.

In accordance with Council's *Consolidated Notification Requirements 2020*, the application did not require re-notification as the amended application is substantially the same development and does not result in a greater environmental impact.

132. Conciliation Conference

On 11 December 2017, Council resolved that:

"If more than 7 unique submissions are received over the whole LGA in the form of an objection relating to a development application during a formal notification period, Council will host a conciliation conference at Council offices."

Council's Crisis Management Team suspended all Conciliation Meetings from 25 March 2020. These meetings were resumed on 1 April 2022. Whilst the application received 10 unique submissions, the application was lodged prior to the re-commencement of the Conciliation Meetings (10 January 2022). Accordingly, the Conciliation Conference was not required to be held.

134. Development Contributions

In accordance with Council's Parramatta CBD Contributions Plan (Amendment No. 5), a Section 7.12 Development Contribution is required to be paid as the cost of works exceeds \$250,000. A standard condition of consent has been imposed requiring the contribution to be paid prior to the issue of a Construction Certificate.

145. Bonds

In accordance with Council's Schedule of Fees and Charges, the developer will be obliged to pay Security Bonds to ensure the protection of civil infrastructure located in the public domain adjacent to the site. A standard condition of consent has been imposed requiring the Security Bond to be paid prior to the issue of a Construction Certificate.

165. EP&A Regulation 2000

Applicable Regulation considerations including demolition, fire safety, fire upgrades, compliance with the Building Code of Australia, compliance with the Home Building Act, PCA appointment, notice of commencement of works, sign on work sites, critical stage inspections and records of inspection have been addressed by appropriate consent conditions.

176. Conclusion**Conditional consent**

After consideration of the development against Section 4.15 of the Environmental Planning and Assessment Act 1979, and the relevant statutory and policy provisions, the proposal is suitable for the site and is in the public interest. It has been approved for the following reasons:

1. The development is permissible in the B4 zone and satisfies the requirements of all the applicable planning controls.
2. The development will be compatible with the emerging and planned future character of the area.
3. For the reasons given above, approval of the application is in the public interest.

Therefore, it is recommended that the application be approved subject to conditions.

178. Recommendation**APPROVAL SUBJECT TO CONDITIONS**

Pursuant to Section 4.16 of the Environmental Planning and Assessment Act, 1979, that Council grant development consent to DA/10/2022 for a period of five (5) years within which physical commencement is to occur from the date on the Notice of Determination, subject to conditions of consent.

The reasons for the conditions imposed on this application are as follows:

1. To facilitate the orderly implementation of the objectives of the Environmental Planning and Assessment Act 1979 and the aims and objectives of the relevant Council Planning instrument.
2. To ensure that the local amenity is maintained and is not adversely affected and that adequate safeguards are incorporated into the development.
3. To ensure the development does not hinder the proper and orderly development of the subject land and its surrounds.
4. To ensure the relevant matters for consideration under Section 4.15 of Environmental Planning and Assessment Act 1979 are maintained.

DRAFT CONDITIONS OF CONSENT

Development Consent No.:
Property Address:

DA/10/2022
LOT 1 DP 774940
136 Church Street, PARRAMATTA NSW 2150

PART A – GENERAL CONDITIONS

1. Development must be carried out in accordance with the following approved plans and supporting documentation (stamped by Council), except where the conditions of this consent expressly require otherwise:

Architectural Drawings

Drawing/Plan No.	Issue	Plan Title	Dated
DA-01-1.1	C	Site Plan	20 May 2022
DA-01-2	F	Basement Plan	20 May 2022
DA-01-3	H	Ground Floor Plan	20 May 2022
DA-01-4	G	First Floor Plan	20 May 2022
DA-01-5	F	Roof Plan	20 May 2022
DA-02-1	D	Elevations	20 May 2022
DA-02-2	D	Section 01	20 May 2022
DA-02-3	D	Section 02	20 May 2022
DA-02-4	C	Section 03	20 May 2022
DA-02-5	B	Section 04	20 May 2022
DA-02-6	B	Section 05	20 May 2022
DA-02-7	B	Section 06	20 May 2022
DA-02-8	A	Sections 07, 08 and 09	20 May 2022
DA-02-9	A	Sections 10 and 11	20 May 2022
DA-03-1	A	Typical Kitchen Details	24 November 2021
DA-03-2	A	Typical Garbage Room Details	24 November 2021
DA-03-3	A	Window Plan Details	24 May 2022
DA-04-1	B	External Colours and Finishes	24 March 2022

Civil Drawings/Stormwater

Drawing/Plan No.	Issue	Plan Title	Dated
Job No. 210475 Drawing No. D1	D	Details, Notes and Legend	13 July 2022
Job No. 210475 Drawing No. D2	D	Basement Floor and Ground Floor/Site Plans + Details	13 July 2022
Job No. 210475 Drawing No. D3	D	Roof Plan	13 July 2022
Job No. 210475 Drawing No. D4	D	Catchment Analysis and Stormwater Details	13 July 2022
Job No. 210475 Drawing No. D5	D	Sediment Control Plan	13 July 2022

Landscape Drawings

Drawing/Plan No.	Issue	Plan Title	Dated
Project No. CR202246 Drawing No. LC01	A	Landscape Concept Plan – Ground Floor	11 May 2022
Project No. CR202246 Drawing No. LC02	A	Landscape Details Plan	11 May 2022

Specialist Reports

Document	Ref No.	Issue	Prepared By	Dated
Waste Management Plan	N/A	N/A	N/A	N/A
Gaming Plan of Management	N/A	N/A	N/A	N/A

Fire Safety Assessment	N/A	N/A	Local Fire	N/A
Geotechnical Investigation	6706-G1	0	AssetGeoEnviro	9 December 2021
Access Report	21369	A	Vista Access Architects	5 December 2021
Noise Impact Assessment	210863R1	0	Rodney Stevens Acoustics	17 November 2021
Acoustic Letter	R210863L1	N/A	Rodney Stevens Acoustics	N/A
Traffic and Parking Assessment Report	21738	N/A	Varga Traffic Planning	13 December 2021

In the event of any inconsistency between the approved plans and the supporting documentation, the approved plans prevail. In the event of any inconsistency between the approved plans and a condition of consent, the condition prevails.

Note: An inconsistency occurs between an approved plan and supporting documentation or between an approved plan and a condition when it is not possible to comply with both at the relevant time.

Reason: To ensure all parties are aware of the approved plans and supporting documentation that applies to the development

2. Prior to commencement of any construction works associated with the approved development (including excavation if applicable), it is mandatory to obtain a Construction Certificate. Plans, specifications and relevant documentation accompanying the Construction Certificate must include any requirements imposed by conditions of this Development Consent.

Reason: To ensure compliance with legislative requirements.

3. The development must be constructed within the confines of the property boundary. No portion of the proposed structure, including footings/slabs, gates and doors during opening and closing operations must encroach upon Council's footpath area or the boundaries of the adjacent properties.

Reason: To ensure no injury is caused to persons and the building is erected in accordance with the approval granted within the boundaries of the site.

4. Approval is granted for the demolition as per the approved plans, subject to compliance with the following: - Demolition is to be carried out in accordance with the applicable provisions of Australian Standard AS2601-2001 - Demolition of Structures.

Note: Developers are reminded that WorkCover requires that all plant and equipment used in demolition work must comply with the relevant Australian Standards and manufacturer specifications.

- (b) The developer is to notify owners and occupiers of premises on either side, opposite and at the rear of the development site 5 working days prior to demolition commencing. Such notification is to be a clearly written on A4 size paper giving the date demolition will commence and is to be placed in the letterbox of every premises (including every residential flat or unit, if any). The demolition must not commence prior to the date stated in the notification.
- (c) 5 working days (i.e., Monday to Friday with the exclusion of Public Holidays) notice in writing is to be given to City of Parramatta for inspection of the site prior to the commencement of works. Such written notice is to include the date when demolition will commence and details of the name, address, business hours, contact telephone number and licence number of the demolisher. Works are not to commence prior to Council's inspection and works must also not commence prior to the commencement date nominated in the written notice.
- (d) On the first day of demolition, work is not to commence until City of Parramatta has inspected the site. Should the building to be demolished be found to be wholly or partly clad with asbestos cement, approval to commence demolition will not be given until Council is satisfied that all measures are in place so as to comply with Work Cover's document "Your Guide to Working with Asbestos", and demolition works must at all times comply with its requirements.
- (e) On demolition sites where buildings to be demolished contain asbestos cement, a standard commercially manufactured sign containing the words "DANGER ASBESTOS REMOVAL IN PROGRESS" measuring not less than 400mm x 300mm is to be erected in a prominent visible position on the site to the satisfaction of Council's officers. The sign is to be erected prior to demolition work commencing and is to remain in place until such time as all asbestos cement has been removed from the site to an approved waste facility. This condition is imposed for the purpose of worker and public safety and to ensure compliance with Clause 469 of the Work Health and Safety Regulation 2017.

- (f) Demolition must not commence until all trees required to be retained are protected in accordance with the conditions detailed under "Prior to Works Commencing" in this Consent.
- (g) All previously connected services are to be appropriately disconnected as part of the demolition works. The applicant is obliged to consult with the various service authorities regarding their requirements for the disconnection of services.
- (h) Prior to the commencement of any demolition works, and where the site ceases to be occupied during works, the property owner must notify Council to discontinue the domestic waste service and to collect any garbage and recycling bins from any dwelling/ building that is to be demolished. Waste service charges will continue to be charged where this is not done. Construction and/ or demolition workers are not permitted to use Council's domestic waste service for the disposal of any waste.
- (i) Demolition works involving the removal and disposal of asbestos cement in excess of 10 square meters, must only be undertaken by contractors who hold a current WorkCover "Demolition Licence" and a current WorkCover "Class 2 (Restricted) Asbestos Licence".
- (j) Demolition is to be completed within 5 days of commencement.
- (k) Demolition works are restricted to Monday to Friday between the hours of 7.00am to 5.00pm. No demolition works are to be undertaken on Saturdays, Sundays or Public Holidays.
- (l) 1.8m high Protective fencing is to be installed to prevent public access to the site.
- (m) A pedestrian and Traffic Management Plan must be submitted to the satisfaction of Council prior to commencement of demolition and/or excavation. It must include details of the:
 - (i) Proposed ingress and egress of vehicles to and from the construction site;
 - (ii) Proposed protection of pedestrians adjacent to the site;
 - (iii) Proposed pedestrian management whilst vehicles are entering and leaving the site.
- (n) All asbestos laden waste, including asbestos cement flat and corrugated sheets must be disposed of at a tipping facility licensed by the NSW Environment Protection Authority (EPA).
- (o) Before demolition works begin, adequate toilet facilities are to be provided.
- (p) After completion, the applicant must notify City of Parramatta within 7 days to assess the site and ensure compliance with AS2601-2001 – Demolition of Structures.
- (q) Within 14 days of completion of demolition, the applicant must submit to Council:
 - (i) An asbestos clearance certificate issued by a suitably qualified person if asbestos was removed from the site; and
 - (ii) A signed statement verifying that demolition work and the recycling of materials was undertaken in accordance with the Waste Management Plan approved with this consent. In reviewing such documentation Council will require the provision of original.
 - (iii) Payment of fees in accordance with Council's current schedule of fees and charges for inspection by Parramatta Council of the demolition site prior to commencement of any demolition works and after the completion of the demolition works.

Reason: To protect the amenity of the area.

5. Before the issue of a construction certificate, the applicant is to ensure that the person liable pays the long service levy of **\$8,862** as calculated at the date of this consent to the Long Service Corporation or Council under section 34 of the Building and Construction Industry Long Service Payments Act 1986 and provides proof of this payment to the certifier.

Note: The Long Service Levy is to be paid directly to the **Long Service Corporation** at www.longservice.nsw.gov.au. For more information, please contact the Levy support team on 13 14 41.

Reason: To ensure that the long service levy is paid.

PART B – BEFORE THE ISSUE OF A CONSTRUCTION CERTIFICATE

(Note: Some conditions contained in other sections of this consent (including prior to occupation/use commencing) may need to be considered when preparing detailed drawings/specifications for the Construction Certificate.)

EABNSC Non-standard - Prior to the issue of a CC

6. Prior to the issue of a Construction Certificate, mechanical plant must be selected and assessed by a qualified acoustic consultant.

Reason: To protect the amenity of the area

EFB0001 Design of fit-out to comply with food safety stand

7. Detailed plans of any food / beverage preparation facilities and waste storage areas shall be submitted to the principal certifying authority (PCA) prior to the issue of the construction certificate.

The fit-out of the food premises shall comply with:

- (a) Australian Standard AS4674-2004 - Design, Construction and Fit-out of Food Premises.
- (b) Food Safety Standards
 - Standard 3.2.2 Food Safety Practices and General Requirements
 - Standard 3.2.3 Food Premises and Equipment
- (c) The cool rooms shall be provided with safety devices to comply with G1.2 of the BCA.
- (d) No approval is granted for any remote storage area.
- (e) The business being registered with City of Parramatta (retail) or NSW Food Authority (wholesale/retail meat/manufacture).
- (f) Comply with the requirements of Sydney Water – Trade Waste Section (grease trap).

If a Private Certifier is to be used, the final inspection shall be carried out by a suitably qualified person to ensure that food standards are met. Council's Environmental Health Officer may be engaged to carry out the required inspection for a prescribed fee.

Note: Copies of AS4674-2004 may be obtained from Standards Australia. Copies of the Food Standards Code may be obtained from Australia and New Zealand Food Authority.

Alternatively, you may obtain a copy of the 'Food premises design, construction and fit-out guide' from Council. This guide is based on the above standards and sets out minimum requirements to achieve compliance.

Reason: To ensure design of the premises meets relevant public health standards.

LB0001 Planter Box Details

8. The proposed landscape documentation is required to be updated to include construction details showing min. 450mm of soil substrate depth, drainage and waterproofing for planter boxes is to form part of the application for a Construction Certificate.

Reason: To ensure the creation of functional gardens.

PB0030 Infrastructure & Restoration Adm. fee for all DAs

9. An Infrastructure and Restoration Administration Fee must be paid to Council prior to the issue of a Construction Certificate.

The fee will be in accordance with Council's adopted 'Fees and Charges' at the time of payment.

Note: Council's Customer Service Team can advise of the current fee and can be contacted on 9806 5524.

Reason: To comply with Council's adopted Fees and Charges Document and to ensure compliance with conditions of consent.

TB0001#Car Parking Condition

10. The PCA shall ascertain that any new element in the at-grade carpark not illustrated on the approved plans such as columns, garage doors, fire safety measures and the like do not compromise appropriate manoeuvring and that compliance is maintained with AS 2890.1, AS 2890.2 and AS 2890.6. Details are to be illustrated on plans submitted with the construction certificate application.

Reason: To ensure appropriate vehicular manoeuvring is provided.

TB0003#Parking Provision

11. Parking spaces are to be provided in accordance with the approved plans and with AS 2890.1, AS 2890.2 and AS 2890.6. A total of 2 parking spaces is to be provided and be allocated as follows:

- a) 2 spaces for loading;

Details are to be illustrated on plans submitted with the construction certificate application.

Reason: To comply with Council's parking requirements and Australian Standards.

TB0012#Convex Mirror

12. Convex mirror(s) are to be installed at the driveway access, with their height and location adjusted to allow drivers in the loading spaces a full view Fire Horse Lane in order to see pedestrians and oncoming vehicles. Details are to be illustrated on plans submitted with the construction certificate.

Reason: To ensure safety of pedestrians and drivers.

TBNSC Non-standard - Prior to the issue of a CC

13. The boundary fence on the southern side of the driveway access at the rear of the property is to be a maximum of 900mm high to improve sight lines of pedestrians from vehicles exiting the site. This shall be illustrated on plans submitted with the construction certificate.

Reason: To ensure pedestrian safety

PBNSC Non-standard - Prior to the issue of a CC

14. Prior to the issue of the Construction Certificate, the following is to be demonstrated on amended plans and submitted to Council for approval.
- The existing stormwater drainage pipe along Fire Horse Lane needs to be 375mm class 4 reinforced concrete pipe instead of 225mm pipe.
 - The existing pit within Fire Horse Lane needs to be reconstructed by 900x900 cast in situ with class D bike safe grate in accordance with DS26.
 - The longitudinal section of the pipe along Fire Horse Lane from the surface inlet pit to the kerb inlet pit needs to be included in the drawing.
 - The depths of all underground utilities need to be included in the longitudinal section to show safe clear distance maintained between the proposed stormwater pipe and the underground utilities.
 - The laneway surface within the excavation area need to be matched with existing pavers.
 - The pipe backfilling within the laneway needs to be as per DS37.

Reason: To ensure satisfactory on-site drainage.

DB0001 Stormwater Disposal

15. All roof water and surface water is to be connected to an operable drainage system. Details are to be shown on the plans and documentation accompanying the application for a Construction Certificate.

Reason: To ensure satisfactory stormwater disposal.

DB0003 Sydney Water Quick check

16. A building plan approval must be obtained from Sydney Water Tap in™ to ensure that the approved development will not impact Sydney Water infrastructure.

A copy of the building plan approval receipt from Sydney Water Tap in™ must be submitted to the Principal Certifying Authority upon request prior to works commencing.

Please refer to the website <http://www.sydneywater.com.au/tapin/index.htm>, Sydney Water Tap in™, or telephone 13 20 92.

Reason: To ensure the requirements of Sydney Water have been complied with.

DB0004 Dial Before you Dig Service

17. Prior to any excavation on or near the subject site the person/s having benefit of this consent are required to contact the NSW Dial Before You Dig Service (NDBYD) on 1100 to receive written confirmation from NDBYD that the proposed excavation will not conflict with any underground utility services. The person/s having the benefit of this consent are required to forward the written confirmation from NDBYD to their Principal Certifying Authority (PCA) prior to any excavation occurring.

Reason: To ensure Council's assets are not damaged.

DB0007 Basement carpark and subsurface drainage

18. The basement stormwater pump-out system, must be designed and constructed to include the following:
- A holding tank capable of storing the run-off from a 100 year ARI (average reoccurrence interval) - 2 hour duration storm event, allowing for pump failure.
 - A two pump system (on an alternate basis) capable of emptying the holding tank at a rate equal to the lower of:
 - The permissible site discharge (PSD) rate; or
 - The rate of inflow for the one hour, 5 year ARI storm event.
 - An alarm system comprising of basement pump-out failure warning sign together with a flashing strobe light and siren installed at a clearly visible location at the entrance to the basement in case of pump failure.
 - A 100 mm freeboard to all parking spaces.
 - Submission of full hydraulic details and pump manufacturers specifications.
 - Pump out system to be connected to a stilling pit and gravity line before discharge to the street gutter.
- Plans and design calculations along with certification from the designer indicating that the design complies with the above requirements are to be submitted to the satisfaction of the Principal Certifying Authority prior to issue of the Construction Certificate.

Reason: To ensure satisfactory storm water disposal.

DB0012 #On Site Detention

19. Full engineering construction details of the stormwater system, including OSD structures, pipe networks and calculations as per following points, shall be submitted for the approval of the PCA prior to release of the Construction Certificate for any work on the site.

- (a) The stormwater drainage detail design shall be prepared by a Registered Stormwater Design Engineer and shall be generally in accordance with the following Stormwater Plans approved by this consent and with Council's Stormwater Disposal Policy, Council's Design and Development Guidelines, The Upper Parramatta River Catchment Trust On Site Detention Hand book (Third or Fourth Edition), the relevant Australian Standards and the National Construction Code.
 - (i) Concept stormwater drainage plans, Project No. 210475, Revision D, dated 13 July 2022, prepared by Quantum Engineers.
- (b) A Site Storage Requirement of 470 m³/ha and a Permissible Site Discharge of 80 L/s/ha (when using 3rd edition of UPRCT's handbook) OR

 The Site Reference Discharge (Lower Storage), SRDL of 40L/s/ha, Site Storage Requirement (Lower Storage) SSRL of 300m³/ha, Site Reference Discharge (Upper Storage), SRDU of 150L/s/ha, Site Storage Requirement (Total) SSRT of 455m³/ha (when using the Extended/Flood detention method - 4th edition of UPRCT's handbook).
- (c) Adequate grate(s) to be provided so the OSD tank storage area can be inspected from outside for silt and debris, and to ensure adequate cross ventilation within the tank.
- (d) Certificate from registered structural engineer certifying the structural adequacy of the OSD tank structure.
- (e) The piped drainage system has been designed for the 1% AEP storm event.
- (f) Survey and design levels are to be referenced to AHD.
- (g) The finished level of the OSD tank and adjoining areas is raised above the surface level of Firehorse Lane in order to achieve a surface flow path for emergency overflows to the laneway.
- (h) The following comments in relation to the works on Council's stormwater drainage system in Firehorse Lane are to be included in the detailed construction plans:
 - (i) The stormwater drainage pipe in Firehorse Lane shall be 375mm diameter Class 4 Reinforced Concrete Pipe instead of 225mm PVC pipe.
 - (ii) The existing pit within Firehorse Lane is to be reconstructed as 900mmx900mm (internal dimensions) cast in situ with class D bike safe grate in accordance with Council standard drawing number DS26.
 - (iii) A longitudinal section of the pipe along Firehorse Lane from the surface inlet pit to the kerb inlet pit is to be included in the plans.
 - (iv) The depths of all underground utilities is to be included in the longitudinal section to shows safe clear distance maintained between the proposed stormwater pipe and the underground utilities.
 - (v) The laneway surface within the excavation area is to be reinstated with pavers matching the existing pavement.
 - (vi) The pipe backfilling details within the laneway is to be in accordance with Council standard drawing number DS37.

Reason: To minimise the quantity of storm water run-off from the site, surcharge from the existing drainage system and to manage downstream flooding.

DB0015 Shoring for adjoining Council property

20. Where shoring will be located on or will support Council property, engineering details of the shoring are to be prepared by an appropriately qualified and practising structural engineer. These details are to include the proposed shoring devices, the extent of encroachment and the method of removal and de-stressing of the shoring elements. These details shall accompany the application for a Construction Certificate. A copy of this documentation must be provided to Council for record purposes. All recommendations made by the qualified practising structural engineer must be complied with.

Reason: To ensure the protection of existing public infrastructure and adjoining properties.

DB0021 Impact on Existing Utility Installations

21. Where work is likely to disturb or impact upon utility installations, (e.g. power pole, telecommunications infrastructure etc.) written confirmation from the affected utility provider that they raise no objections to the proposed works must accompany an application for a Construction Certificate to the satisfaction of the Certifying Authority.

Reason: To ensure no unauthorised work to public utility installations and to minimise costs to Council.

DB0022 Support for Council Rds, footpath, drainage reserv.

22. Council property adjoining the construction site must be fully supported at all times during all demolition, excavation and construction works. Details of any required shoring, propping and anchoring devices adjoining Council property, are to be prepared by a qualified structural or geotechnical engineer. These details must accompany an application for a Construction Certificate and be to the satisfaction of the Principal Certifying Authority (PCA). A copy of these details must be forwarded to Council prior to any work being commenced.

Backfilling of excavations adjoining Council property or any void remaining at the completion of the construction between the building and Council property must be fully compacted prior to the completion of works.

Reason: To protect Council's infrastructure.

PART C – BEFORE THE COMMENCEMENT OF BUILDING WORK**BC0001 Toilet facilities on site**

23. Prior to work commencing, adequate toilet facilities are to be provided on the work site.

Reason: To ensure adequate toilet facilities are provided.

DC0002 Road Opening Permits - DA's involving drainage wrk

24. The applicant must apply for a road-opening permit where a new pipeline is proposed to be constructed within or across Council owned land. Additional road opening permits and fees may be necessary where connections to public utilities are required (e.g. telephone, electricity, sewer, water or gas).

In addition, no drainage work can be carried out within the Council owned land without this permit being issued. A copy is required to be kept on site.

Reason: To protect Council's assets throughout the development process.

DC0003 Dilapidation survey & report for private properties

25. Prior to the commencement of any excavation works on site, the applicant must submit for approval by the Principal Certifying Authority (with an electronic copy forwarded to Council at council@cityofparramatta.nsw.gov.au) a dilapidation report on the visible and structural condition of all neighbouring structures within the 'zone of influence' of the excavation face to a depth of twice that of the excavation.

The report must include a photographic survey of the adjoining properties detailing their physical condition, both internally and externally, including such items as walls, ceilings, roof, structural members and other similar items. The report must be completed by a consulting structural/geotechnical engineer in accordance with the recommendation of the geotechnical report.

In the event access to adjoining allotments for the completion of a dilapidation survey is denied, the applicant must demonstrate in writing that all reasonable steps have been taken to advise the adjoining allotment owners of the benefit of this survey and details of failure to gain consent for access to the satisfaction of the Principle Certifying Authority.

Note: This documentation is for record keeping purposes only, and can be made available to an applicant or affected property owner should it be requested to resolve any dispute over damage to adjoining properties arising from works. It is in the applicant's and adjoining owner's interest for it to be as detailed as possible.

Reason: Management of records.

DC0004 Geotechnical report

26. Prior to the commencement of any excavation works on site the applicant must submit, for approval by the Principal Certifying Authority (PCA), a geotechnical/civil engineering report which addresses (but is not limited to) the following:
- (a) The type and extent of substrata formations. A minimum of 4 representative bore hole logs which are to provide a full description of all material from the ground surface to a minimum of 1.0m below the finished basement floor level. The report is to include the location and description of any anomalies encountered in the profile, and the surface and depth of the bore hole logs shall be to Australian Height Datum.
 - (b) Having regard to the findings of the bore hole testing, details of the appropriate method of excavation/shoring together with the proximity to adjacent property and structures can be ascertained. As a result potential vibration caused by the method of excavation and how it will impact on nearby footings/foundations must be established together with methods to ameliorate any impact.
 - (c) The proposed methods for temporary and permanent support required by the extent of excavation can be established.
 - (d) The impact on groundwater levels in relation to the basement structure.
 - (e) The drawdown effects if any on adjacent properties (including the road reserve), resulting from the basement excavation will have on groundwater together with the appropriate construction methods to be utilised in controlling groundwater.

Where it is considered there is potential for the excavation to create a "dam" for natural groundwater flows, a groundwater drainage system must be designed to transfer groundwater through or under the proposed development. This design is to ensure there is no change in the range of the natural groundwater level fluctuations. Where an impediment to the natural flow path of groundwater results, artificial drains such as perimeter drains and through drainage may be utilised.

- (f) The recommendations resulting from the investigations are to demonstrate the works can be satisfactorily implemented. An implementation program is to be prepared along with a suitable monitoring program (where required) including control levels for vibration, shoring support, ground level and groundwater level movements during construction.

The implementation program is to nominate suitable hold points for the various stages of the works in order verify the design intent before certification can be issued and before proceeding with subsequent stages.

The geotechnical report must be prepared by a suitably qualified consulting geotechnical/hydrogeological engineer with demonstrated experience in such investigations and reporting. It is the responsibility of the engaged geotechnical specialist to undertake the appropriate investigations, reporting and specialist recommendations to ensure a reasonable level of protection to adjacent properties and structures both during and after construction. The report must contain site specific geotechnical recommendations and must specify the necessary hold/inspection points by relevant professionals as appropriate. The design principles for the geotechnical report are as follows:

- (i) No ground settlement or movement is to be induced which is sufficient enough to cause an adverse impact to adjoining property and/or infrastructure.
- (ii) No changes to the ground water level are to occur as a result of the development that is sufficient enough to cause an adverse impact to the surrounding property and infrastructure.
- (iii) No changes to the ground water level are to occur during the construction of the development that is sufficient enough to cause an adverse impact to the surrounding property and infrastructure.
- (iv) Vibration is to be minimised or eliminated to ensure no adverse impact on the surrounding property and infrastructure occurs, as a result of the construction of the development.
- (v) Appropriate support and retention systems are to be recommended and suitable designs prepared to allow the proposed development to comply with these design principles.
- (vi) An adverse impact can be assumed to be crack damage which would be classified as Category 2 or greater damage according to the classification given in Table CI of AS 2870 - 1996.

Reason: To ensure the ongoing safety and protection of property.

DC0005 #Reinforced concrete pipe work

27. Details of the proposed reconstruction of the surface inlet pit and pipe in Firehorse Lane shall be approved by Council's Catchment Management Unit approval prior to commencement of work and include the following:
- a. The stormwater drainage pipe in Firehorse Lane shall be 375mm diameter Class 4 Reinforced Concrete Pipe instead of 225mm PVC pipe.
 - b. The existing pit within Firehorse Lane is to be reconstructed as 900mmx900mm (internal dimensions) cast in situ with class D bike safe grate in accordance with Council standard drawing number DS26.
 - c. A longitudinal section of the pipe along Firehorse Lane from the surface inlet pit to the kerb inlet pit is to be included in the plans.

- d. The depths of all underground utilities is to be included in the longitudinal section to shows safe clear distance maintained between the proposed stormwater pipe and the underground utilities.
- e. The laneway surface within the excavation area is to be reinstated with pavers matching the existing pavement.
- f. The pipe backfilling details within the laneway is to be in accordance with Council standard drawing number DS37.

Reason: To ensure adequate stormwater infrastructure is provided.

DC0006 Erosion and Sediment Control measures

28. Erosion and sediment control measures are to be installed in accordance with the publication 'Urban Stormwater: Soils and Construction "The Blue Book" 2004 (4th edition) prior to the commencement of any demolition, excavation or construction works upon the site. These measures are to be maintained throughout the entire works.

Reason: To ensure soil and water management controls are in place before site works commence.

DC0007 Site Maintenance

29. Prior to commencement of works and during construction works, the development site and any road verge immediately in front of the site must be maintained in a safe and tidy manner. In this regard the following must be undertaken:
- (a) all existing buildings are to be secured and maintained to prevent unauthorised access and vandalism
 - (b) all site boundaries are to be secured and maintained to prevent unauthorised access to the site;
 - (c) all general refuse and/or litter (inclusive of any uncollected mail/advertising material) is to be removed from the site on a fortnightly basis;
 - (d) the site is to be maintained clear of weeds; and
 - (e) all grassed areas are to be mowed on a monthly basis.

Reason: To ensure public safety and maintenance of the amenity of the surrounding environment.

DC0008 Shoring and adequacy of adjoining property

30. If development involves excavation that extends below the level of the base, of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the persons own expense:
- (a) Protect and support the adjoining premises from possible damage from the excavation
 - (b) Where necessary, underpin the adjoining premises to prevent any such damage.

Note: If the person with the benefit of the development consent owns the adjoining land or the owner of the adjoining land has given consent in writing to the condition not applying, this condition does not apply.

Reason: As prescribed under the Environmental Planning and Assessment Regulation 2000.

DC0009 Special Permits

31. Unless otherwise specifically approved in writing by Council, all works, processes, storage of materials, loading and unloading associated with the development are to occur entirely within the property boundaries. The applicant, owner or builder must apply for specific permits if the following activities are required seeking approval pursuant to Section 138 of the Roads Act 1993:

- (a) On-street mobile plant:
E.g. Cranes, concrete pumps, cherry-pickers, etc. - restrictions apply to the hours of operation and the area where the operation will occur, etc. Separate permits are required for each occasion and each piece of equipment. It is the applicant's, owner's and builder's responsibilities to take whatever steps are necessary to ensure the use of any equipment does not violate adjoining property owner's rights.
- (b) Storage of building materials and building waste containers (skips) on Council's property.
- (c) Permits to utilise Council property for the storage of building materials and building waste containers (skips) are required for each location they are to be stored. Failure to obtain the relevant permits will result in the building materials or building waste containers (skips) being impounded. Storage of building materials and waste containers within Council's open space areas, reserves and parks is prohibited.
- (d) Kerbside restrictions - construction zones:
The applicant's attention is drawn to the possible existing kerbside restrictions adjacent to the development. Should the applicant require alteration of existing kerbside restrictions, or the provision of a work zones, the appropriate application must be made to Council and the fee paid. Applicants should note that the alternatives of such restrictions may require referral to Council's Traffic Committee. An earlier application is suggested to avoid delays in construction programs..

The application is to be lodged with Council's Customer Service Centre.

Reason: Proper management of public land.

DC0010 Driveway Crossing Application

32. All works associated with the construction and/or extension of a driveway crossover/layback within Council owned land requires an application to be lodged and approved by Council.

All footpath crossings, laybacks and driveways are to be constructed according to Council's Specification for Construction or Reconstruction of Standard Footpath Crossings and in compliance with Standard Drawings DS1 (Kerbs & Laybacks); DS7 (Standard Passenger Car Clearance Profile); DS8 (Standard Vehicular Crossing); DS9 (Heavy Duty Vehicular Crossing) and DS10 (Vehicular Crossing Profiles).

The application for a driveway crossing requires the completion of the relevant application form and accompanied by plans, grades/levels and specifications. A fee in accordance with Council's adopted 'Fees and Charges' will need to be paid at the time of lodgement.

Note 1: This development consent is for works wholly within the property. Development consent does not imply approval of the footpath or driveway levels, materials or location within the road reserve, regardless of whether the information is shown on the development application plans.

Note 2: Council's Customer Service Team can advise of the current fee and can be contacted on 9806 5524

Reason: To provide suitable vehicular access without disruption to pedestrian and vehicular traffic.

EFC0001 Food premises DA/CC plans to satisfy requirements

33. The design and construction of any food / beverage preparation facilities and waste storage areas associated with this activity shall satisfy the requirements of food safety standards prescribed under the Food Act 2003, as well as Australian Standard AS 4674 - 2004: 'Design, Construction and Fit-out of Food Premises'. Final design drawings for these areas are to be submitted to the principal certifying authority prior to commencement of work.

Reason: To ensure design of the premises meets relevant public health standards.

PC0001 #Appointment of PCA

34. Prior to commencement of work, the person having the benefit of the Development Consent and Construction Certificate approval must:

- (a) Appoint a Principal Certifying Authority (PCA) and notify Council in writing of the appointment (irrespective of whether Council or an accredited private certifier) within 7 days; and
- (b) Notify Council in writing a minimum of 48 hours prior to work commencing of the intended date of commencement.

The Principal Certifying Authority must determine and advise the person having the benefit of the Construction Certificate when inspections, certification and compliance certificates are required.

Reason: To comply with legislative requirements.

PC0002 Enclosure of the site

35. The site must be enclosed by a 1.8m high security fence erected wholly within the confines of the site to prevent unauthorised access. The fence must be installed to the satisfaction of the Principal Certifying Authority prior to the commencement of any work on site.

Reason: To ensure public safety.

PC0003 Site Sign

36. A sign must be erected in a prominent position on any site involving excavation, erection or demolition of a building in accordance with Clause 70 of the Environmental Planning and Assessment Regulations 2000 detailing:

- (a) Unauthorised entry of the work site is prohibited;
- (b) The name of the principal contractor (or person in charge of the work site), their telephone number enabling 24hour contact; and
- (c) The name, address and telephone number of the Principal Certifying Authority;
- (d) The development consent approved construction hours;
- (e) The sign must be maintained during excavation, demolition and building work, and removed when the work has been completed.
- (f) This condition does not apply where works are being carried out inside an existing building.

Reason: Statutory requirement.

PC0005 Public liability insurance

37. Public risk insurance in the amount of not less than \$20 million or such other amount as Council may require by notice) must be obtained and furnished to Council before any works authorised by this consent are conducted:

- (a) Above;
- (b) Below; or
- (c) On

Any public land owned or controlled by Council. The public risk insurance must be maintained for the period during which these works are being undertaken.

The public risk insurance must be satisfactory to Council and list Council as an insured and/or interested party.

A copy of the insurance policy obtained must be forwarded to Council before any of the works commence.

Note: Applications for hoarding permits, vehicular crossing etc. will require evidence of insurance upon lodgement of the application.

Reason: To ensure the community is protected from the cost of any claim for damages arising from works authorised by this consent conducted above, below or on any public land owned or controlled by Council.

TC0001 #Construction and Pedestrian Traffic Manage. Plan

38. Prior to the commencement of any works on site, the applicant shall submit a Construction and Pedestrian Traffic Management Plan (CPTMP) to the satisfaction of Council's Traffic and Transport Manager and the Transport for NSW Sydney Coordination Office. The CPTMP shall be prepared by a suitably qualified and experienced traffic consultant. The following matters must be specifically addressed in the CPTMP:
- a) Dedicated construction site entrances and exits, controlled by a certified traffic controller, to safely manage pedestrians and construction related vehicles in the frontage roadways,
 - b) Turning areas within the site for construction and spoil removal vehicles, allowing a forward entry and egress for all construction vehicles on the site,
 - c) The location of proposed Work Zones in the egress frontage roadways,
 - d) Location of any proposed crane standing areas,
 - e) A dedicated unloading and loading point within the site for all construction vehicles, plant and deliveries,
 - f) Material, plant and spoil bin storage areas within the site, where all materials are to be dropped off and collected,
 - g) The provisions of an on-site parking area for employees, trade person and construction vehicles as far as possible,
 - h) A detailed description and route map of the proposed route for vehicles involved in spoil removal, material delivery and machine floatage and a copy of this route is to be made available to all contractors,
 - i) A detailed description of locations that will be used for layover for trucks waiting to access the construction site,
 - j) Proposed construction hours,
 - k) Estimated number and type of construction vehicle movements including morning and afternoon peak and off peak movements,
 - l) Construction program that references peak construction activities and proposed construction 'Staging',
 - m) Any potential impact to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works,
 - n) Cumulative construction impacts of projects in the Parramatta CBD. Should any impacts be identified, the duration of the impacts,
 - o) Measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts should be clearly identified, and,
 - p) The plan may be required to include restrictions on the number of trucks that can access the site in peak hours and a requirement for the developer to provide video footage of the frontage of the site on a weekly basis so that Council can enforce this requirement,
 - q) Evidence of Roads and Maritime Services concurrence where construction access is provided directly or within 20 m of an Arterial Road if applicable,
 - r) A schedule of site inductions on regular occasions and as determined necessary to ensure all new employees are aware of the construction management obligations,

The CPTMP is to include the provision of a sign on the hoarding that provides a phone number and email address for members of the local community to make enquires or complaints regarding traffic control for the site. The construction company for the site is to provide a representative for meetings that may occur once a month and may include representatives of the local community and Council staff to discuss traffic control at the site.

Written concurrence from Council's Traffic and Transport Services in relation to installation of a proposed 'Work Zone' restriction in the egress frontage roadways of the development site. Application fees and kerbside charges for 6 months (minimum) are to be paid in advance in accordance with the Council's Fees and Charges. The 'Work Zone' restriction is to be installed by Council once the applicant notifies Council in writing of the commencement date (subject to approval through Parramatta Traffic Committee processes). Unused fees for kerbside charges are to be refunded once a written request to remove the restriction is received by Council.

All traffic control devices installed in the road reserve shall be in accordance with the NSW Transport Roads and Maritime Services publication 'Traffic Control Worksite Manual' and be designed by a person licensed to do so

(minimum RMS 'red card' qualification). The main stages of the development requiring specific construction management measures are to be identified and specific traffic control measures identified for each.

Approval shall be obtained from City of Parramatta Council for any temporary road closure or crane use from public property.

Reason: To ensure the appropriate measures have been considered during all phases of the construction process in a manner that maintains the environmental amenity and ensures the ongoing safety and protection of people.

PART D – WHILE BUILDING WORK IS BEING CARRIED OUT

EWD0003 Waste data file maintained

39. A Waste Data file is to be maintained, recording building/demolition contractor's details and waste disposal receipts/dockets for any demolition or construction wastes from the site. These records must be retained and made available to Council on request.

Reason: To confirm waste minimisation objectives under Parramatta Development Control Plan 2011 are met.

EWD0005 General requirements for liquid and solid waste

40. Liquid and solid wastes generated onsite shall be collected, transported and disposed of in accordance with the Protection of the Environment Operations (Waste) Regulation 2014 and in accordance with DECC the Environmental Guidelines Assessment, Classification and Management of Liquid and Non-Liquid Wastes (1999) and NSW EPA Waste Classification Guidelines.

Reason: To prevent pollution of the environment.

EWD0008 Contaminated waste to licensed EPA landfill

41. Any contamination material to be removed from the site shall be disposed of to an EPA licensed landfill.

Reason: To comply with the statutory requirements of the Protection of the Environment Operations Act 1997.

LD0001 No removal of trees on public property

42. No trees on public property (footpaths, roads, reserves, etc.) are permitted to be removed, pruned or damaged during construction including the installation of fences, hoardings or other temporary works, unless approved in this consent.

Reason: Protection of existing environmental infrastructure and community assets.

LD0008 No attachments to trees

43. No service, structure, conduit or the like is permitted to be fixed or attached to any tree.

Reason: To ensure the protection of the tree(s).

LD0009 Planting Requirements

44. All trees planted as required by the approved landscape plan are to be a minimum 45 litre container size. All shrubs planted as part of the approved landscape plan are to have a minimum 200mm container size.

Reason: To ensure appropriate landscaping.

LD0012 Trees with adequate root volume

45. All trees/shrubs planted within the site must be of an adequate root volume and maturity so as not to require staking or mechanical support unless in a wind-prone area. Planting must be carried out in accordance with the approved Landscape Plan and conditions of consent.

Reason: To ensure the trees/shrubs planted within the site are able to reach their required potential.

PD0001 Copy of development consent

46. A copy of this development consent together with the stamped plans, referenced documents and associated specifications is to be held on-site during the course of any works to be referred to by all contractors to ensure compliance with the approval and the associated conditions of consent.

Reason: To ensure compliance with this consent.

PD0003 Dust Control

47. Dust control measures shall be implemented during all periods of earth works, demolition, excavation and construction to minimise the dust nuisance on surrounding properties. In this regard, dust minimisation practices must be carried out in accordance with Section 126 of the Protection of the Environment Operations Act 1997.

Reason: To protect the amenity of the area.

PD0004 Materials on footpath

48. No building materials skip bins, concrete pumps, cranes, machinery, temporary traffic control, signs or vehicles associated with the construction, excavation or demolition shall be stored or placed on/in Council's footpath, nature strip, roadway, park or reserve without the prior approval being issued by Council under section 138 of the Roads Act 1993.

Reason: To ensure pedestrian access.

PD0006 Hours of work and noise (DPIE Mandatory Condition)

49. The principal certifier must ensure that building work, demolition or vegetation removal is only carried out between:

- 7am to 5pm on Monday to Friday
- 8am to 5pm on Saturday

The principal certifier must ensure building work, demolition or vegetation removal is not carried out on Sundays and public holidays, except where there is an emergency.

Unless otherwise approved within a construction site management plan, construction vehicles, machinery, goods or materials must not be delivered to the site outside the approved hours of site works.

Note: Any variation to the hours of work requires Council's approval.

Council may permit an extension to the approved hours of work in extenuating or unforeseen circumstances subject to an application and approval by City of Parramatta Council (CoPC) in accordance with the 'After Hours Works for Approved Development Applications Policy' (Policy).

A copy of this Policy and associated application form is available on the CoPC website. A fee will apply to any application made in accordance with this Policy.

The matters of consideration of any extension sought would include, but not be limited to the following aspects and should be detailed in any application made:

- Nature of work to be conducted;
- Reason for after-hours completion;
- Residual effect of work (noise, traffic, parking);
- Demographic of area (residential, industrial);
- Compliance history of subject premises;
- Current hours of operation;
- Mitigating or extenuating circumstance; and
- Impact of works not being completed.

Reason: To protect the amenity of the surrounding area.

PD0007 Complaints register

50. The applicant must record details of all complaints received during the construction period in an up to date complaints register. The register must record, but not necessarily be limited to:

- (a) The date and time of the complaint;
- (b) The means by which the complaint was made;
- (c) Any personal details of the complainants that were provided, or if no details were provided, a note to that effect;
- (d) Nature of the complaints;
- (e) Any action(s) taken by the applicant in relation to the complaint, including any follow up contact with the complainant; and
- (f) If no action was taken by the applicant in relation to the complaint, the reason(s) why no action was taken.

The complaints register must be made available to Council and/or the Principal Certifying Authority upon request.

Reason: To allow the Principal Certifying Authority/Council to respond to concerns raised by the public.

PD0008 Construction Noise (DPIE Mandatory Cond)

51. While building work is being carried out, and where a noise and vibration management plan is approved under this consent, the applicant must ensure that any noise generated from the site is controlled in accordance with the requirements of that plan.

OR

While building work is being carried out and where no noise and vibration management plan is approved under this consent, the applicant is to ensure that any noise caused by demolition, vegetation removal or construction does not exceed an LAeq (15 min) of 5dB(A) above background noise, when measured at any lot boundary of the property where the construction is being carried out.

Reason: To protect the amenity of the neighbourhood.

PD0010 Survey Report

52. While building work is being carried out, a registered surveyor is to measure and mark the positions of the following and provide them to the principal certifier: -

- (a) All footings/ foundations
- (b) At other stages of construction – any marks that are required by the principal certifier

Reason: To ensure buildings are sited and positioned in the approved location.

TD0001 Road Occupancy Permit

53. Occupation of any part of the footpath or road at or above (carrying out work, storage of building materials and the like) during construction of the development shall require a Road Occupancy Permit from Council. The applicant is to be required to submit an application for a Road Occupancy Permit through Council's Traffic and Transport Services, prior to carrying out the construction/restoration works.

Reason: To ensure proper management of Council assets.

TD0002 Oversize vehicles using local roads

54. Oversize vehicles using local roads require approval from the National Heavy Vehicle Regulator (NHVR). The applicant is required to submit an application for an Oversize Vehicle Access Permit through NHVR's portal (www.nhvr.gov.au/about-us/nhvr-portal) prior to driving through local roads within the City of Parramatta LGA.

Reason: To ensure maintenance of Council's assets.

DD0002 #Stormwater must be connected to the kerb & gutter

55. Stormwater must be connected to the road drainage system in Firehorse Lane.

Reason: To ensure satisfactory storm water disposal.

DD0005 Erosion & sediment control measures

56. Works are not to result in sedimentation and or run-off from the approved works onto the adjoining properties and or public lands. The person having the benefit of this consent must ensure sediment is not tracked out from the development site.

Reason: To ensure no adverse impacts on neighbouring properties.

DD0006 Damage to public infrastructure

57. Any damage to Council assets that impacts on public safety during construction is to be rectified immediately to the satisfaction of Council with all costs to be borne by the person having the benefit of the Development Consent.

Reason: To protect public safety.

DD0011 Nomination of Engineering Works Supervisor

58. During construction of all public area civil and drainage works a qualified civil engineer must supervise the work to ensure it is completed in accordance with Council's "Guidelines for Public Domain Works". Certification is required to be provided with the Occupation Certificate.

Reason: To ensure Council's assets are appropriately constructed.

PART E – BEFORE THE ISSUE OF AN OCCUPATION CERTIFICATE

BE0001 Record of inspections carried out

59. In accordance with Clause 162B of the Environmental Planning and Assessment Regulation 2000, the Principal Certifying Authority responsible for the critical stage inspections must make a record of each inspection as soon as practicable after it has been carried out. The record must include:

- (a) The development application and Construction Certificate number as registered;
- (b) The address of the property at which the inspection was carried out;
- (c) The type of inspection;
- (d) The date on which it was carried out;
- (e) The name and accreditation number of the certifying authority by whom the inspection was carried out; and
- (f) Whether or not the inspection was satisfactory in the opinion of the certifying authority who carried it out.

Reason: To comply with statutory requirements.

EAE0001 #All works/methods/procedures/control measures

60. Prior to the issue of an occupation certificate (Interim or Final), written certification from a suitably qualified person(s) shall be submitted to the Principal Certifying Authority and City of Parramatta Council, stating that all works/methods/procedures/control measures approved by Council in the following report have been completed:
- a.) Acoustic Report No. 210863R1 dated 17 November 2021, prepared by Rodney Stevens Acoustics Pty Ltd.

Reason: To demonstrate compliance with submitted reports.

EFE0002 Notification of food business – Council

61. Prior to an Occupation Certificate being issued, Council must be notified that the premises is to be used for the preparation of food for sale so that the premises can be registered on Council's food premises licensing database.

Reason: Compliance with the requirements of the Food Act.

EFE0003 Certify mechanical ventilation installation

62. Adequate ventilation to work areas and other occupied enclosures shall be provided in accordance with the requirements of the Building Code of Australia. Where any system of mechanical ventilation is installed, certification that the system functions in accordance with Australian Standard AS/NZS 1668.2.2012 is to be provided to the certifying authority prior to occupation of the premises.

Reason: To comply with the Building Code of Australia and the relevant Australian Standard.

EFE0004 Certify fitout complies with food safety standards

63. Certification to be provided to the principal certifying authority (PCA), prior to occupation, that the fit-out of the food premises has been completed in accordance with plans complying with food safety standards prescribed under the Food Act 2003, and the requirements of Australian Standard AS 4674 - 2004.

It is incumbent on the PCA to determine the competency of the person providing this certification, based on that person's qualifications, experience and currency of practice.

Reason: To ensure construction and fit-out of the premises meets relevant public health standards.

LE0002 Cert.Auth.Arrange Qualified LandscapeArch.(multi)

64. A qualified Landscape Architect/Designer must certify that the completed works are in accordance with the approved landscape plan. All landscape works must be completed prior to the issue of an Occupation Certificate.

Reason: To ensure restoration of environmental amenity.

PE0001 Occupation Certificate

65. Occupation or use of the building or part is not permitted until an Occupation Certificate has been issued in accordance with Section 6.9 of the Environmental Planning and Assessment Act 1979.

Reason: To comply with legislative requirements of the Environmental Planning and Assessment Act 1979.

DE0003 Work-as-Executed Plan (DPIE Condition)

66. Before the issue of the relevant occupation certificate, the applicant must submit, to the satisfaction of the principal certifier, works-as-executed plans, any compliance certificates and any other evidence confirming the following completed works:

- (a) All stormwater drainage systems and storage systems
- (b) The following matters that Council requires to be documented
 - (i) *The Work-As-Executed plans are prepared on the copies of the approved drainage plans issued with the Construction Certificate with the variations marked in red ink.*
 - (ii) *The Work-As-Executed plans have been prepared by a registered surveyor certifying the accuracy of dimensions, levels, storage volumes, etc.*
 - (iii) *The as built On-Site Detention (OSD) storage volumes are to be presented in a tabular form (depth verses volume table*
 - (iv) *OSD Works-As-Executed dimensions form (refer to UPRCT Handbook).*
 - (v) *Certificate of Hydraulic Compliance from a qualified drainage / hydraulic engineer (refer to UPRCT Handbook).*
 - (vi) *Certificate of Structural compliance of the OSD tank walls and cover slab from a qualified structural engineer*

The principal certifier must provide a copy of the plans to Council with the occupation certificate.

Reason: To confirm the location of works once constructed that will become council assets

DE0005 #OSD Positive Covenant/Restriction

67. Prior to the issue of an Occupation Certificate a Positive Covenant and Restriction on the Use of Land under Section 88E of the Conveyancing Act 1919 must be created, burdening the owner with the requirement to maintain the on-site stormwater detention facilities on the lot.

The terms of the 88E Instruments are to be generally in accordance with Council's "standard terms" available in Council's website, under Development Forms.

Where a Title exists, the Positive Covenant and Restriction on the Use of Land is to be created through via an application to NSW Land Registry Services using forms 13PC and 13RPA. Accompanying this form is the requirement for a plan to scale showing the relative location of the On-Site Detention facility, including its relationship to the building footprint.

Registered title documents showing the covenants and restrictions must be submitted to and approved by the Principal Certifying Authority prior to Occupation or use of on-site.

Reason: To ensure maintenance of on-site detention facilities.

DE0006 Section 73 Certificate

68. A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained prior to the issue of any Occupation Certificate. The application must be made through an authorised Water Servicing Coordinator. Please refer to "Your Business" section of Sydney Water's web site at www.sydneywater.com.au then the "e-developer" icon or telephone 13 20 92.

Reason: To ensure the requirements of Sydney Water have been complied with.

PART F – OCCUPATION AND ONGOING USE

EAF0001 Use is not to cause offensive noise or vibration

69. The use of the premises not giving rise to:

- (a) transmission of unacceptable vibration to any place of different occupancy,
- (b) a sound pressure level measured at any point on the boundary of any affected residential premises that exceeds the background noise level by more than 5 dB(A). The source noise level shall be assessed as an LAeq,15 min and adjusted in accordance with Environment Protection Authority (EPA) guidelines for tonality, frequency weighting, impulsive characteristics, fluctuations, and temporal content as described in the NSW Environmental Planning & Assessment Act 1979: Noise Policy for Industry 2017 and the Protection of the Environment Operations Act 1997.

Reason: To prevent loss of amenity to the area.

EAF0002 Patron noise control

70. The proprietors of the venue shall be responsible at all times for the orderly dispersal of patrons from the venue.

Reason: To protect the amenity of the surrounding neighbourhood.

EAF0004 No 'offensive noise'

71. Noise and vibration from the use and operation of any plant and equipment and/or building services associated with the premises shall not give rise to "offensive noise" as defined by the Protection of the Environment Operations Act 1997.

Reason: To reduce noise levels.

EAF0005 Noise from Customers

72. Security personnel licensed under the Security Industry Act 1997 shall be engaged by the licensee to patrol the area to ensure that patrons do not cause nuisance, or annoyance to the quiet and good order of the neighbourhood.

Reason: To protect the amenity of the area.

EAF0006 Neighbourhood Amenity near Licensed Premises

73. Signs must be placed in clearly visible positions within the hotel requesting patrons upon leaving the premises to do so quickly and quietly, having regard to maintaining the amenity of the area.

The management/licensee must ensure that the behaviour of patrons entering and leaving the premises does not detrimentally affect the amenity of the neighbourhood. In this regard, the management/licensee must be responsible for the control of noise and litter generated by patrons of the premises and must ensure that patrons leave the vicinity of the premises in an orderly manner to the satisfaction of Council. If so directed by Council, the management/licensee is to employ private security staff to ensure that this condition is complied with.

Reason: To prevent loss of amenity to the area.

EAF0007 Noise from mechanical equipment

74. The proposed use of the premises and the operation of all plant and equipment shall not give rise to an 'offensive noise' as defined in the Protection of the Environment Operations Act 1997.

Reason: To protect the amenity of the area.

EAF0008 Noise to street

75. There are to be no external speakers at the premises.

Reason: To prevent loss of amenity to the area.

EFF0001 Food premises

76. The operation of the premises is to comply with the relevant provisions of the Food Act 2003, Food Regulation 2015 and the Australia New Zealand Food Authority Food Standards Code.

Reason: To ensure operation of the premises complies with the relevant legislation and standards.

EFF0003 Remove putrescible waste at sufficient frequency

77. All putrescible waste shall be removed from the site with sufficient frequency to avoid nuisance from pests and odours.

Reason: To ensure provision of adequate waste disposal arrangements.

EFF0004 Use is not to cause air impurities

78. The operation of the premises is not to give rise to emissions of air impurities in contravention of the Protection of the Environment Operations Act 1997. Air emissions from the premises must not cause a nuisance from odours, nor be hazardous to human health or the environment.

Reason: To prevent loss of amenity to the area.

EFF0008 Holding facilities for oils and liquids

79. Adequate holding facilities shall be constructed for the storage of new and waste oils and other bulk liquids in accordance with AS 1940-2017 'The storage and handling of flammable and combustible liquids' before commencement of use.

Reason: To ensure that waste liquids are correctly contained.

EFF0009 Dangerous goods storage

80. All Dangerous Goods shall be stored in accordance with:

- a) AS 1940-2017: The Storage and Handling of Flammable and Combustible Liquids;
- b) Work Health and Safety Act 2011;
- c) Model code of Practice: Managing risks of Hazardous Chemicals in the workplace.

Reason: To ensure that the dangerous goods are correctly contained.

EFF0010 Storage of hazardous material in bunded area

81. All aboveground storages of hazardous materials, oils and chemicals are to be bunded. The bund is to be made of any impervious material and should be roofed and large enough to hold the contents of the largest container plus 10%.

Reason: To ensure that hazardous materials are correctly contained.

EFF0011 Safety Data Sheets

82. To ensure correct handling of hazardous materials, Material Safety Data Sheets (MSDS) must be held at the facility for all hazardous materials. These can be obtained free of charge from the supplier.

Reason: To ensure compliance with the Work Health and Safety Act 2011 and Work Health and Safety Regulation 2017.

EFF0012 Management of waste storage facilities

83. All waste storage areas are to be maintained in a clean and tidy condition at all times.

Reason: To ensure the ongoing management of waste storage areas.

EFFNSC Non-standard - The Use of the Site

84. A waste storage room is to be provided on the premises and shall be constructed to comply with all the relevant provisions of Council's Development Control Plan (DCP) 2011 including:

- (a) The size being large enough to accommodate all waste generated on the premises, with allowances for the separation of waste types;
- (b) The floor being graded and drained to an approved drainage outlet connected to the sewer and having a smooth, even surface, coved at all intersections with walls;
- (c) The walls being cement rendered to a smooth, even surface and coved at all intersections;
- (d) Cold water being provided in the room with the outlet located in a position so that it cannot be damaged and a hose fitted with a nozzle being connected to the outlet.

Reason: To ensure provision of adequate waste storage arrangements.

EPFNSC Non-standard - The Use of the Site

85. The business must comply with the Smoke-free Environment Act 2000 No 69.

Reason: To ensure compliance with relevant legislation.

EWFO006 Storage of bins between collection periods

86. Between collection periods, all waste/recyclable materials generated on site must be kept in enclosed bins with securely fitting lids so the contents are not able to leak or overflow. Bins must be stored in the designated waste/recycling storage room(s) or area(s) between collection periods.

Reason: To ensure waste is adequately stored within the premises.

EWFO007 Trade Waste (Previously PF03)

87. Trade waste water shall be disposed of in accordance with the permit requirements of Sydney Water Corporation Ltd, Wastewater Source Control Branch.

Reason: To ensure compliance with Sydney Water's requirements and protect the environment.

PF0004 External Plant/Air-conditioning noise levels

88. Any external plant/air-conditioning system must not exceed a noise level of 5dBA above the background noise level when measured at the boundaries of the property.

Reason: To minimise noise impact of mechanical equipment.

PF0017 Goods not to be displayed outside premises

89. No goods are to be stored/displayed outside the walls of the building.

Reason: To ensure visual amenity.

PF0029 Shopfront appearance

90. Roller shutters are not to be placed over any external door or window of the premises. Any security grill is to be located on the inside of the glass shop front and must be an open grille able to be seen through.

Reason: To provide an appropriate streetscape appearance.

PF0049 Graffiti Management

91. The owner/manager of the site/business is responsible for the removal of all graffiti from the building/structures/signage and/or fencing within 48 hours of its application.

Reason: To ensure the removal of graffiti.

PFFNSC Non-standard - The Use of the Site

92. There are to be no signage associated with the approved use as a pub promoting the Electronic Gaming Room.

Reason: To reduce adverse social impacts

PFFNSC Non-standard - The Use of the Site

93. The Licensee is to install "No Smoking" signs at the front and rear of the site.

Reason: The maintain the amenity of the site.

PFFNSC Non-standard - The Use of the Site

94. The licensee must record details of all complaints received during the operations of the use of the premises as a pub in an up to date complaints register. The register must record, but not necessarily be limited to:

- (a) The date and time of the complaint;
 - (b) The means by which the complaint was made;
 - (c) Any personal details of the complainants that were provided, or if no details were provided, a note to that affect;
 - (d) Nature of the complaints;
 - (e) Any action(s) taken by the applicant in relation to the complaint, including any follow up contact with the complainant; and
 - (f) If no action was taken by the applicant in relation to the complaint, the reason(s) why no action was taken.
- The complaints register must be made available to Council upon request.

Reason: To allow Council to respond to concerns raised by the public.

PFFNSC Non-standard - The Use of the Site

95. Deliveries of goods to the premises must be undertaken on designated loading bays and is not to obstruct vehicles and pedestrians from using Fire Horse Lane.

Reason: To allow the use of Fire Horse Lane.

PFFNSC Non-standard - The Use of the Site

96. An effective evacuation report is to be prepared by a suitably qualified persons which details the emergency evacuation plan, including escape routes for the venue.

Reason: Fire safety.

PFFNSC Non-standard - The Use of the Site

97. The operational hours are as follows

Day	Hours	Balcony
Sunday to Thursday	10am to 12 midnight	10pm
Friday and Saturday	10am to 2am	10pm

Reason: To ensure amenity of the area.

PFFNSC Non-standard - The Use of the Site

98. The use of the premises is to operate in the following way:

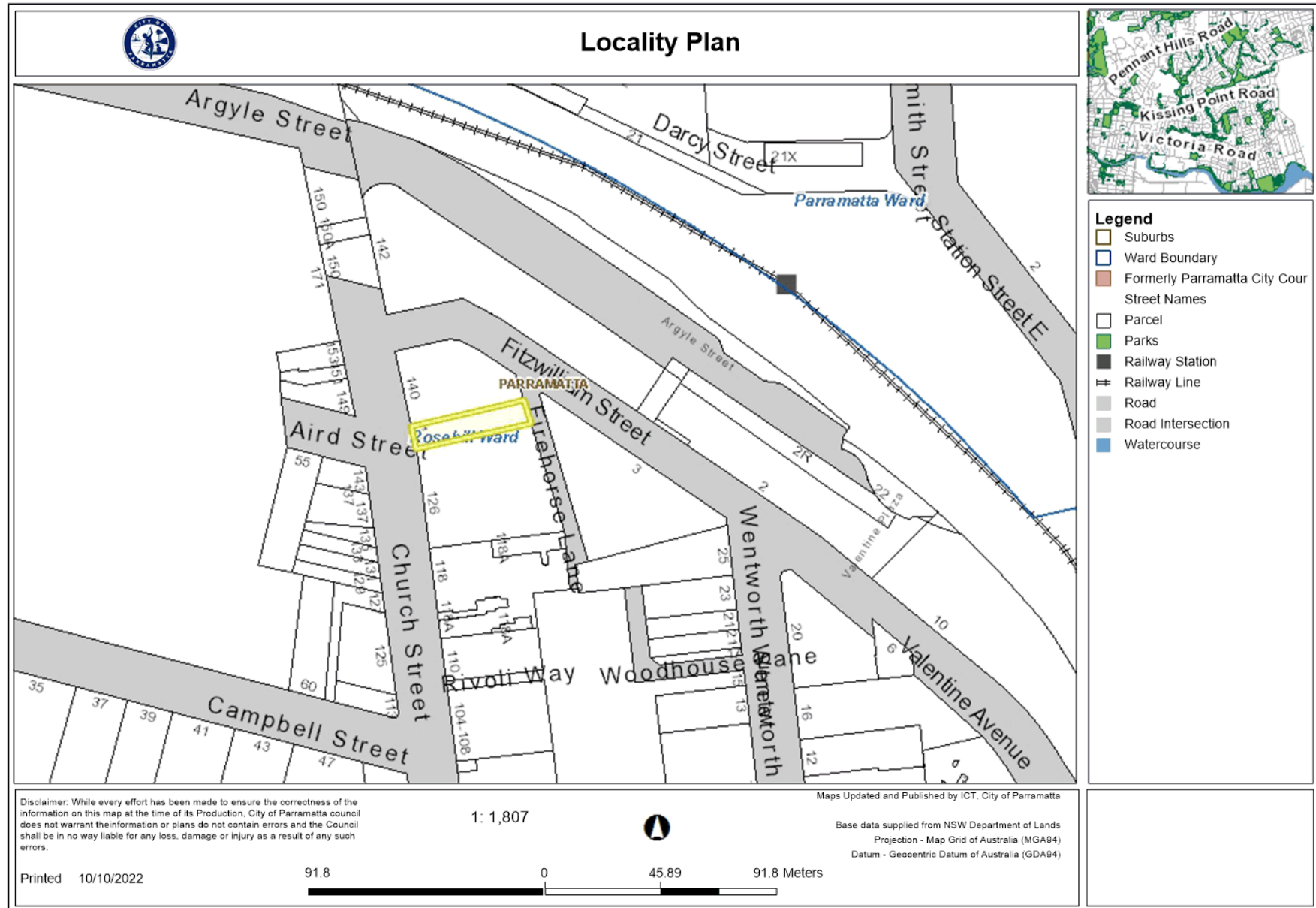
- a. The venue operates in accordance the Plan of Management and that any breach of any clause of the Plan of Management is therefore a breach of the conditions of consent;
- b. After 7pm on any trading day, entry and exit or patrons to the premises is to be by the Church Street entrance. No entry or exit will be permitted from Firehorse Lane after 7pm;
- c. To minimise noise at night, disposal of glass containers into outdoor bins or recycling containers must not be done after 10pm;
- d. Music or announcements must not be made on outdoor loud speakers after 10pm (including the balcony area);
- e. The licensee shall be an active member of the local Liquor Accord. Active membership is defined as being a financial member and attending at least 75% of accord meetings annually;
- f. The Club CCTV system is to be registered with the NSW Police CCTV register at https://www.police.nsw.gov.au/online_services/register_my_business_cctv_details;
- g. No person wearing any form of clothing, jewellery or other accessory, displaying or indicating by form of wording, colours, logo, symbol or otherwise that they are members of or are in any way associated with; Bandidos, Black Uhlands, Coffin Cheaters, Comanchero, Finks, Fourth Reich, Gladiators, Gypsy Jokers, Highway 61, Life & Death, Lone Wolf, Mobshitters, Nomads, Odins Warriors, Outcasts, Outlaws, Pheonix, Rebels, Hells Angels, Scorpions, Notorious) or a declared organisation as defined in the Crimes (Criminal Organisations Control) Act 2012, be allowed entry into, or be permitted to remain on the licensed premises.
- h. The CCTV system operated by the pub should comply with Australian Standard AS/NZS 62676.1.1-2020. Guidelines for the system are detailed in Annexure A. Images should be retained for a minimum of 30 days before deletion and available to NSW Police, or to the City of Parramatta Council upon written request. It should be noted that CCTV is a requirement under the NSW Independent Liquor and Gaming Authority conditions of a pub licence so this condition of consent should not be considered as being onerous, indeed, the Plan of Management includes a CCTV system;
- i. The pub will comply with the NSW Police guidelines for crime scene preservation;
- j. If the Plan of Management is to be reviewed or amended it must only be done with the consent of the local Police Area Command and Council;
- k. Any modifications must be notified to Community Crime Prevention Officer on behalf of City of Parramatta Council prior to any amendment to the plan being implemented.

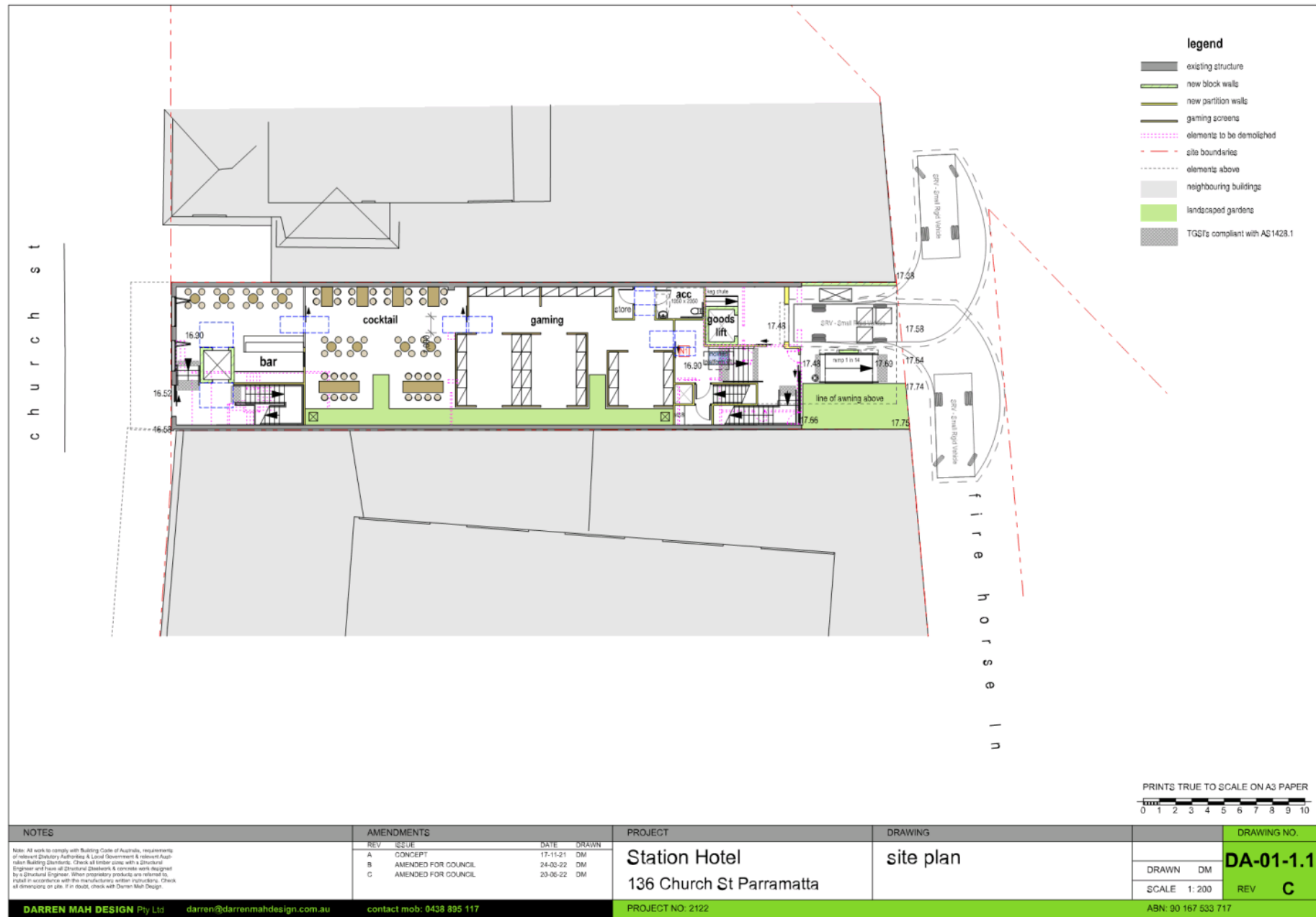
Reason: To maintain safety of the area.

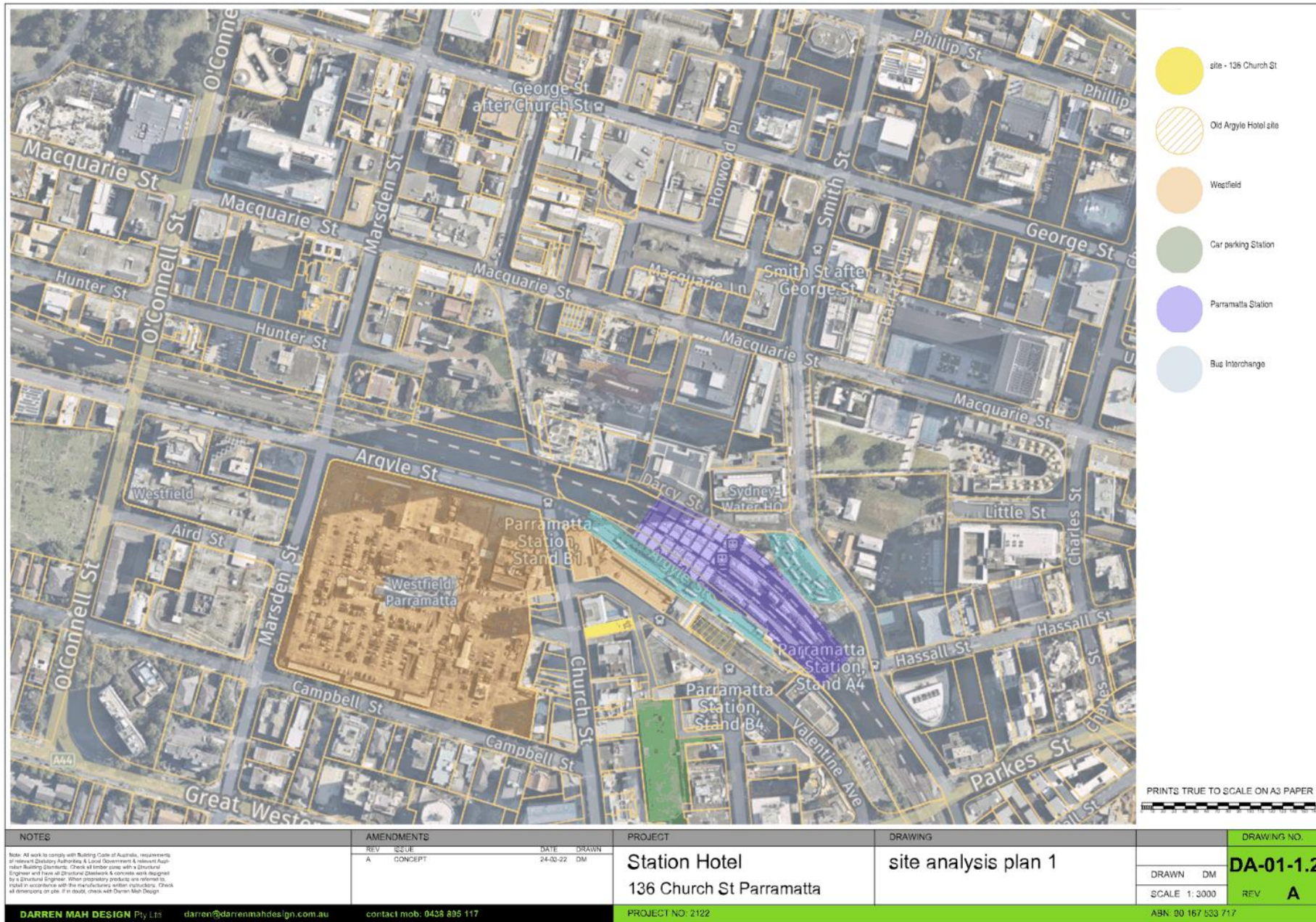
PFFNSC Non-standard - The Use of the Site

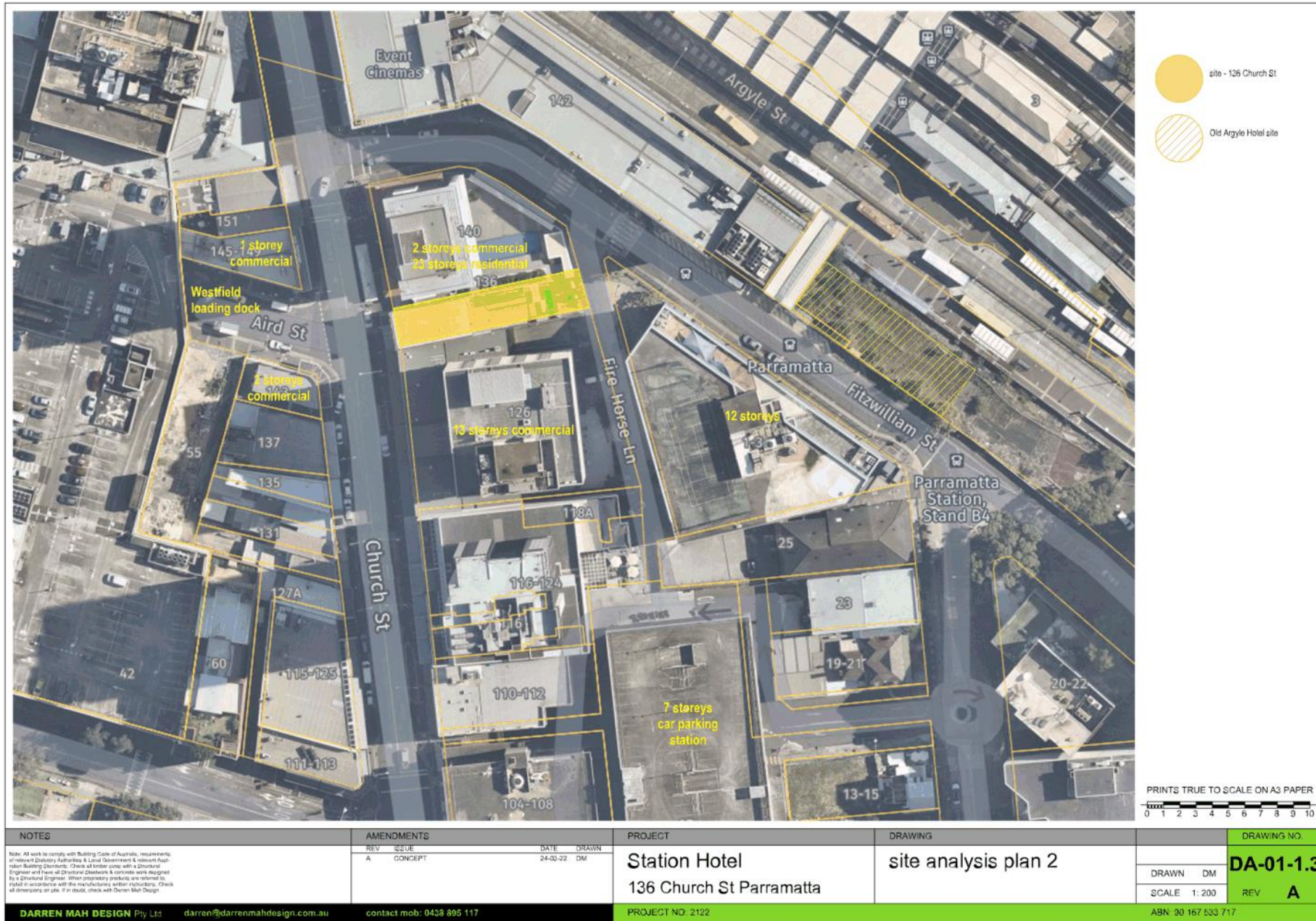
99. The premises is to be operated at all times in accordance with the Plan of Management dated November 2021. The plan may be varied from time to time after consultation with and in agreement with the local Police Area Commander. A copy of the Plan of Management is to be kept on the premises and made available for inspection on the request of a police officer, council officer or Liquor and Gaming NSW inspector.

Reason: To ensure safety and security of the community.











140 Church Street from Fire Horse Land - 25 stories (2 floors commercial, 23 floors residential).



1 Fitzwilliam Street - 12 Stories (Parking, retail, library)



17 Fire horse Land - 7 Stories (parking)



130 Church Street, viewed from Fire Horse Land - 13 stories (council building)



Single and 2 story properties across from 136 Church Street (140-155 & 113-141 Church Street)



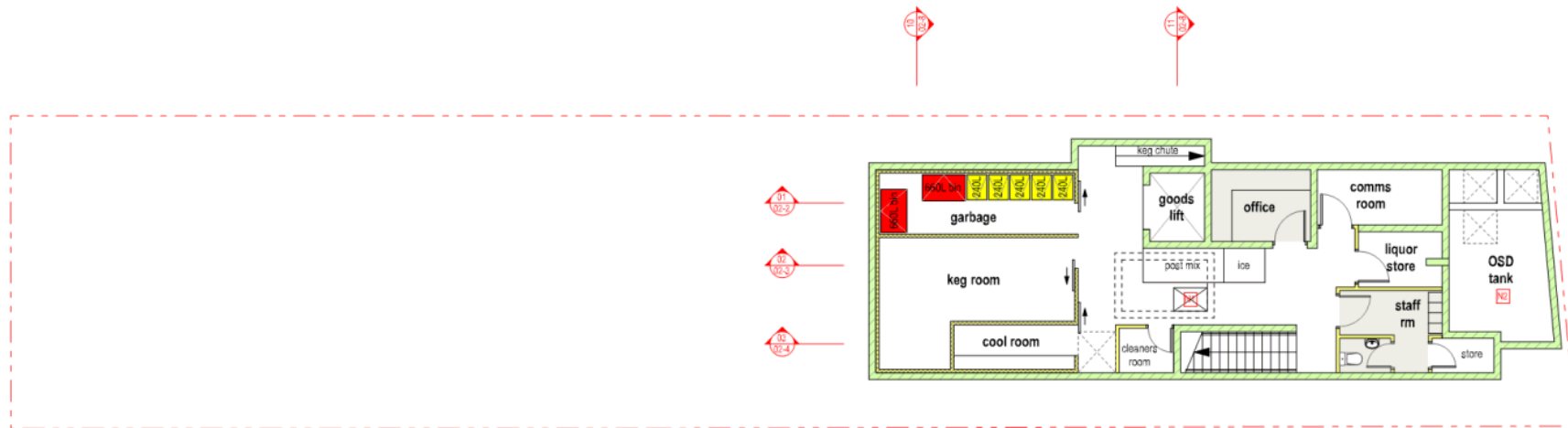
Panoramic view from Westfield loading dock on Aird St



Panoramic view from Fitzwilliam St

PRINTS TRUE TO SCALE ON A3 PAPER
0 1 2 3 4 5 6 7 8 9 10

NOTES	AMENDMENTS		PROJECT	DRAWING	DRAWING NO.	
	REV	ISSUE			SCALE	REV
Note: All work to comply with Building Code of Australia, requirements of relevant Statutory Authorities & Local Government & relevant Australian Building Standards. Check all timber work with a Structural Engineer and have all structural steelwork & concrete work designed by a Structural Engineer. When proprietary products are referred to, install in accordance with the manufacturer's written instructions. Check all dimensions on site. If in doubt, check with Darren-Mah Design.	A	CONCEPT	24-02-22	DM	1: 200	DA-01-1.4
						A
DARREN MAH DESIGN Pty Ltd	darren@darrenmahdesign.com.au		contact mob: 0438 895 117	PROJECT NO: 2122	ABN: 90 167 533 717	



notes

- N1 hinged grated to hydraulic engineers details
- N2 OSD tank to hydraulic engineers details

GFA

basement - 12.85m²

legend

- existing structure
- new block walls
- new partition walls
- new cool room walls
- elements to be demolished
- site boundaries
- elements above
- elements below
- GFA
- landscaped gardens

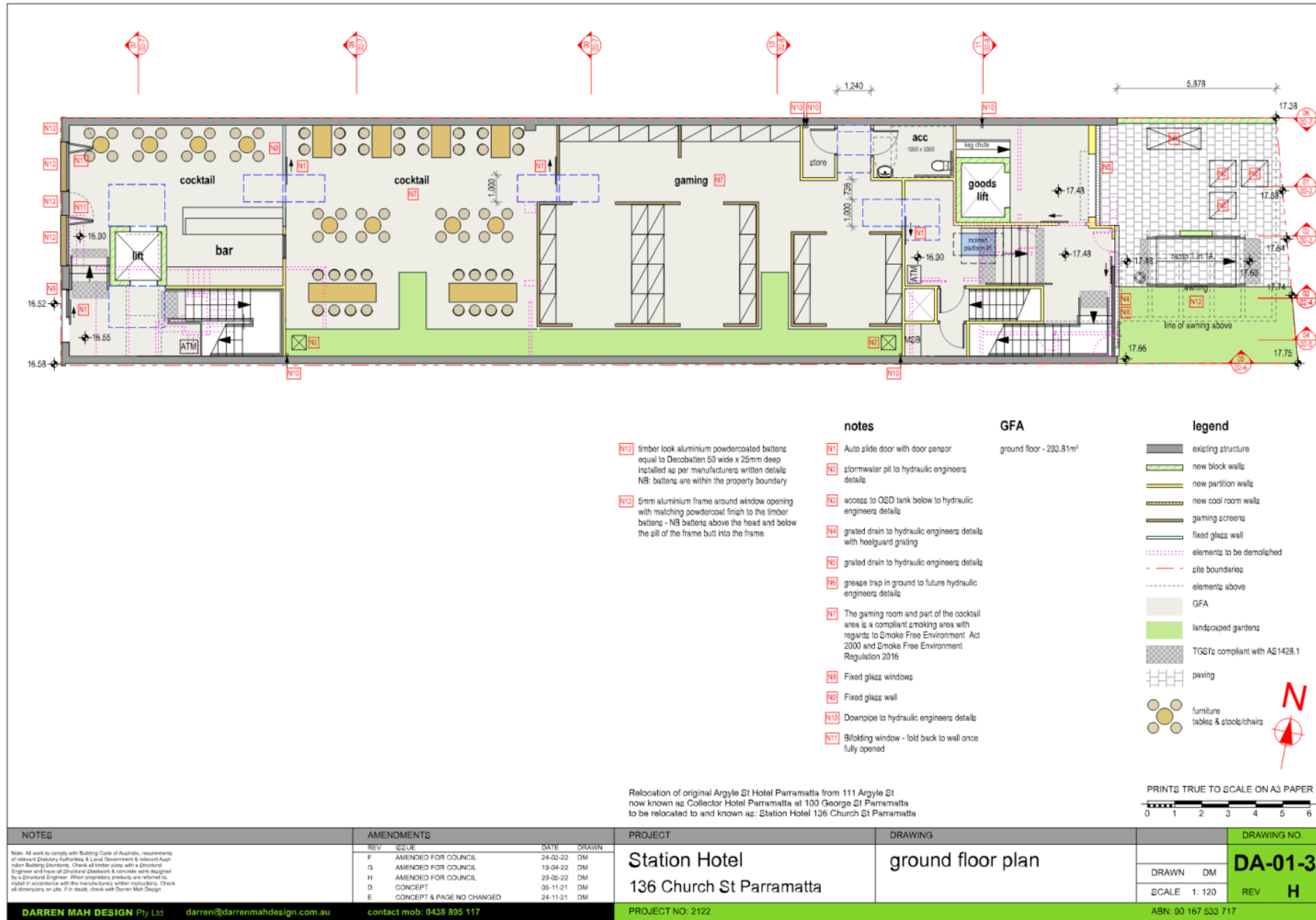


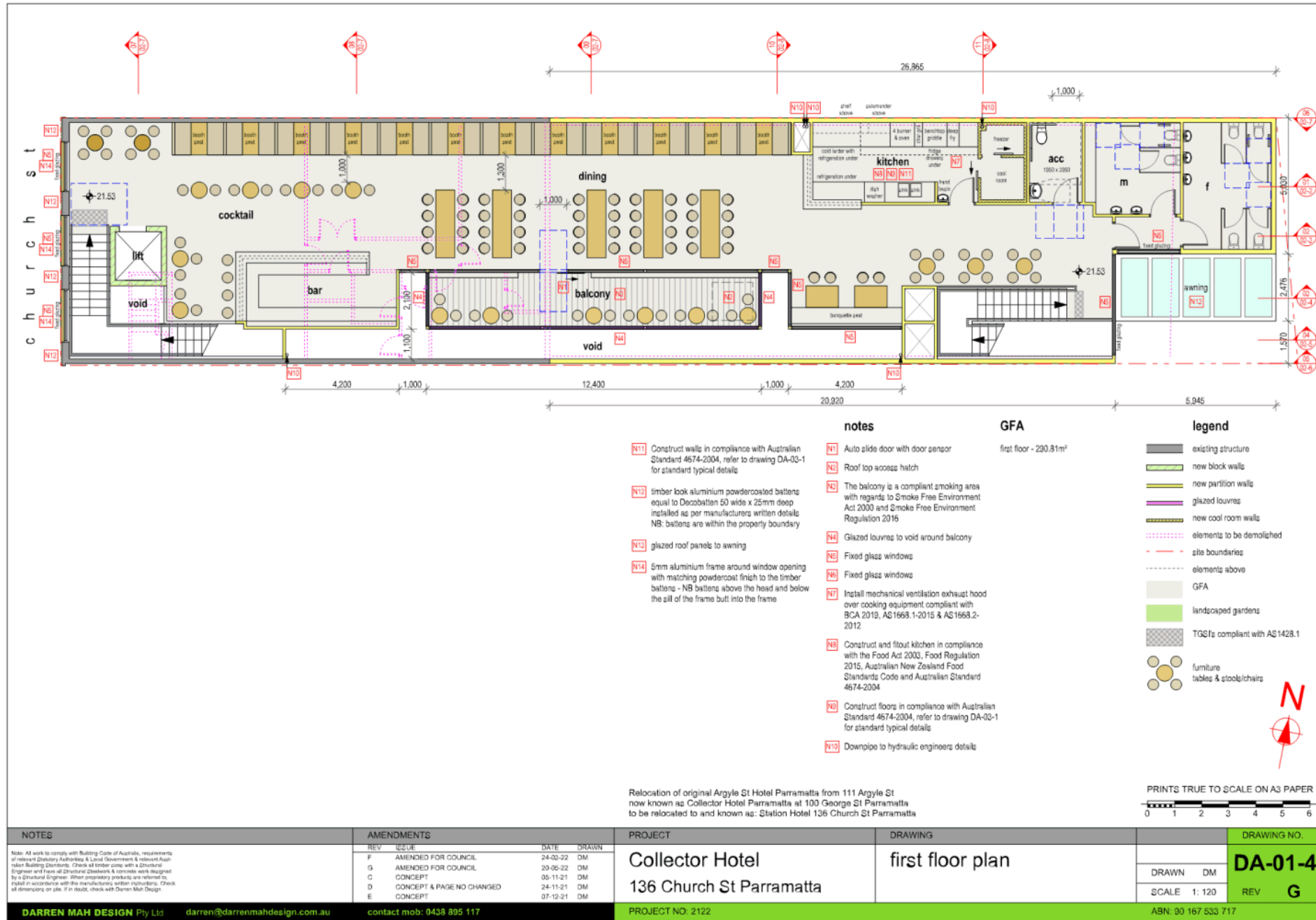
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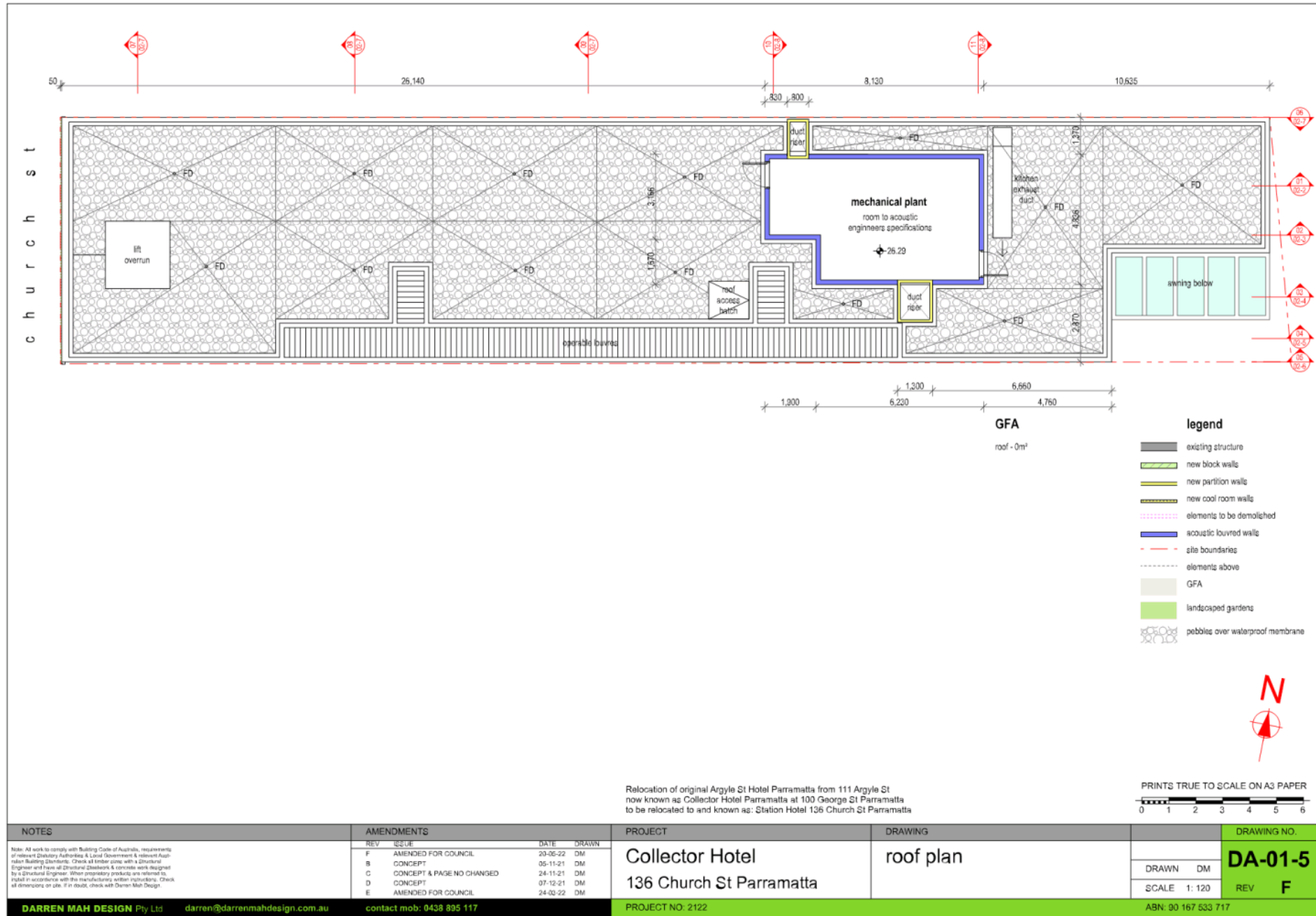


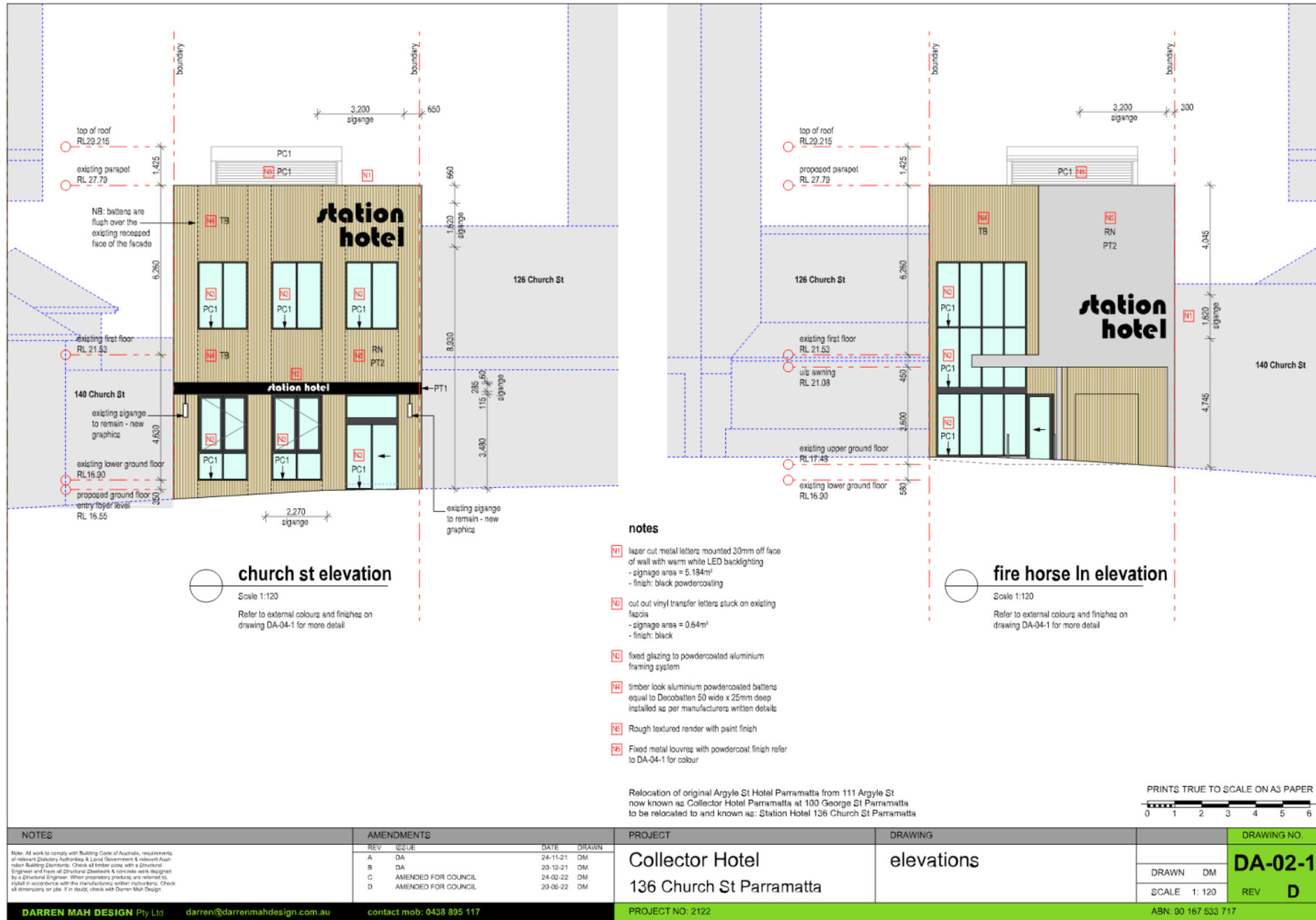
Relocation of original Argyle St Hotel Parramatta from 111 Argyle St
now known as Collector Hotel Parramatta at 100 George St Parramatta
to be relocated to and known as: Station Hotel 136 Church St Parramatta

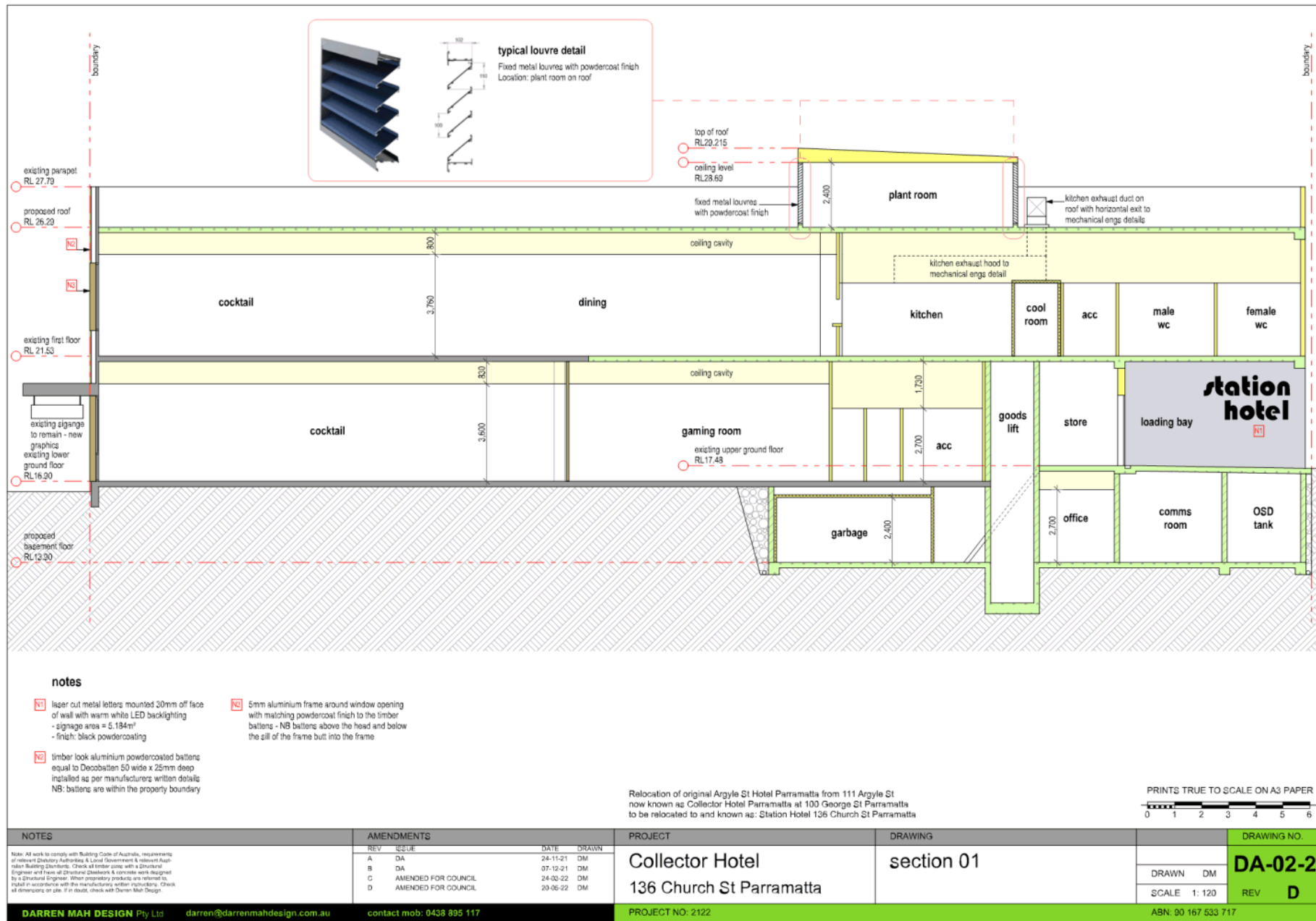
NOTES	AMENDMENTS				PROJECT	DRAWING			DRAWING NO.
<p>Note: All work to comply with Building Code of Australia, requirements of relevant Statutory Authorities & Local Government & relevant Australian Building Standards. Check all timber work with a Structural Engineer and have all Structural Steelwork & concrete work designed by a Structural Engineer. When proprietary products are referred to, refer to in accordance with the manufacturer's written instructions. Check all dimensions on site. If in doubt, check with Darren Mah Design.</p>	F	AMENDED FOR COUNCIL	DATE	DRAWN	<p>Station Hotel</p> <p>136 Church St Parramatta</p>	<p>basement plan</p>	DRAWN	DM	<p>DA-01-2</p>
	B	CONCEPT	04-11-21	DM					
	C	CONCEPT	05-11-21	DM					
	D	CONCEPT & PAGE NO CHANGED	24-11-21	DM					
	E	AMENDED FOR COUNCIL	24-03-22	DM					
<p>DARREN MAH DESIGN Pty Ltd darren@darrenmahdesign.com.au contact mob: 0438 895 117</p>									

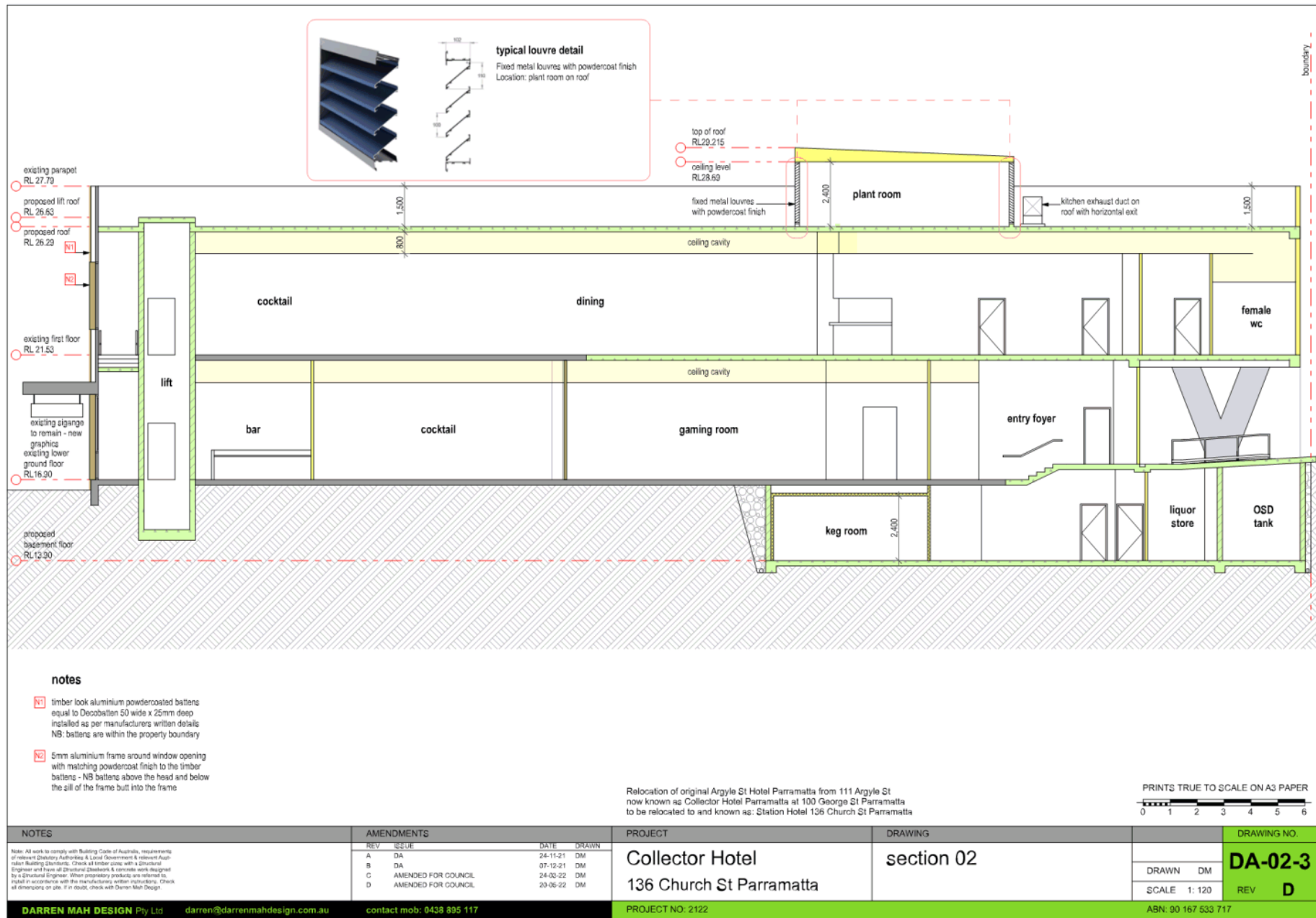


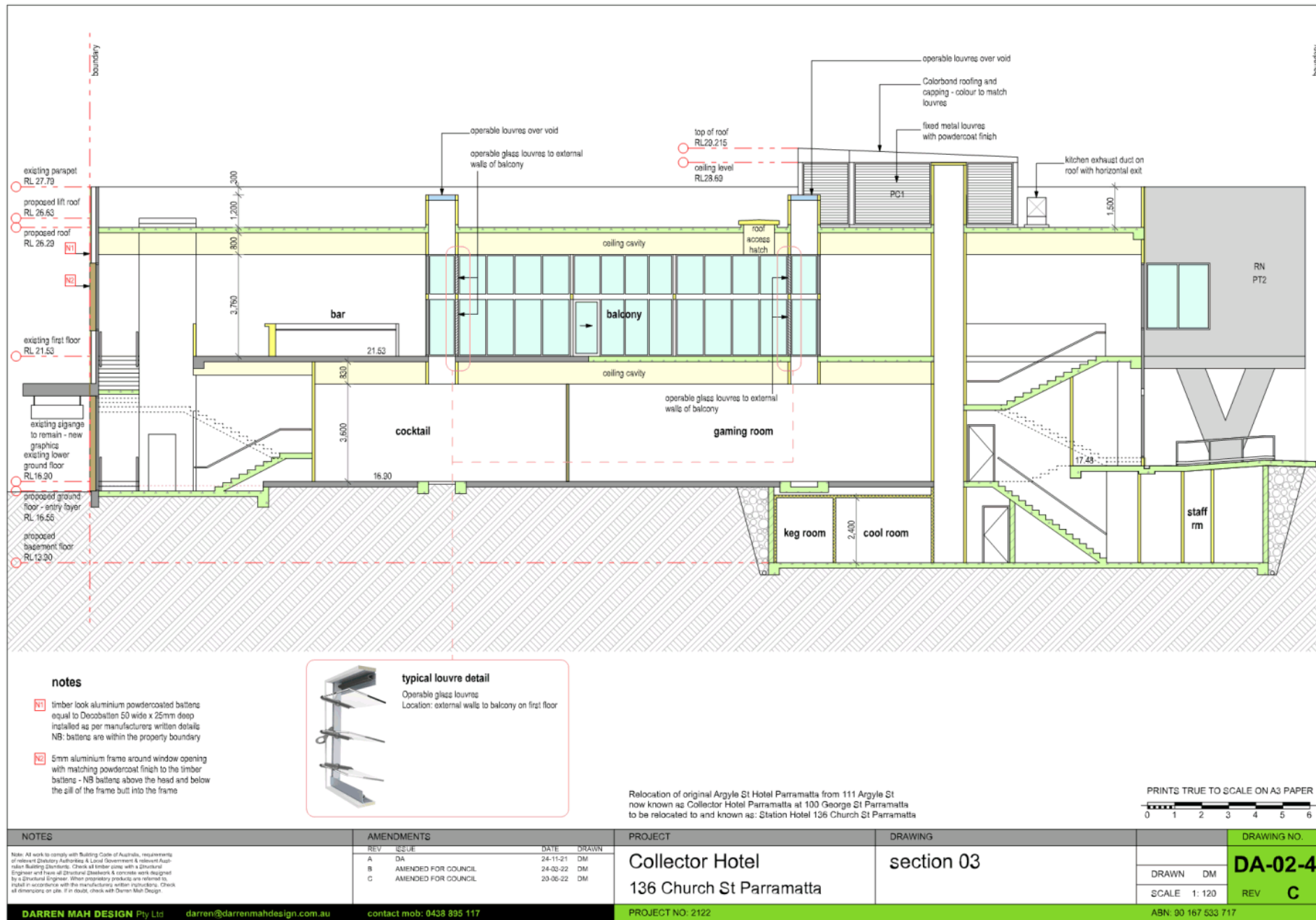


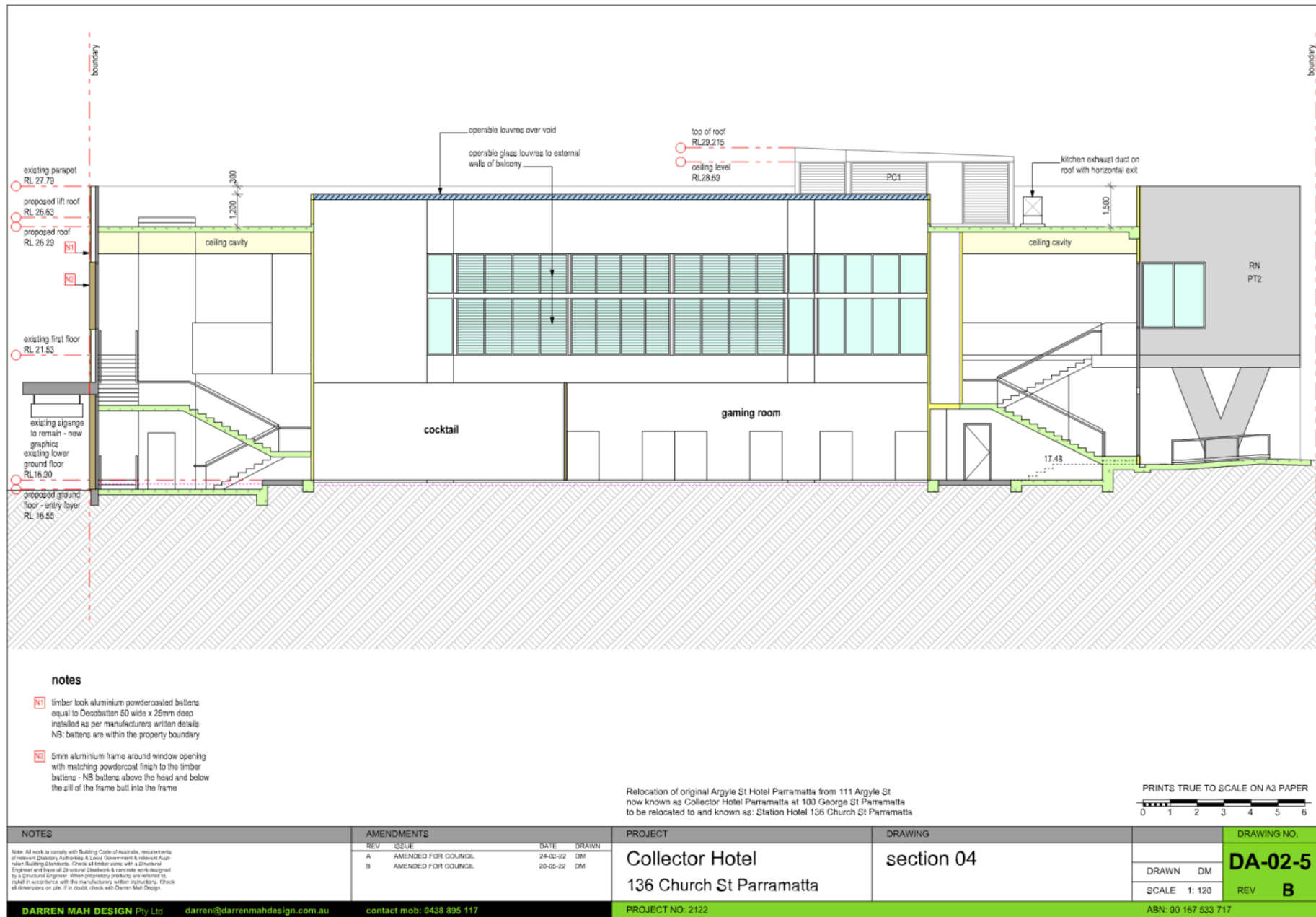


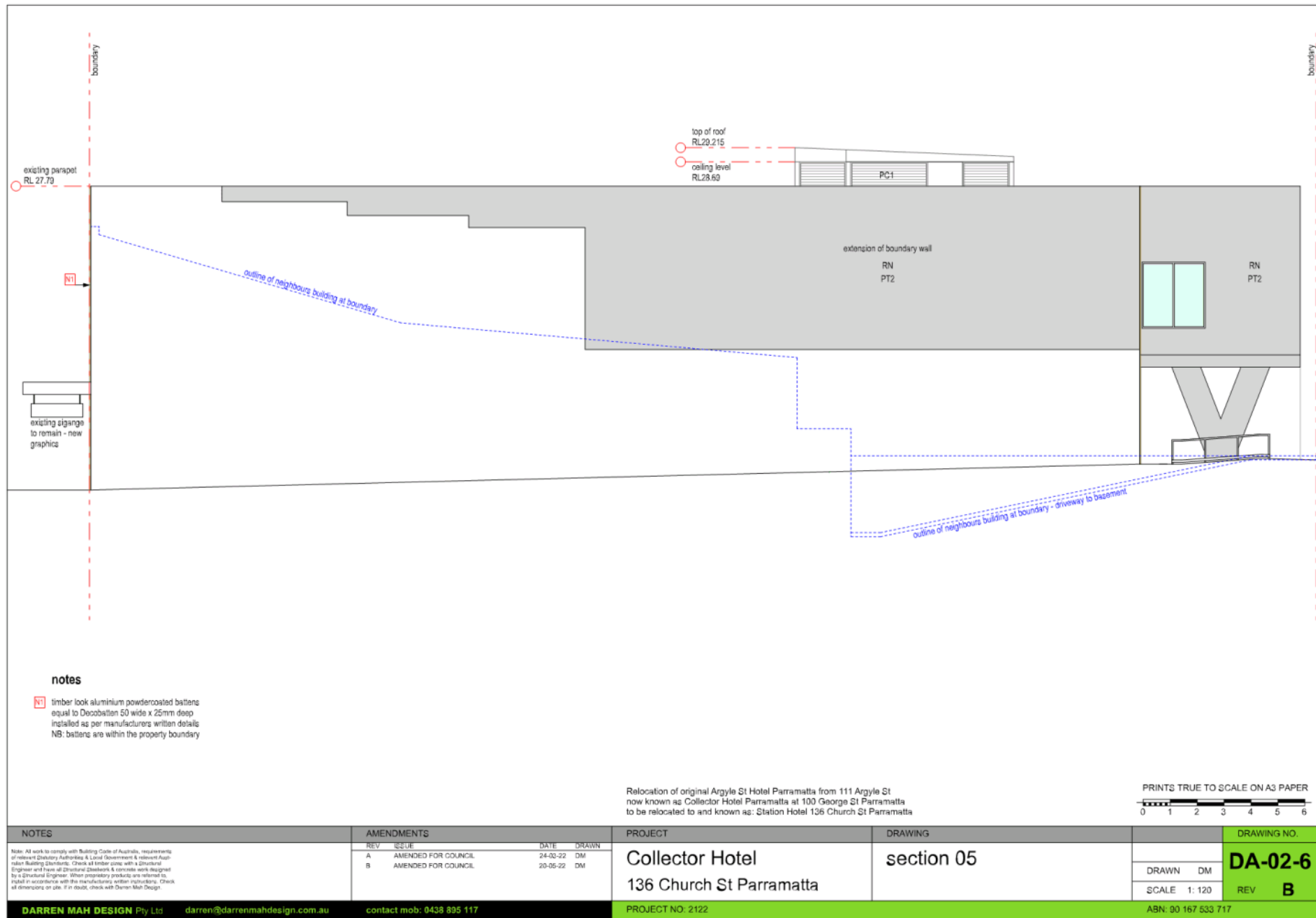


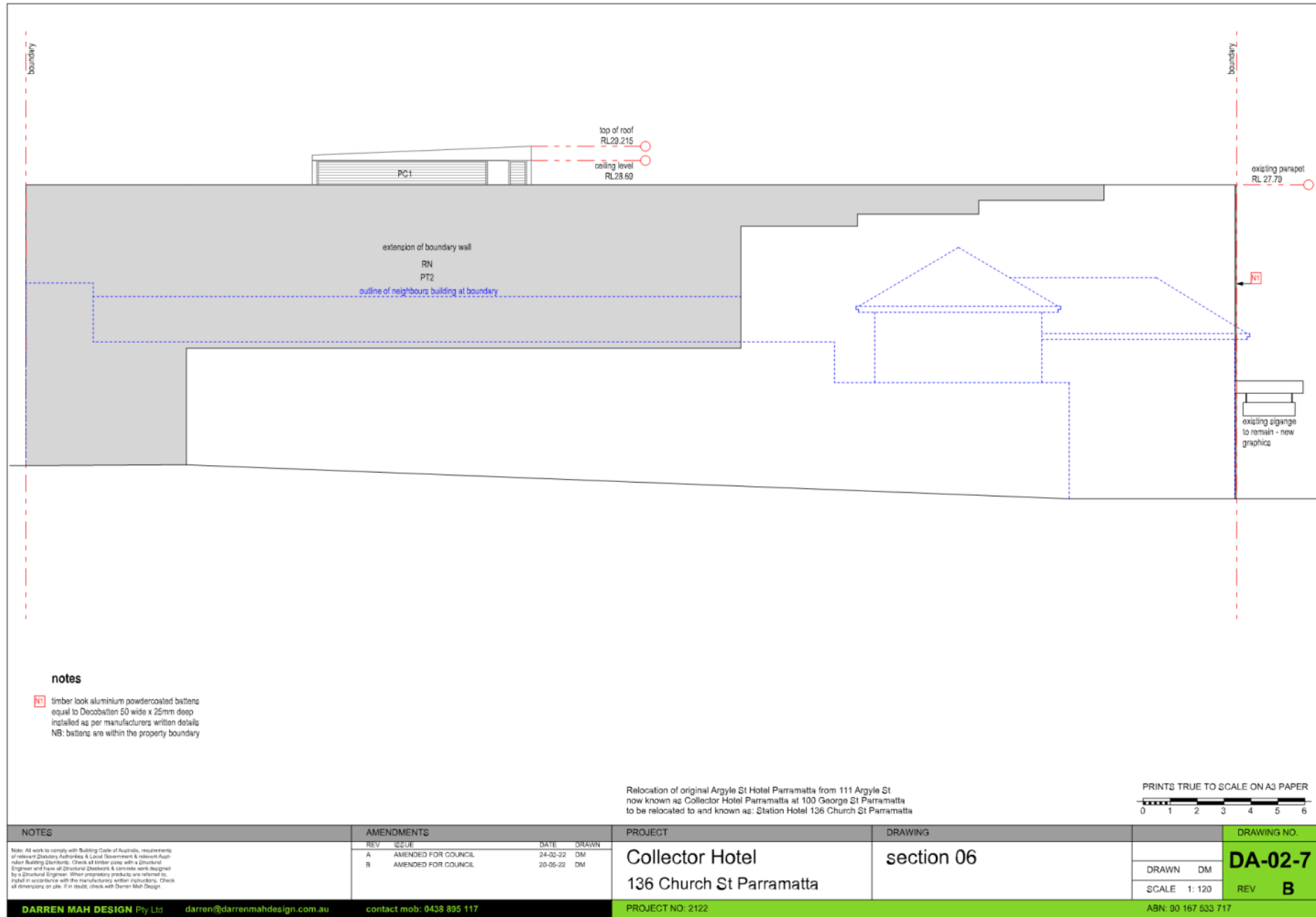


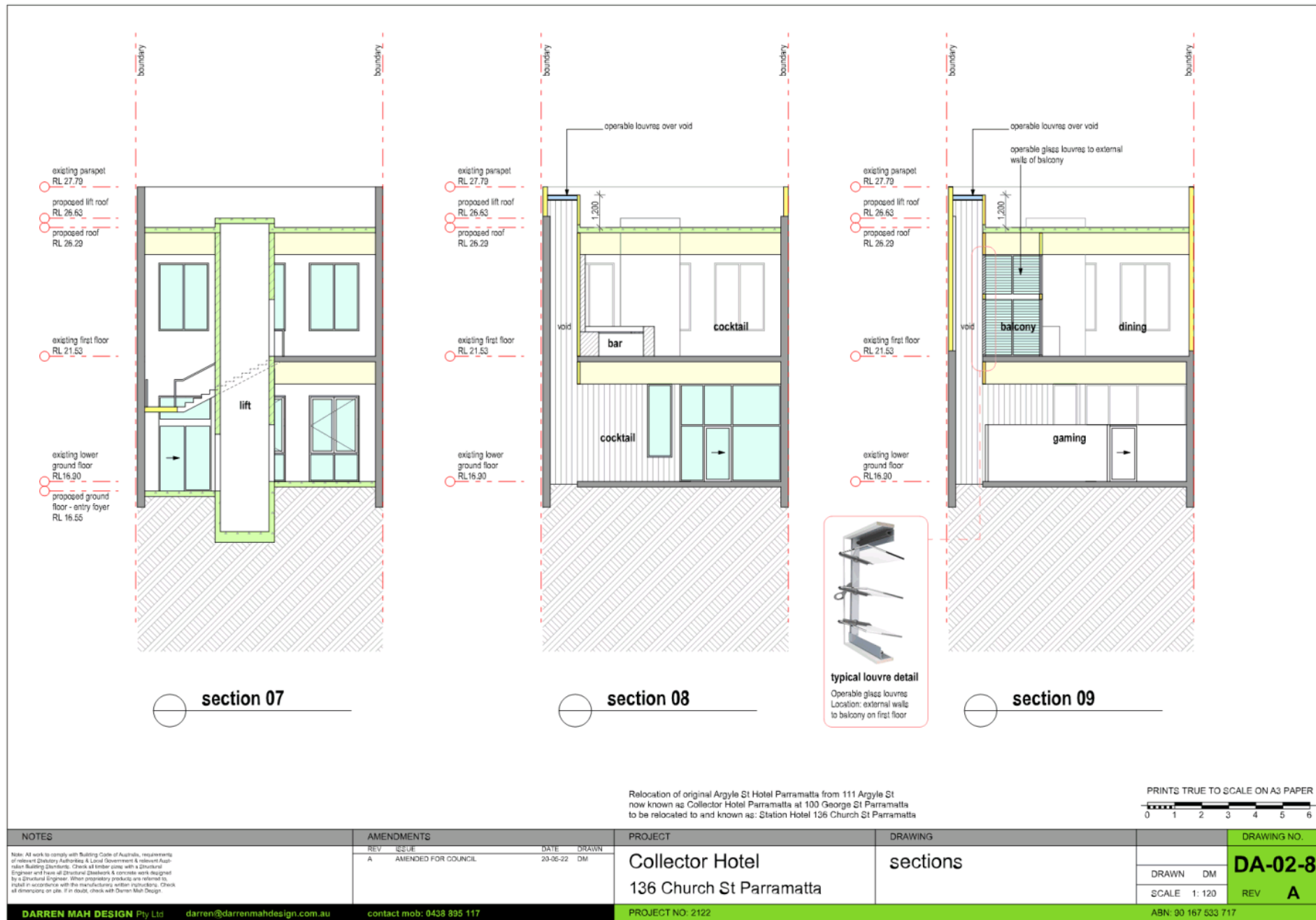




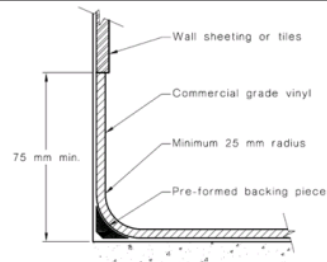












AS 4674-2004
FIGURE 3.1 TYPICAL COVING METHODS
Install epoxy floor similar to vinyl installation.

01 **typical detail 01**
Scale NTS

TABLE 3.1
SUITABILITY OF FLOOR FINISHES FOR FOOD PREMISES AREAS

Finish	Wet washed areas	Food preparation	Vegetable preparation	Servicing	Store room	Chillers/freezers	Bin store	Eating areas	Comments
Stainless steel non-slip profile	•	•	•	•	•	•	•	•	Welded joints
Ceramic tiles	•	•	•	•	•	•	•	•	Epoxy grout

AS 4674-2004
TABLE 3.1
Install floor finishes as per the table.

02 **typical detail 02**
Scale NTS

TABLE 3.2
SUITABILITY OF WALL FINISHES FOR FOOD PREMISES AREAS
(see also Clause 3.2.4)

Finish	Wet washed areas	Food preparation	Vegetable preparation	Servicing	Store room	Chillers/freezers	Bin store	Eating areas	Comments
Stainless steel	•	•	•	•	•	•	•	•	Welded joints Waterproof screw covers
Ceramic tiles	•	•	•	•	•	•	•	•	Epoxy grout

AS 4674-2004
TABLE 3.2
Install wall finishes as per the table.

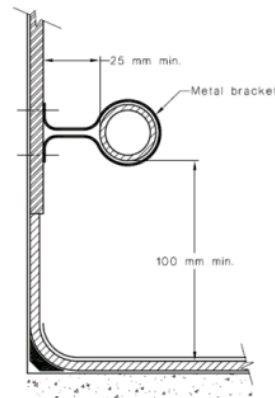
03 **typical detail 03**
Scale NTS

TABLE 3.3
SUITABILITY OF CEILING FINISHES FOR FOOD PREMISES AREAS

Finish	Wet areas	Vegetable preparation	Servicing	Store room	Chillers/freezers	Bin store	Eating areas	Comments
Painted plaster	•	•	•	•	•	•	•	Smooth finish

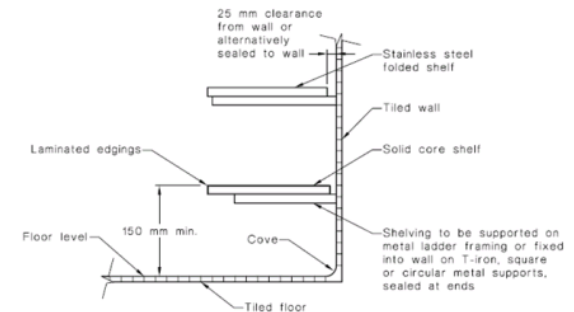
AS 4674-2004
TABLE 3.3
Install ceiling finishes as per the table.

04 **typical detail 04**
Scale NTS



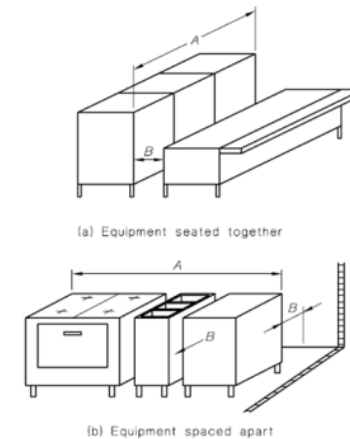
AS 4674-2004
FIGURE 3.3 TYPICAL CLEARANCES FOR SERVICE
PIPES AND CONDUITS

05 **typical detail 05**
Scale NTS



AS 4674-2004
FIGURE 4.3 TYPICAL ARRANGEMENT—SHELVING

06 **typical detail 06**
Scale NTS

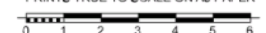


Equipment length A, mm	Space from walls and equipment B, mm
1200 or less	150
1200–2400	300
2400 or more	450

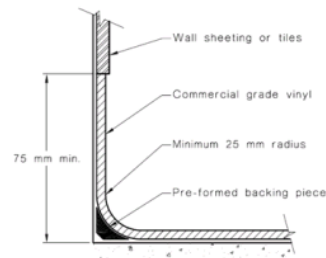
AS 4674-2004
FIGURE 4.4 EQUIPMENT SPACING FROM WALLS, PROVIDED ACCESS IS
AVAILABLE FROM BOTH ENDS

07 **typical detail 07**

PRINTS TRUE TO SCALE ON A3 PAPER



NOTES	AMENDMENTS	PROJECT	DRAWING	DRAWING NO.
Note: All work to comply with Building Code of Australia, requirements of relevant Regulatory Authorities & Local Government & relevant Australian Building Standards. Check all timber work with a Structural Engineer and have all Structural Steelwork & concrete work designed by a Structural Engineer. When proprietary products are referred to, install in accordance with the manufacturer's written instructions. Check all dimensions on site. If in doubt, check with Darren-Mah Design.	REV A	DATE 24-11-21	DRAWN DM	DA-03-1
DARREN MAH DESIGN Pty Ltd	darren@darrenmahdesign.com.au	contact mob: 0438 895 117	Collector Hotel 136 Church St Parramatta	typical kitchen details
PROJECT NO: 2122			SCALE 1: 120	REV A
				ABN: 90 167 533 717



AS 4674-2004
FIGURE 3.1 TYPICAL COVING METHODS
Install epoxy floor similar to vinyl installation.
Install CFC wall sheeting and paint finish with light grey epoxy paint EP2
as specified.

01 **typical detail 01**
Scale NTS



Floor Drain Basket Armator
Install to floor as per hydraulic engineers details and ensure epoxy
floor paint is applied prior to fitting off drain to ensure complete
waterproofing of the existing floor slab

02 **typical detail 02**
Scale NTS

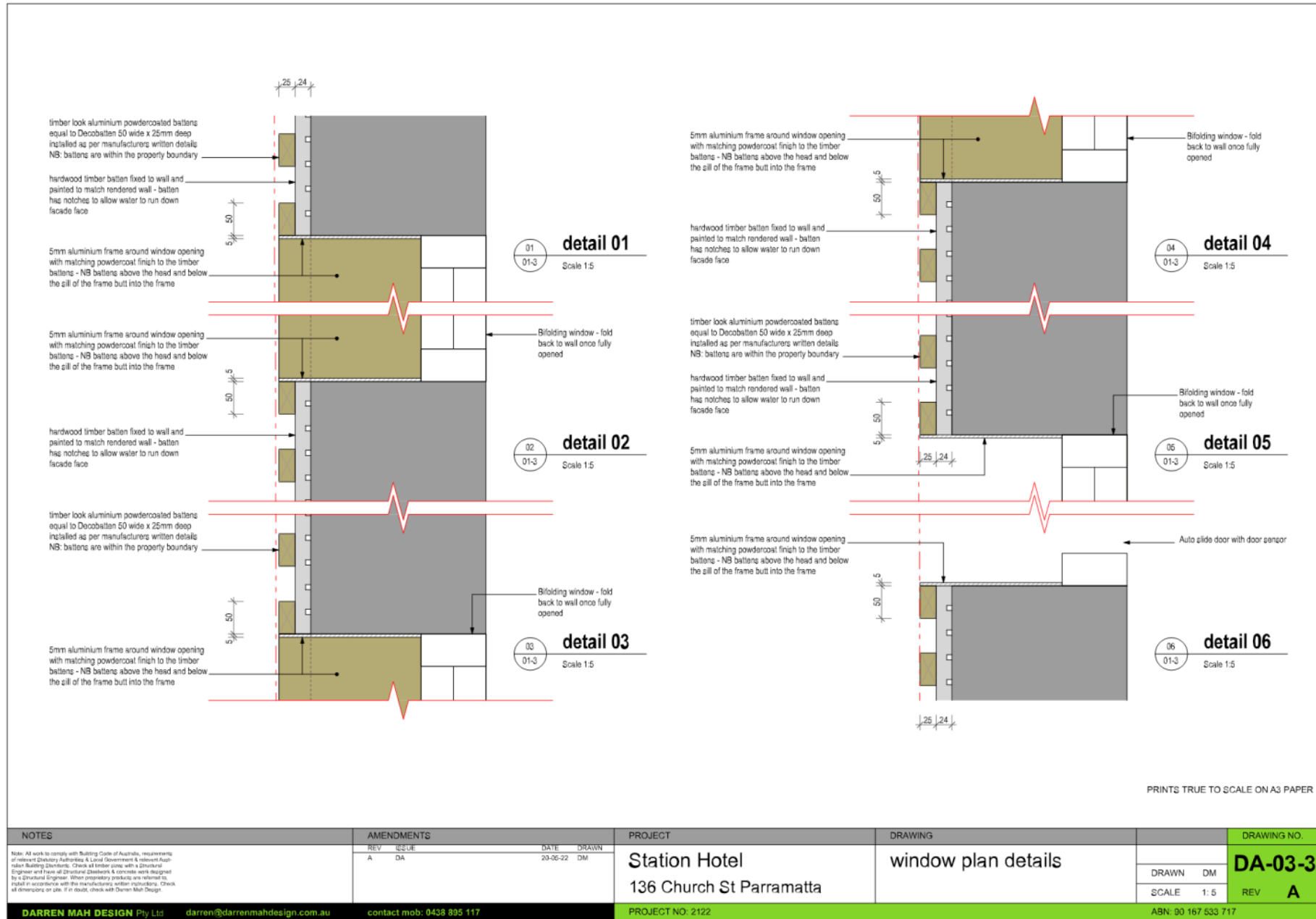
notes

The garbage room must comply with Australian Standard AS 4674-2004 Design, construction and fit out of food premises:
(a) provided with a hose tap connected to the water supply;
NB: Installed to hydraulic engineers details
(b) finished with impervious floor materials - install epoxy floor;
(c) coved at the intersection of the floor and the walls;
(d) graded and drained to a waste disposal system in accordance with the requirements of the relevant regulatory authority (Sydney Water);
NB: All drainage to hydraulic Engineers details - connect basket waste trap in floor to proposed grease arrester compliant with Sydney Water Liquid Trade Waste Regulation Guideline;
(e) adequately ventilated (mechanically or naturally) so that odour emissions do not cause offensive odour as defined by the Protection of the Environment Operations Act 1997;
NB: mechanical ventilation in compliance with AS 1668 The use of ventilation and airconditioning in buildings.
(f) fitted with appropriate interventions to meet fire safety standards in accordance with the Building Code of Australia.

PRINTS TRUE TO SCALE ON A3 PAPER



NOTES	AMENDMENTS		PROJECT	DRAWING		DRAWING NO.
<small>Note: All work to comply with Building Code of Australia, requirements of relevant Regulatory Authorities & Local Government & relevant Australian Building Standards. Check all timber work with a Structural Engineer and have all Structural Steelwork & concrete work designed by a Structural Engineer. When proprietary products are referred to, install in accordance with the manufacturer's written instructions. Check all dimensions on site. If in doubt, check with Darren Mah Design.</small>	REV	DATE	DRAWN	Collector Hotel 136 Church St Parramatta	typical garbage room details	DA-03-2
	A	24-11-21	DM			
					DRAWN	DM
					SCALE	1: 120
						REV A
DARREN MAH DESIGN Pty Ltd darren@darrenmahdesign.com.au contact mob: 0438 895 117			PROJECT NO: 2122		ABN: 90 167 533 717	



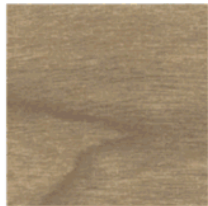
external colours & finishes



RN
Rough textured render with paint finish
Location: external walls

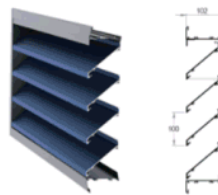


Operable glass louvres
Location: external walls to balcony on first floor



TB
timber look aluminium powdercoated battens
equal to Decobatten 50 wide x 25mm deep
installed as per manufacturers written details
with nominal 50mm gaps
Colour: Smoked Ash

NB: Paint finish under to match render and
painted external walls



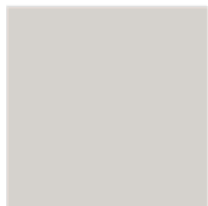
Fixed metal louvres with powdercoat finish
Location: plant room on roof



PC1
Dulux Powdercoating
Colour: Colorbond Monument
Location: aluminium window framing
& plant room on roof



PT1
Dulux Paints
Colour: Black
Finish: Satin
Location: Awning fascia

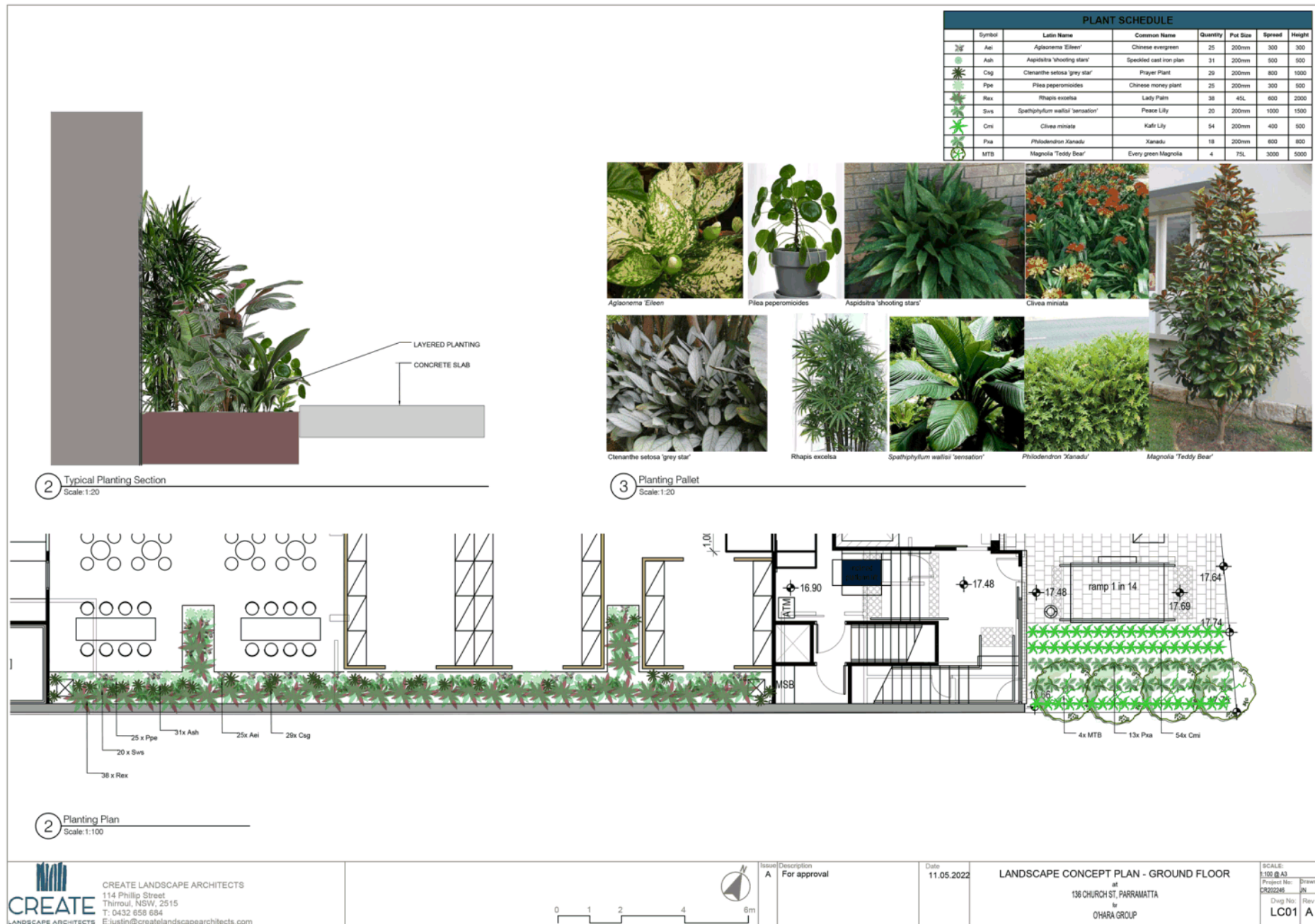


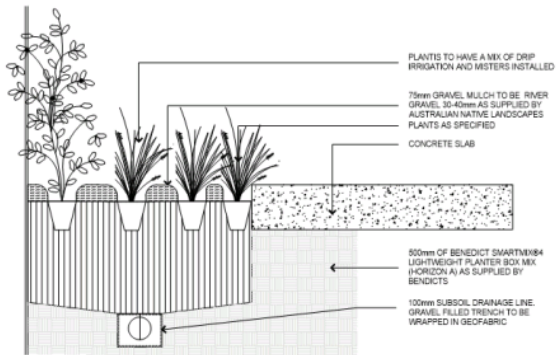
PT2
Dulux Paints
Colour: Palace Stone
Finish: Low Sheen
Location: external walls

PRINTS TRUE TO SCALE ON A3 PAPER



NOTES	AMENDMENTS				PROJECT	DRAWING			DRAWING NO.	
<small>Note: All work to comply with Building Code of Australia, requirements of relevant Statutory Authorities & Local Government & relevant Australian Building Standards. Check all timber work with a Structural Engineer and have all Structural Steelwork & concrete work designed by a Structural Engineer. When proprietary products are referred to, install in accordance with the manufacturers written instructions. Check all dimensions on site. If in doubt, check with Darren Mah Design.</small>	REV	ISSUE	DATE	DRAWN	Collector Hotel 136 Church St Parramatta	external colours & finishes			DA-04-1	
	A	DA	20-12-21	DM						
	B	AMENDED FOR COUNCIL	24-02-22	DM						
							DRAWN	DM		
							SCALE	NTS	REV	B
DARREN MAH DESIGN Pty Ltd darren@darrenmahdesign.com.au contact mob: 0438 895 117				PROJECT NO: 2122				ABN: 90 167 533 717		





1 Planting Detail
Scale: 1:20

SPECIFICATION NOTES

SERVICES

Before landscape work is commenced, The Landscape Contractor is to establish the position of all services and ensure tree planting is to be carried out at least 3 metres away from these services. Service lids, vents and hydrants shall be left exposed and not covered by any landscape finishes (turfing, paving, garden beds etc.) Finish adjoining surfaces flush with pit lids.

PLANTING MIXTURE

Shall be BENEDICT SMARTMIX®4 Lightweight planter box mix (horizon a) as supplied by Benedicts

MULCH

APPLICATION: Place mulch to the required depth, (refer to drawings clear of plant stems, and rake to an even surface finishing 50mm below adjoining levels. Ensure mulch is watered in and tamped down during installation.

MULCH TYPE:

Inside building shall be: River gravel 30-40mm as supplied by Australian Native Landscapes
Outside building shall be: Forest Fines as supplied by Australian Native Landscapes

PLANT MATERIAL

All plants supplied are to conform with those species listed in the Plant Schedule on the drawings. Generally plants shall be vigorous, well established, hardened off, of good form consistent with species or variety, not soft or forced, free from disease or insect pests with large healthy root systems and no evidence of having been restricted or damaged. Trees shall have a leading shoot. Immediately reject dried out, damaged or unhealthy plant material before planting. All stock is to be container grown for a minimum of six (6) months prior to delivery to site.

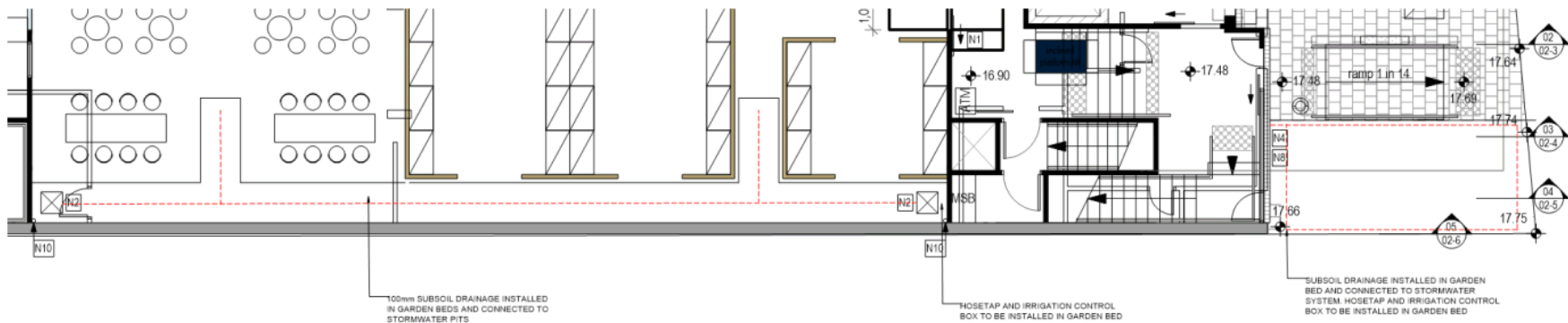
ROOT PRUNING

Remove plant from container and root prune to ensure all circling roots have been either severed or aligned radially into the surrounding soil. Plant as per detail.

IRRIGATION

MASS PLANTING AREAS:

All garden beds to be installed with a drip system irrigation and misting sprayers. Irrigation to be installed with a digital timer and moisture sensor.
Irrigation to be installed in accordance with Australian standards.



2 Subsoil Drainage Plan
Scale: 1:100

Station Hotel

VENUE MANAGEMENT PLAN

136 Church St Parramatta

November 2021

Drawn in Consultation with Parramatta Police Area Command

CONTENTS

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<u>Responsibilities and Requirements</u>	2
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<u>Hours of trade</u>	3
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<u>Sale of liquor for consumption away from the hotel</u>	3
<u>Signage at and in the hotel</u>	4
<u>Footpaths</u>	4
<u>Noise</u>	4
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<u>Security officers</u>	9
<u>Recording and reporting of incidents / Complaints Procedure</u>	11
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<u>High Risk Events</u>	13
<u>Transport Options</u>	13
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<u>Fire Safety</u>	14
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<u>Emergency Evacuation Plan</u>	16
<u>Amendment to this Plan</u>	17

Appendices

- A Liquor Promotions Guidelines
- B Intoxication Guidelines
- C House Policy

Purpose

1. This Plan of Management is to ensure that the hotel is run at all times in a way that is consistent with good management, does not disturb the quiet and good order of the community, considers the community and meets the requirements and intents of the Environmental Planning and Assessment Act, the Liquor Act and the Gaming Machines Act. It provides a clear, concise and practical framework for the safe and proper management of the hotel.

In this plan, "*vicinity of the hotel*" means any public place within 50 metres of any part of the hotel building.

Responsibilities and Requirements

2. The licensee of the hotel is responsible for the implementation of, and adherence to, this plan.
3. A copy of this Plan shall be kept at the hotel for the information of and for reference to by all staff.
4. All staff and security officers employed at the hotel are to be familiar with the contents of this Plan.

Amenity of Neighbourhood

5. At all times the licensee shall consider the amenity of its neighbours and shall take all reasonable measures to ensure that adverse impacts on the surrounding area do not occur.
6. The licensee will take all reasonable measures to ensure that the behaviours of staff, security officers and patrons, when entering or leaving the hotel, do not detrimentally affect the amenity of the community.

7. The hotel shall be conducted so as not to interfere with, or materially affect, the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, vapour, steam soot, ash, dust, waste water, waste products, grit, oil or otherwise.

Hours of trade

8. This Plan of Management has been prepared to accompany an application to Liquor and Gaming for the approved trading hours to be 10.00 am to until 4am on Monday to Saturday and 10.00 am to midnight on Sunday.
9. Staff or authorised persons may be in the hotel at any time.

Maximum capacity

10. The maximum number of patrons permitted in the hotel at any one time is 450. However, see below in respect of restrictions to apply after midnight.

Sale of liquor for consumption away from the hotel

11. The hotel shall be able to sell packaged liquor for consumption away from the hotel.
12. The permitted trading hours for the sale of take away will be those permitted by NSW government and listed on the Hotel Licence.
13. In respect of any authorisation, under Section 15 of the Liquor Act 2007, to sell liquor at a function to be held on premises, other than the hotel, all liquor supplied in closed containers at the function must be opened by staff and the licensee or a manager, who is RSA-accredited, must be in attendance for the duration of the function for the purpose of supervising the sale and supply of liquor.

Signage at and in the hotel

14. The hotel's name shall be displayed on the exterior of the hotel building.
15. The hotel is to display all internal signage required by the Independent Liquor and Gaming Authority regarding the sale of liquor or the provision of gaming.
16. Signs are to be prominently displayed in the hotel requesting patrons to leave the hotel quietly, respecting the rights of neighbours and the neighbouring community to quiet and good order.
17. Outside the main entrance to the hotel, a sign shall display a telephone number to which any complaints about the hotel or its patrons may be made whenever the hotel is trading.
18. Signs shall be displayed inside and outside of the hotel notifying patrons that a CCTV system is operating at all times.

Footpaths

19. No signs, goods or obstructions (other than waste bins put out for collection) shall be placed on the footpath outside the hotel.
20. The footpath adjoining the hotel is to be swept daily and kept clean and safe for the public.

Noise

21. Activities in or at the hotel while it is open for trade shall not result in an LA10 noise level being emitted the background noise level in any octave band from 31.5Hz to 8000Hz centre frequencies inclusive by more than 5dB at the boundary of the nearest affected residential property.

Behaviour of Patrons / Responsible Service of Alcohol / Responsible Conduct of Gaming

22. The business of the hotel shall be conducted in a responsible manner. The licensee will be present at the hotel during trading hours. At any time the licensed premises is trading and the licensee is not present on the premises, the licensee/approved manager must ensure that the premises are under the supervision of a Supervisor who has at least one year of experience working in liquor licensed industry
23. The licensee shall take all reasonable steps to control the behaviour of the patrons in, and as they enter or leave, the hotel.
24. The licensee shall take all reasonable steps to ensure that there is no loitering in the vicinity of the hotel by persons who have been denied admittance to the hotel or removed from the hotel.
25. The licensee shall, after 10pm assign staff or a security officer to ensure that patrons leaving the hotel do so promptly and as quietly as possible.
26. Patrons shall not be permitted to drink beverages supplied by the hotel outside the hotel's licensed area
27. All employees are to be trained to establish good customer relations in order to provide the highest standard of service. Regular meetings and training sessions will be held to maintain these standards.
28. The following operational policies for the responsible service of alcohol shall apply at all times, together with the Liquor and Gaming NSW's "*Liquor Promotions Guidelines*" and "*Intoxication Guidelines*" which are attached as **Appendix A** and **Appendix B**, respectively.

6

- (a) All managers and staff employed at the hotel shall complete an approved course in the Responsible Service of Alcohol unless they have completed one within the last five years.
- (b) The licensee shall not engage in any liquor promotion that is likely to promote the irresponsible service or consumption of liquor.
- (c) The Licensee will endeavour to prevent any intoxicated persons to enter the venue.
- (d) The hotel will promote the service of non-alcoholic beverages and food.
- (e) The hotel will not permit intoxication or any indecent, violent nor quarrelsome conduct on the premises.

Any person causing disturbance shall be refused service and asked to leave the hotel. Any patron whose behaviour is either extreme or repeatedly objectionable may be barred from entering the hotel for a period determined by the licensee.

The barring of a patron will be at the discretion of the licensee or duty manager and will be recorded in an appropriate ledger, detailing the patron's full name, the nature of the incident and the terms of the entry restrictions imposed.

- (g) No person under the age of 18 shall be served liquor in the hotel.
- (h) No person under the age of 18 years shall be admitted to the hotel unless in the company of a responsible adult and then only into the part of the hotel which is subject to the minors area authorisation.

Production of photographic identification will be required where the age of a person seeking to enter the hotel is an issue. The only acceptable proof of age identification will be:

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- A current photo driver's licence;
 - A Nsw photo card;
 - Current Passport
 - Proof of Age Card issued by a Public Authority of the Commonwealth or another State or Territory
- (i) Low-alcohol beer and non-alcoholic beverages will be available at all times when full-strength liquor is available in the hotel
- (j) Food will be available whenever liquor is available for consumption in the hotel.
- (k) No liquor in the form commonly known as "shots" shall be sold, served or supplied in the hotel after 12.00 midnight. Management may restrict the sale of shots at the hotel at other times.
- (l) Staff will assist patrons in arranging safe transport from the hotel to home and will arrange for a taxi to collect any patron when he or she requests such a service.
- (m) Staff will, on request, escort any patron to their vehicle parked in the hotel car park or the vicinity of the hotel.
- (n) All conditions imposed on the hotel's licence shall be met.

CCTV conditions

29. The licensee shall install and maintain surveillance cameras and recorders to monitor and record activities in:-
- i. the public areas (excluding toilets) of the hotel including its entrances, bars and gaming areas; and
 - ii. the exterior of the hotel.

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Recordings are to be made continuously (or be of a type which is movement activated), whilst the hotel is open for business and continue for 1 hour after the hotel ceases trading.

30. CCTV cameras at doorways must record footage of a nature and quality which can be used to identify any person recorded. All other cameras must record footage of a nature and quality which can be used to recognise a person recorded by the camera or as best achievable with current technology.
31. The time and date must automatically be noted on all recordings. All recordings are to be kept for a period of thirty (28) days before they can be re-used or destroyed. Any recording (or a copy thereof) is to be provided to the Police or other regulatory officers within a reasonable time following a written request for CCTV footage.
32. Each camera of the CCTV system is to record at a minimum of 15 frames per second.
33. If requested by Police or any regulatory officer, the licensee is to archive any recording until such time as it is no longer required by that officer or authority.
34. Recordings are to be made in a common media format (such as Windows Media Player or similar), or should be accompanied by applicable viewing software to enable viewing.
35. The CCTV control system should be located in the office of the hotel and only be accessible to authorised personnel.
36. If the CCTV system is not operational, immediate steps are to be taken by the licensee to ensure that it is returned to a fully operational condition as soon as possible.

Security officers

37. (i) The licensee or a experienced supervisor (see clause 22) who is designated by the licensee to be responsible for security shall be on duty at all times the hotel is open for trade.
- (ii) In addition to that person, the licensee shall arrange for the provision of security officers to be on duty at the hotel at specified times. **Also see the additional requirements to apply on any day that the Hotel trades after midnight set out below (under the heading "Additional Measures to Apply on any Days that the Hotel Trades After Midnight").**
38. A security officer working at the hotel shall:-
- (a) Report to the licensee or duty manager before commencing duty to obtain a briefing on any specific duties to be addressed. Those duties may include patrolling in the vicinity of the hotel
- (b) Request any hotel patron – in or in the vicinity of the hotel – to behave in a quiet and orderly manner and to have regard for nearby residents, if that request is considered necessary or appropriate.
- (c) Prevent any person detected as intoxicated entering the hotel and bring to the notice of the licensee or duty manager any person in the hotel who might be considered intoxicated.
- (d) Take all reasonable steps to prevent patrons leaving the hotel with open drinking containers.
- (e) Record details of any incidents in a Security Incident Register.
- (f) At the end of each shift bring any incidents recorded in the log book and the actions taken in response to them to the attention of the licensee or duty manager and ensure they are entered into the hotel's Incident Register.

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- (g) At closing time, monitor patron behaviour in the vicinity of the hotel until all patrons have left the premises, taking all practical steps to ensure the quiet and orderly departure of patrons.
 - (h) Security officers are to take all practical steps to ensure that patrons leaving the premises do not loiter or linger in the area or cause nuisance or annoyance to the neighbourhood.
 - (i) Co-operate with Police and any other private security personnel operating in the vicinity of the hotel.
39. During normal trading hours the licensee shall arrange for one security officer to be present at the hotel from 7pm until the last customer has left the immediate vicinity of the hotel post cessation of trade. The Licensee will arrange for additional security operatives to be present if required.
- (a) Notwithstanding these arrangements, the licensee shall ensure that adequate staff / or licensed security officers are employed to supervise the running of the hotel at all times and to patrol, at least, the vicinity of the hotel.
40. Each security officer is to have a communication device to allow communication with any other officer on duty, the licensee or duty manager.
41. Security officers conducting patrols in the vicinity of the hotel are to wear reflective vests so as to be easily identified as security staff.
42. The licensee shall keep an incident register in which all incidents recorded at or in the vicinity of the hotel which involved hotel patrons shall be recorded. The licensee shall make the incident register available to Police, Council officers or Liquor and Gaming NSW officers upon receipt of a request to do so and will assist in identifying and resolving any incidents relating to any matters at, or in the vicinity of, the hotel.

Recording and reporting of incidents

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43. Maintenance of an effective relationship with the Parramatta PAC is essential to the provision of effective hotel security. That includes keeping the PAC informed of incidents. The licensee shall ensure that the following protocols are observed.
44. In the event of an incident that occurs or a person or persons are injured that requires the immediate attendance of Police, hotel staff including security must comply with current New South Wales Police Force Crime Scene Preservation Guidelines – Licensed Premises.
45. If a security officer is involved, that officer must record the incident, the actions taken and the outcome in his log book as soon as possible and, subsequently, in the hotel's incident register. If a staff member is involved, the licensee or Duty Manager will enter those details into the hotel's incident register as soon as possible.

1) The licensee must maintain a register, in which the licensee is to record the details of any of the following incidents and any action taken in response to any such incident:

- a) any incident involving violence or anti-social behaviour occurring on the premises,
- b) any incident of which the licensee is aware that involves violence or anti-social behaviour occurring in the immediate vicinity of the premises and that involves a person who has recently left, or been refused admission to, the premises,
- c) any incident that results in a person being turned out of the premises under section 77 of the Act,
- d) any incident that results in a patron of the premises requiring medical assistance.

2) The licensee must, if requested to do so by a police officer or inspector:

- a) make any such incident register immediately available for inspection by a police officer or inspector, and
- b) allow a police officer or inspector to take copies of the register or to remove the register from the premises.

The licensee must ensure that the information recorded in the incident register under this condition is retained for at least 3 years from when the record was made

45.a Complaints Procedure

The pub operator must record details of all complaints received in an up to date complaints register (Incident register). The register must record, but not necessarily be limited to:

- a) The date and time of the complaint;
- b) The means by which the complaint was made;

- c) Any personal details of the complainants that were provided, or if no details were provided, a note to that affect;
- d) Nature of the complaints;
- e) Any action(s) taken by the operators in relation to the complaint, including any follow up contact with the complaint; and
- f) If no action was taken by the operators in relation to the complaint, the reason(s) why no action was taken.
- g) The complaints register must be made available to Council and NSW Police upon request.

Additional Measures to Apply when the Hotel Trades After Midnight

46. It is proposed that various additional measures and restrictions will apply on any days that the hotel trades after midnight to minimise the likelihood of adverse impacts.

Patron Restriction

47. On any morning that the hotel trades after midnight, no more than 200 patrons are to be in the hotel at any one time after midnight.

Drink Restrictions/Responsible Service

48. In addition to the various requirements set out above, it is proposed that additional measures and practices will be implemented in this regard and the following restrictions **will apply after midnight when the hotel is trading**:
- No drinks commonly referred to as shots, slammers or bombs are to be sold or supplied.
 - No drink that contains more than 30 mls of spirits will be sold or supplied.
 - Limit of one drink per person.
 - No alcoholic drink is to be sold or supplied which is mixed with an energy drink.
 - The sale of liquor will cease at 3.30am on Tuesday to Sunday mornings and at 11.30pm on Sunday.
49. On any evening that the hotel trades past midnight, the following additional security requirements are to apply:-
- The licensee shall arrange for one security officer to be present at the hotel from 7pm until the last customer has left the immediate vicinity of the hotel post

cessation of trade. The Licensee will arrange for additional security operatives to be present if required.

- The guards will wear high visibility vests from 10pm each night with the word "security" prominently displayed. Guards will have a communication device to allow communication with other security, the licensee or duty manager of the hotel.
- At closing time, a security officer is to be stationed outside the hotel to assist with the orderly dispersal of patrons and the licensee will liaise with the Police as to the most suitable location for these officers to be stationed from time to time.

Incident Register

50. Prior to commencing exercising the hotel licence during any extended trading hours, the licensee will implement an incident register at the hotel and upon the commencement of trading the extended hours any required incident will be recorded in that register.

High Risk Events / Occasions / Trading Periods

51. During peak risk trading periods additional RSA sweeps are conducted throughout the venue by RSA Marshalls / staff /licensees/managers / security. The Licensee will work with Police PAC to implement all reasonable measures to ensure that patrons leaving the hotel to attend events at 'Bank West Stadium' (and other events in the area) and entering the Hotel after events at Bank West Stadium are not permitted entry if they are showing signs of intoxication or causing disturbance to the neighbourhood.

Special Events: Any day / night of trade where large crowds are expected at 'Bank West Stadium' or this is an event in area and the event is considered 'high risk' by Parramatta PAC or management, the hotel use the below security to patron ratio as a guideline; 1 security guard for first 150 patrons, 2nd security guard up to 250 patrons, 3rd security guard up to 350 patrons, 4th security guard up to 450 patrons

For clarity the hotel will work with Parramatta PAC to clarify the potential risk of any event i.e. a Wiggles Concert would not be considered high risk, a music concert targeted at 18 +, NRL games or Soccer A League games may be considered high risk.

Transport Options

- 52. There are various transport options available.
- 53. The hotel is in close proximity to Parramatta Train Station, Bus terminal

Maintenance

- 54. The hotel premises shall be kept in a clean and tidy condition and be regularly maintained to the reasonable satisfaction of Council both internally and externally.
- 55. Any graffiti found on the hotel building is to be removed as soon as possible at the hotel's expense.

Fire Safety

- 56. The licensee shall ensure that all exit signs and emergency lights are located in the appropriate places and kept in good order.
- 57. Nominated staff will be trained in Fire Safety and Occupational Health and Safety, and will be given regular training in these matters so as to ensure that the hotel is operated safely and can be safely evacuated in the event of an emergency.

Staff Safety

- 58. All staff shall be briefed on the procedures they should adopt in the event of there being an attempt to rob the premises. In these briefings, the NSW Workcover publication (developed in consultation with NSW Police, Clubs NSW, AHA NSW, HEM, CEM) "*Armed Robbery Prevention for Clubs and Hotels*" should be utilised.
- 59. Telephone numbers of emergency services are to be clearly displayed near any telephone in the hotel.

House Policy

60. The hotel will be conducted in accord with a House Policy.
61. A summary of that House Policy relating to:-
- dress code (which is to be smart, neat, clean, casual)
 - the responsible service of alcohol
 - harm minimisation
 - the admission of minors
62. The House Policy will be continually updated to reflect legislative requirements and Police, Liquor and Gaming NSW and industry recommendations.

Responsible Conduct of Gambling

63. The licensee and staff of the hotel shall comply with any measures specified by any legislation, regulation or code of practice adopted by the Australian Hotels Association, in relation to responsible gambling.

Operational Integrity

64. The licensee will undertake to ensure the integrity of the hotel's operations and compliance with this VMP and may, where deemed necessary, arrange for independent, periodic covert surveillance of its operation in the form of a formal surveillance report. Such reports shall be retained and shall be made available upon receipt of a request from an authorised person.
65. The licensee shall join, and be an active member of the local Liquor Accord.

Waste management

- 66. The licensee shall ensure that solid waste from the hotel is minimised and that as much as is reasonably possible will be recycled. To that end, waste shall be separated into putrescible, cardboard and paper and glass and cans.
- 67. All wastes shall be stored in the designated waste storage areas until removed for collection from the hotel.
- 68. All waste containers and storage areas shall be kept clean.
- 69. The licensee shall arrange for contractors to collect wastes from the hotel. All collections shall be made at times to ensure no disturbance to the neighbourhood.
- 70. Putrescible waste (in bins) may be placed outside the hotel after the hotel closes but the emptied bins are to be removed at times to ensure no disturbance to the neighbourhood.
- 71. Bins containing other wastes are to be collected by trucks attending the hotel's premises.
- 72. Putrescible wastes shall be collected daily.
- 73. Other wastes shall be collected weekly.

Emergency Evacuation Plan

- 74. The Hotels Emergency Evacuation plan will followed at all times. All Management and staff will be aware of this plan and be trained on what to do in the event of a evacuation for an Emergency.

Amendment to this Plan

75. A copy of the venues current management plan must be maintained at the licensed premises and made available for immediate inspection by members of the NSW Police Force or Inspectors from the Liquor & Gaming NSW. If any amendments are made to the premises management plan, these amendments must be made in consultation with the Patrol Area Commander or Licencing Police Parramatta PAC. The licensee must comply with the terms and requirements as set out in the plan

GAMING PLAN OF MANAGEMENT

November 2021

PURPOSE

The purpose of this plan of management is to provide the framework for management and staff of The Station Hotel Parramatta (The Hotel) to ensure compliance with relevant gaming-related legislation, liquor licence conditions, and harm minimisation measures.

This plan also looks at the *Fact Sheet 'Office of Responsible Gambling: Going above and beyond: Responsible Conduct of Gambling for venues', September 2020*, which was intended as an educational guide and does not replace or add to current legislative or regulatory requirements.

AUTHORISED TRADING HOURS FOR GAMING IN THIS VENUE

- Trading Hours – Gaming Room;
 - 10am – 4am Monday to Saturday
 - 10am – 12am Sunday
- Gaming Shutdown period
 - 4am to 10am Monday to Sunday and Public Holidays

Note: Extended trading hours may be approved from time to time by the Minister for events of local, State or National significance.

Gambling in NSW (taken from office of responsible gambling website 17th January 2021)

Around one in two adults in NSW gamble. In the 12 months to February 2019, 53% of the NSW adult population participated in some form of gambling activity.

Lotteries were the most common form of gambling followed by gaming machines, instant scratchies and race betting

In NSW in 2019, it is estimated that 1% of the adult population are classified as problem gamblers according to the Problem Gambling Severity Index (PGSI).

This Gaming Management Plan, whilst relevant to all forms of gambling available in NSW hotels (EGM's, Keno, TAB) will focus on EGM gambling.

Responsible Conduct of Gambling Course (RCG)

The Hotel will only employ a person whose duties are involved with the conduct of gaming machines if that person has completed an approved RCG course and have a Liquor & Gaming NSW competency card.

The hotel will conduct regular updates to ensure that all relevant staff are aware of any changes to the law and policy.

Why have a management plan for the Responsible Conduct of Gambling?

Section (1) of the Gaming Machines Act states that the hotel must:

- (a) minimise harm associated with the misuse and abuse of gambling activities
- (b) foster responsible conduct in relation to gambling.

For the vast majority of patrons, using gaming machines is a casual recreational activity. However, for some it is a problem in varying degrees. Such people may:

- spend increasing amounts of time and money on gambling
 - lie about their gambling
 - be unable to control the impulse to gamble; and
 - engage in socially destructive behaviour to continue to gamble, including relationship breakdown, loss of assets and crime.

The aim is to reduce the harm associated with the abuse and misuse of gambling activities and to foster the implementation of responsible gambling policies and procedures with the ultimate aim being to provide assistance to patrons experiencing problems with their gambling.

Responsible gambling will occur when a patron:

- does not spend more than can be afforded
- understands their chances of winning and losing
- is able to limit their time gambling and walk away
- does not allow gambling to affect social and work relationships.

Mandatory shut down period for gaming machines

The gaming machines must not be operated in the hotel between the hours of 4.00 am and 10.00 am on Monday to Sunday and Public Holidays. As a means of harm minimisation, no other form of gambling will take place at the hotel during these times.

Responsible Gambling Manager

A responsible Gambling Manager will be appointed from the hotel's senior management. The Responsible Gambling Manager will ensure that all team members are aware of this

Gaming Plan of Management

Version 1.0

plan which provides the framework for management and staff of The Station Hotel (The Hotel) to ensure compliance with relevant gaming-related legislation, liquor licence conditions, and harm minimisation measures.

Responsible Gambling Register (for hours after midnight)

The hotel will keep a 'responsible Gambling register' as part of the hotels 'incident register' for gaming hours after midnight. The responsible Gambling Manager will be responsible for the entries into this register. An entry will be made when management or staff believe that a patron is showing signs of 'problem gambling' and action / if any taken by team members for hours after midnight.

Staff not to gamble

No staff member is permitted to gamble at the hotel during their hours of employment. If a staff member does gamble whilst on duty, appropriate disciplinary action will be taken with a entry into the venues 'Responsible Gambling Register'.

Staff who participate in any form of gambling are subject to the same requirements as other patrons.

Failure to conduct harm minimisation measures effectively

The Gaming Machines Act and Regulations provide for penalties for the failure of the hotel to adequately carry out harm minimisation measures.

How to carry out harm minimisation in the hotel

Staff are to become aware of the regular patrons who gamble in the hotel, in particular, those who use the gaming machines and the use of the gaming machines generally by monitoring the gaming machine area, patrons and their behaviour.

Staff must use a common sense approach and if a patron exhibits several of these indicators they may have a problem and the manager should be notified. Management should then consider asking the patron tactfully if they want help. Staff must use good communication skills so as not to exacerbate the situation particularly if the patron is aggressive and respect the patrons right to privacy and rights to make choices as an adult (18 and over).

If a patron approaches you and asks for help, you should privately provide every assistance including giving them details of professional services available and the self-exclusion scheme.

If a patron asks to be self-excluded immediately, give the patron the 'game care' or 'g line card' from the side of each bank of EGM's, ask the patron to leave the gaming room immediately and document this in the responsible gambling register.

In all cases staff must listen and assist. Every situation will be different. You are not trained counsellors and must point the patron in the right direction and be respectful of the patron's privacy concerns and legalities around privacy and rights to make choices as adult (18 years and over).

Signage

The Hotel is required to display prescribed signs and notices throughout the venue to promote gambling harm minimisation, player information, counselling services and self-exclusion.

Compulsory signage relating to gambling and the Gaming Room:

Sign 2L – Under 18s not permitted in this area

Minors are not permitted in the Gaming Room, TAB sports lounge and front terrace areas of the hotel.

Sign 1G – THINK! ABOUT YOUR CHOICES: Gambling counselling sign

This sign must be displayed so that it is visible and legible to a person at the:

- Main entrance
- at each point of the sale of tickets to enter a public lottery or Keno
- TAB.

Sign 2G – THINK! DO YOU HAVE AN ISSUE WITH GAMBLING? Self-exclusion contact cards

Contact cards give problem gamblers and their families information about the self-exclusion scheme and counselling services available. This sign must be displayed in a clear, plastic card holder that is securely attached to each group of gaming machines so that a person can see the sign when they are approaching a group of gaming machines and playing a gaming machine located in that group.

Sign 3G – THINK! WHAT ARE THE ODDS OF HITTING THE JACKPOT?

This sign must be displayed at the entrance to the Gaming Room and in the Gaming Room.

Sign 4G – THINK! ABOUT GETTING HELP Gaming machine sticker

Every gaming machine must show a gambling warning notice and a problem gambling notice in the form of a sticker so that the player can clearly see the notice while playing the machine.

ATM and CASH BACK TERMINAL SIGN

This sign must be displayed on top, or on the front, of each ATM and cash-back terminal authorised to operate gaming machines. It must be positioned so that a patron can clearly see it while using the ATM or cash-back terminal.

PLAYER INFORMATION BROCHURES

In the Gaming Room display the brochure *Info about the Odds – betting on gaming machines*.

Where Keno is played display the brochure *Info about the Odds – betting on lotto, lotteries or Keno*.

The following brochures are available in five different languages (Spanish, Portuguese, Malay, Chinese and Korean):

- Info about the Odds – betting on gaming machines?
- Info about the Odds – betting on lotto, lotteries or Keno?
- Info about your chances: Betting on casino games
- Think! about getting help: Gambling more, enjoying it less!
- Think! about your family: Gambling problems in your family?

Brochures in the above languages must be available in the Gaming Room and provided as soon as practicable after being requested by a patron.

FAIL TO QUIT POSTER

This poster should be displayed at all entrances and at each bar.

FAIL TO QUIT POSTCARD

The Hotel is required to inform patrons of their requirements under the Fail to Quit laws. This is a postcard and must be given to a patron who is refusing to leave your venue. This postcard is also available in Spanish, Portuguese, Malay, Chinese and Korean.

Advertising of Gambling

Except for TAB and Keno signage, the hotel will not display any gambling related sign that may be seen from outside the venue. A gambling related sign is any sign using words, symbols, pictures or anything else that draws attention to the availability of gaming machines, uses a term or expression frequently associated with gambling or relates to a gambling franchise or gambling business.

A monitor such as a large plasma or LCD screen used to display the jackpot for a linked gaming system or a progressive system is considered a gaming related sign. No such sign will be located outside or close to the venue or anywhere inside the venue so that it can be seen from outside.

The Hotel will not publish any gaming machine advertising. This includes any advertising that gives publicity to or promotes participation in gambling activities involving gaming machines. This means that no advertising can take place on the radio, in the cinema, by video, on television, on any written advertising via the internet or other promotion, any advertising that appears in a gaming machine industry trade journal or in a publication for a trade convention involving gaming machines.

No details of gaming machine prize winners must be advertised outside The Hotel

All staff must be aware of the content of GL4015 Gambling advertising and inducements published by Liquor & Gaming NSW, copy attached.

In addition to the above restrictions, it is an offence to publish gambling advertising that relates to a particular sporting event or fixture that is in progress in NSW. This includes live odd and in-play betting services as this may encourage gambling behaviours such as more continuous betting or betting on impulse.

Self-Exclusion Schemes

Patrons experiencing problems with gambling are able to enter into a voluntary self-exclusion agreement that bans them from the Gaming Room or the entire hotel. The hotel operates a self-exclusion scheme. The minimum period for self-exclusion is

six months.

The hotel provides the following information in the Gaming Room:

- the name and contact of the problem gambling counselling service
- a statement that tells patrons a self-exclusion scheme is available
- details of the person or organisation who can help a patron to join the scheme i.e: Bet safe and Game Care, operated by AHA (NSW).

Conduct of self-exclusion scheme

Any patron experiencing problem gambling and who asks to be excluded from The Hotel or the Gaming Room, must sign a self-exclusion agreement not to gamble in the venue.

As a provider of a self-exclusion scheme we will therefore:

- tell our patrons that we have a scheme available
- give patrons information about how the scheme operates
- allow a patron to participate
- allow a patron to specify the part/s of The hotel they wish to be excluded from

- give a patron a written and signed undertaking that the hotel will not allow them to gamble at the hotel for a specified period
- give a patron written details about the gambling-related counselling service available
- give a patron the opportunity to obtain independent legal or other professional advice about the intention of the agreement before it commences
- ensure that employees at The hotel can identify the patron – by a recent photograph or otherwise;
- stop a patron from withdrawing from the scheme within six months of asking us to be involved.

Staff at The hotel have indemnity against civil or criminal liability for complying with a Self-exclusion Agreement, provided they act in good faith. Staff may use reasonable force to prevent a self-exclusion participant from entering a nominated area or remove a participant who refuses to leave a nominated area.

Location of Gaming Machines

The purpose of restricting the location of gaming machines is to ensure that gaming is not advertised to members of the public outside the hotel. All gaming machines in The hotel are located in the Gaming Room. They will be located so that they do not attract the attention of persons outside the hotel, during the day or at night, either by being visible or being clearly heard.

The Gaming Room is:

- a restricted area i.e. only persons 18 or over are permitted
- free to enter
- physically separated from the rest of the hotel (where minors are permitted) by a permanent floor to ceiling wall
- serviced by an operating bar and toilet facilities within the hotel
- supervised at all times either by a staff member being physically present or by electronic surveillance

Location of Cash Dispensing Facilities (ATM and EFTPOS)

Cash dispensing facilities must not be located in an area where gaming machines are located and must not provide access to cash from a credit card account. This will enable a patron to reconsider whether to withdraw more moneys to spend on gambling.

Cash Advance

No cash advance will be given to any patron at The Hotel for any reason.

Dealing with Cheques

The Hotel will not cash Cheques. (even though this is allowed in NSW at time of writing)

Payment of Gaming Machine Winnings

By restricting the payment of gaming machine winnings in cash a patron has less immediate funds to put back into the gaming machine.

If a patron wins more than \$5,000, the amount that exceeds \$5,000 must be paid within 48 hours in one of two ways:

- by crossed cheque payable to the prize winner and marked *Prize winning cheque* – *cashing rules apply*, or
- electronic funds transfer (EFT) to a nominated account.

If a patron wins prize money of more than \$5,000, the winner pay request that the entire amount is paid by crossed cheque (as above) or EFT. Staff are to encourage patrons to accept the total winning by cheque from the manager. This procedure will create an opportunity for the patron to cool off and consider leaving the hotel with the winnings.

Payment of KENO Winnings

Up to \$5,000 cash is permitted to be paid for prizes.

The hotel will pay up to this amount directly to the winner immediately after scanning the ticket and redeeming the win either in cash, a Keno Cash Voucher or both.

Prizes over \$5,000 will be paid by Keno to the winner by way of cheque following a sufficient period of time to enable Keno to verify the win and issue the prize.

Payment of TAB Winnings

There is a \$10,000 limit on cash/cheque payouts. Any amount greater than this must be verified by the TAB after completion of the threshold form.

Gambling Inducements

The hotel will not offer to patrons and incentive to gamble by:

- supplying any free or discounted liquor
- providing free credits through letterbox flyers or shopper dockets
- any other form of incentive to play gaming machines.

The hotel will not:

- offer a promotional prize in the form of cash
- offer a promotional prize that exceeds \$1,000 in value
- permit a patron to exchange a promotional prize for cash
- permit any bonus or reward points accumulated under a player reward scheme to be redeemed for cash.

Minors in the hotel

No person under 18 years of age is permitted in the Gaming Room and no person under 18 years of age is permitted to play a gaming machine.

Even though the Gaming Machines Act permits minors to be trained on the service, repair or maintenance of gaming machines, the hotel will not allow any person who is under 18 to operate gaming machines in any circumstances.

Also, as a harm minimisation measure, patrons at the hotel who are under 18 years of age have no need to transit the Gaming Room to access any other part of the hotel.

Therefore no minor even if accompanied by a responsible adult will be permitted to enter the Gaming Room.

All staff must ensure that each person attempting to enter, or already in, the gaming room is 18 or over. Staff should not assume that another employee has checked the patron's ID.

The acceptable forms of ID are:

- Driver of Rider Licence (issued in Australia or another country) including a digital Drivers Licence but only if the licence indicates the patron's age

- Current NSW Photo Card
- Passport (Australia or foreign)
- Keypass identity card (issued by Australia Post)

If a patron is under 18, or fails to provide evidence that they are 18, the patron must be asked to leave the Gaming Room and the hotel immediately. As a minor is only permitted in The Hotel with a responsible adult, if the minor is in the Gaming Room then both the minor and the accompanying adult, who is clearly not acting responsibly, must leave the hotel immediately.

Should the patron/s refuse to leave, the manager should be notified. The manager is to deal with the situation expeditiously and, if required, call the police.

Signs of Problem Gambling

It is up to staff to recognise the Research has shown that there are indicators of problem gambling (particularly relevant to gaming machines but also may apply to TAB and KENO):

Frequency, duration and intensity

- Gambles every day
- Gambles for 3 hours or more without a break of 15 minutes or longer
- Gambles so intensely that unaware of surroundings
- Bets \$2.50 or more per spin most of the time
- After winning on machine, plays on without waiting for the jingle to finish
- Rushes from one machine to another
- Gambles on 2 or more machines at once
- Significant increases in spending patterns.

Impaired control

- Starts gambling when the venue opens
- Gambles through meal times
- Gambles after drinking a lot of alcohol
- Tries to win obsessively on one machine
- Stops gambling only when the hotel is closing.

Social behaviour

- Asks staff to not let anyone know where they are
- Is rude or impolite to staff

- Appears to avoid cashier and only uses cash facilities
- Avoids contact, communicates very little with anyone
- Stays in the venue to gamble when friends leave
- Becomes angry or agitated if someone takes their preferred machine
- Stand over other players while waiting for favourite machine
- Blames venue or machine for losing
- Complains to staff about losing
- Brags about winning
- Significant decline in appearance over several days

Cash

- Accesses cash to gamble from ATM or EFTPOS on 2 or more occasions
- Asks to change large notes before gambling
- Borrows money from other people in the hotel
- Asks the Hotel or staff for a loan or credit
- Puts large winnings back into the machine and keeps gambling
- Leaves the hotel to find more money for gambling
- Appears to have run out of money when they leave
- Uses coin machine at least 4 times.

Emotional responses

- Seen to be shaking while gambling
- Sweats a lot while gambling
- Acts nervously e.g. bites lip continuously
- Vocally displays anger e.g. swears to themselves, grunts
- Kicks or strikes machine with fists
- Looks very sad or depressed after gambling
- Cries after losing a lot of money
- Sits with head in hands after losing
- Shows significant mood changes while playing.

Staff must use a common sense approach and if a patron exhibits several of these indicators they may have a problem and the manager should be notified. Management should then

Gaming Plan of Management

Version 1.0

consider asking the patron tactfully if they want help. Staff must use good communication skills so as not to exacerbate the situation particularly if the patron is aggressive.

If a patron approaches you and asks for help, you should privately provide every assistance including giving them details of professional services available and the self-exclusion scheme.

In all cases staff must listen and assist. Every situation will be different. You are not trained counsellors and must point the patron in the right direction.

Making changes to this plan

Changes to this plan (including the measures mentioned below) will be made from time to time to ensure it is kept up to date with relevant legislation and approaches to responsible gambling. Changes made to this plan can only be made after first consulting with NSW Licensing Police from Parramatta Area Command.

ABOVE AND BEYOND

Above and beyond measures for our venue to accompany the application to liquor and Gaming for the Station Hotel. As we have been able to operate the hotel in a responsible manner under the existing approved hours at the Collector Hotel Parramatta, whilst all of the measures have been considered, some of the measures will only apply to patrons showing signs of problem gambling.

This section of the plan looks at the *Fact Sheet 'Office of Responsible Gambling: Going above and beyond: Responsible Conduct of Gambling for venues', September 2020*, which was intended as an educational guide and does not replace or add to current legislative or regulatory requirements.

1. **Start with a plan:** Gaming Plan of Management will be in operation whenever the hotel is open for trade and has gambling facilities available to patrons
2. **Additional training and resources:** All staff to have completed RCG approved course. All staff will be trained on Responsible Gambling at the venue including: induction, management meetings, staff reviews, staff meetings, staff memos. Of particular relevance is the section above 'Signs of Problem Gambling'. Staff will monitor and check in with patrons to approach patrons identified as showing signs of problem gambling. Responsible Gambling

Trainers will be engaged by the hotel to provide face to face updates at staff meetings at least once per year (for two years from when the application is approved) and will review procedures to ensure the hotel is operating at best practice levels.

3. **Identifying and assisting patrons who need help:** the hotel will have a strong presence of staff and managers in gaming rooms. Staff to report to manager or 'Responsible Gaming Manager' any concerns with patron behaviour. Staff will conduct welfare checks by greeting the customer and using phrases like 'how is it going?' 'are you okay?' and if the patron is showing signs or problem will encourage breaks in play. Suggest alternatives to gambling by asking questions / suggestions like:

'have you seen ???? movie, I saw it recently, you should see it also',

'have you been down to see the new Parramatta Square, you should do it?

'the local footy team are playing tomorrow, you should go and watch them at Bank West Stadium'

The hours after midnight will see increased presence from team members to adhere to this.

4. **Create a strong culture of gambling harm minimisation:** all staff will be made aware that patron welfare is important, as per point 2 above, harm minimisation will be discussed at induction, management meetings, staff reviews, staff meetings, staff memos. A Gambling

Responsible Gambling Register will be kept for any gaming hours after midnight, staff will be recognised for demonstrating a commitment to harm minimisation. A responsible gambling manager will provide specialist support to staff and patrons.

5. **Breaks in play will be encouraged through venue and service design:** after midnight all patrons will be assessed for showing signs of problem gambling with no complementary food or food and drink service at gaming machines being served to any patrons who may show signs of problem gambling. (NB Complimentary food is encouraged under RSA measures in NSW).

ATM's will be placed away from the gaming room where practical and always outside the gaming room.

6. **Local support services will be promoted:** Gambling help line cards will be displayed in bathroom. All marketing material will include the message 'the hotel supports the responsible conduct of gambling and responsible service of alcohol'.
7. **Break down the stigma associated with problem gambling:** Responsible Gambling awareness campaigns will be promoted in our venue and marketing. The hotel will promote and hold events (where practical) during awareness weeks.
8. **Self-Exclusion will be understood, available and enforced:** Self-exclusion material will be handed to enquiring patrons immediately and if the patron requests to be self-excluded the patron will be asked to leave the gaming room immediately. The Responsible Gambling manager will ensure staff are familiar with photos of people who have self-excluded. Patrons that are assessed as showing signs of problem gambling or enquire will be explained self-exclusion procedure.

Within six months of having our application being approved, the hotel will implement a technology solution through our CCTV system to have 'facial recognition technology' for self-excluded patrons.

9. **Promote responsible gambling:** Responsible gambling messages will be included on the hotel's website, marketing material and on newsletters. Responsible gambling messages will be placed on electronic displays in the hotel.
10. **Enable and respond to Customer complaints:** Customers and staff will be made aware of how to make a complaint about RCG and a breach of legislative and regulatory

requirements. Any complaint re RCG addressed to the venues staff will be included in the Responsible gambling register.

DEVELOPMENT APPLICATION

ITEM NUMBER	5.2
SUBJECT	OUTSIDE PUBLIC MEETING: 2-4 Boundary Street and 85 Railway Street, PARRAMATTA NSW 2150 (LOT 2 DP 202700, LOT 6 DP 16496, LOT 1 DP 202700)
DESCRIPTION	Demolition of existing structures, tree removal, lot consolidation and the construction of a four (4) storey Residential Flat Building with basement parking.
REFERENCE	DA/61/2022 - D08729098
APPLICANT/S	Mr A Ibshara
OWNERS	Infinity Idea P/L
REPORT OF RECOMMENDED	Group Manager Development and Traffic Services Deferred commencement
DATE OF REPORT	15 NOVEMBER 2022

REASON FOR REFERRAL TO LPP

This application is referred to the Parramatta Local Planning Panel for the following reasons:

1. SEPP 65 building with 4+ storeys; and
2. More than 10% variation of Clause 4.3 Height of Building.

EXECUTIVE SUMMARY

This is a summary of the full assessment of the application the Section 4.15 Assessment Report.

Site

The subject site is comprised of three lots namely 2 Boundary Street, 4 Boundary Street and 85 Railway Street, Parramatta. The site is an irregular shaped corner allotment with a slope of 2.35m from the south-western corner to the north-eastern. The site is located on the north-eastern side of the intersection between Boundary Street and Railway Street at the southern edge of Parramatta. Currently the site consists of three single storey dwelling houses, carports and metal shed. The site is located in an area of character transition.

East of Railway Street and north of Boundary Street, development generally takes the form of single storey dwelling houses, while west of Railway Street and south of Boundary Street, residential flat buildings are the most common development form. It is noted that the character transition is also the boundary between Parramatta and Cumberland Councils.

Proposal

Demolition of existing structures, tree removal, lot consolidation and the construction of a four (4) storey Residential Flat Building with basement parking.

Notification

The modified application was notified between 4 February to 25 February 2022, in accordance with Council's notification procedures contained within Council's Community Engagement Strategy, Appendix 1 – Consolidated Notification Requirements. In response one (1) unique submission was received. The issues raised by the submission are as follows:

1. Privacy impacts;
2. Impact on the heritage items;
3. Impact on solar access;
4. Impact on the views; and
5. Impact on property value.

Assessment

The application is made pursuant to Parramatta Local Environmental Plan 2011, which permits the proposed development on land within the R4 high Density Residential zone.

The application was assessed against the relevant environmental planning instruments, including *SEPP (Resilience and Hazards) 2021*, *SEPP (Building Sustainability Index: BASIX) 2004*, *SEPP (Transport and Infrastructure) 2021*, *SEPP (Biodiversity and Conservation) 2021*, *SEPP No. 65 – Design Quality of Residential Apartment Development*, and *Paramatta LEP 2011*, as well as *Paramatta DCP 2011*.

It is of note that the proposal is generally compliant with the relevant planning provisions applicable to the development

Further, during the assessment of the application the proposal was referred to the following Council Officer's for comment:

1. Council's Development Engineer,
2. Landscape and Tree Management Officer,
3. Traffic and Transport Officer,
4. Heritage Officer,
5. Environmental Health Officer – (General Waste, Acoustic and Contamination), and
6. Universal Access Officer supported the development proposal, subject to appropriate conditions.

RECOMMENDATION

(a) **That**, the Parramatta Local Planning Panel, exercising the functions of Council, pursuant to Section 4.17 of the *Environmental Planning and Assessment Act 1979*, grant **deferred commencement consent** to DA/61/2022 for a period of five (5) years within which physical commencement is to occur from the date on the Notice of Determination, subject to the conditions of consent **in Attachment 1**.

(b) **Further, that** submitters be advised of the decision.

REASONS OF APPROVAL










It has been recommended for approval for the following reasons:









1. The height variation is not significant and retains the primary presentation of the building as a 4-storey residential flat building that is consistent with other residential flat buildings with the locality;
2. The building has been appropriately articulated and modulated. Façade treatment, material variation and private open spaces have been provided in order to minimise the external bulk and scale;
3. The height variation does not result in reasonable amenity impact on the neighbouring properties;
4. Council is satisfied that the Applicant's Clause 4.6 variation request has adequately addressed the matters required to be demonstrated in Clause 4.6(3) of Parramatta LEP 2011;
5. The proposed density is reasonable for the site, with regards to context and zoning;
6. The development is permissible in the R4 zone and satisfies the requirements of all of the applicable planning controls;
7. The design of the development was considered satisfactory by Council's Design Excellence Advisory Panel subject to recommended amendments;
8. The development will be compatible with the emerging and planned future character of the area; and
9. For the reasons given above, approval of the application is in the public interest.

Sumitava Basu

Development Assessment Officer

ATTACHMENTS:

1 	Assessment Report and draft Conditions	66 Pages
2 	Locality map	1 Page
3 	Plans used for assessment	31 Pages
4	Internal plans used for assessment (confidential)	12 Pages
5	Internal referral comments (confidential)	37 Pages
6 	Statement of Environmental Effects	43 Pages
7 	Waste Management Plan	9 Pages
8 	BASIX Certificate	15 Pages
9	Easement of Confirmation (confidential)	12 Pages
10 	Clause 4.6 variation report	12 Pages
11 	SEPP-65 report	7 Pages
12	Access Report (confidential)	28 Pages
13 	Arborist Report	38 Pages

14	Preliminary Site Investigation (confidential)	72 Pages
15	Hazardous Materials Survey (confidential)	57 Pages
16  	Traffic Report	5 Pages
17  	Geotechnical Investigation report	26 Pages
18  	Acoustic Report	29 Pages
19  	BCA Report	42 Pages

REFERENCE MATERIAL



Parramatta City Council

File No: DA/61/2022

SECTION 4.15 ASSESSMENT REPORT

Environmental Planning & Assessment Act 1979

Summary

DA No:	DA/61/2022
Property:	2-4 Boundary Street and 85 Railway Street, Parramatta NSW 2150, Lot 2 DP 202700, Lot 6 DP 16496 and Lot 1 DP 202700.
Proposal:	Demolition of existing structures, tree removal, lot consolidation and the construction of a four (4) storey Residential Flat Building with basement parking.
Date of receipt:	24 January 2022
Applicant:	Mr A Ishara
Owner:	Infinity Idea Pty Ltd
Is the property known to be owned by a Council employee or Councillor?	No
Political donations/gifts disclosed:	None disclosed on the application form
Submissions received:	One (1) unique submission received
Conciliation Conference Held:	No
Recommendation:	Deferred Commencement Approval
Responsible Officer:	Sumitava Basu

Legislative requirements

Environmental Planning Instruments (EPIs)	<ul style="list-style-type: none"> • State Environmental Planning Policy (Resilience and Hazards) 2021; • State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004; • State Environmental Planning Policy (Transport and Infrastructure); • State Environmental Planning Policy (Biodiversity and Conservation) 2021; • State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development; and • Parramatta Local Environmental Plan 2011.
Zoning	• R4 High Density Residential
Heritage item	No but in vicinity of the following items: <ul style="list-style-type: none"> • Local historic item 460 (<i>Chadwick Guest House (former Amwell)</i>) at 6 Boundary Street; and • Local historic item 86 (<i>Stone boundary marker</i>) at 128-130 Railway Street.
Heritage Conservation Area	No
Archaeological heritage	No
Integrated development	No

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Designated development	No
Crown development	No
Clause 4.6 Variation	Yes – Variation to Clause 4.3 – Building Height
Delegation	Parramatta Local Planning Panel (PLPP) due to the following reasons: <ul style="list-style-type: none"> • SEPP 65 building with 4 or more storeys; and • More than 10% variation of Clause 4.3 Height of Building.

1.0 EXECUTIVE SUMMARY

The development application DA/61/2022 was lodged on 24 January 2022 for '*Demolition of existing structures, tree removal, lot consolidation and the construction of a four (4) storey Residential Flat Building with basement parking*'.

The application is made pursuant to Parramatta Local Environmental Plan 2011, which permits the proposed development on land within the R4 High Density Residential zone.

In accordance with the Consolidated Parramatta Notification Plan the development application was notified between 4 February and 25 February 2022, in response one (1) unique submission was received.

In accordance with the Environmental Planning and Assessment Act 1979, Section 9.1 – Directions by the Minister, this application is reported to the Parramatta Local Planning Panel for determination for the following reasons:

- The proposal seeks a variation to the 14m building height development standard prescribed under the Clause 4.3 of PLEP 2011. The proposal seeks a maximum height of 16.2m and equates to a 15.7% variation; and
- The proposed development is 4+ storeys and is subject to the provisions of SEPP 65.

Section 4.15 Assessment Summary

The application has been assessed relative to section 4.15 of the Environmental Planning and Assessment Act 1979, taking into consideration all relevant state and local planning controls.

The proposed development is appropriately located within the locality and designed in accordance with the Parramatta LEP 2011. The proposal will be sympathetic with the established characteristics of the neighbourhood and will be compatible with the emerging and planned future character of the area. Appropriate conditions have been included in the recommendation ensuring the proposed development will have minimal environmental impacts during works and post-occupation.

Having regard to the matters for consideration under Section 4.15 of the Environmental Planning and Assessment Act, it is recommended Development Application No. DA/61/2022 be approved. The recommended conditions of consent are within **Attachment 1**.

2.0 SITE DESCRIPTION AND CONDITIONS

The legal property description is Lot 2 DP 202700, Lot 6 DP 16496 and Lot 1 DP 202700. The subject site is comprised of three lots; 2-4 Boundary Street and 85 Railway Street, Parramatta. The Site is an irregular shaped, corner allotment with a slope of 2.35m from the south-western corner to the north-eastern corner.



Figure 1: Aerial view of the subject site and surrounds. Subject site outlined in blue. (Source: Nearmap 2022)

The subject site has the following area and dimensions:

Area – 1,793.6 square metres

North – 53 metres;

East – 46 metres;

Frontage of Boundary Street (south) – 27.8 metres; and

Frontage on Railway Street (west) – 50.4 metres.

The site and the surrounding properties are zoned R4 High Density Residential. The site is located on the north eastern side of the intersection between Boundary Street and Railway Street at the southern edge of the Parramatta suburb. Currently the site consists of three single storey dwelling houses, carports and metal shed.

East of Railway Street and north of Boundary Street, development generally takes the form of single storey dwelling houses, while west of Railway Street and south of Boundary Street, residential flat buildings are the most common development form. It is noted that the character transition is also the boundary between Parramatta and Cumberland Councils.

3.0 RELEVANT SITE HISTORY

Date	Comment
24 June 2014	<p>PL/48/2014 – A prelodgement meeting was held for a <i>three storey residential flat building consisting of 18 units and basement parking</i>. The following matters were discussed with the applicant:</p> <ul style="list-style-type: none"> Regulatory compliance including private open space and communal open space; Street presentation; Building form and massing;

	<ul style="list-style-type: none"> • Visual and acoustic privacy; • Solar access and natural ventilation; • Waste management; • Housing diversity; • Universal access; • Parking; • Stormwater drainage; and • Heritage and urban design.
24 September 2015	<p>DA/573/2014 – A development application for <i>demolition, tree removal and construction of a 3 storey residential flat building containing 18 units over a basement car park</i> was determined with a deferred commencement consent. The final approval was issued on 19 April 2017 after satisfactory compliance with the deferred commencement conditions.</p> <p>The deferred commencement was satisfied, and the operative consent was issued on 28 April 2017. The operative consent lapsed on 19 April 2022. It is understood the approved works were not sought or initiated.</p>

4.0 THE PROPOSAL

The proposed development includes the following components:

- Demolition works;
- Tree removal;
- Consolidation of 3 lots into 1 lot;
- Construction of a four storey Residential Flat Building comprising of 25 units including 3 adaptable units in the following arrangement:
 - 4 x 1 bedroom units;
 - 18 x 2 bedroom units; and
 - 3 x 3 bedroom units.
- Single level basement parking comprising of the following:
 - 31 parking spaces including 3 accessible spaces;
 - 7 visitors parking spaces
- 15 bicycle parking on the ground floor level;
- Rooftop Communal Open Space;
- Associated site works including excavation, stormwater drainage and landscaping works.

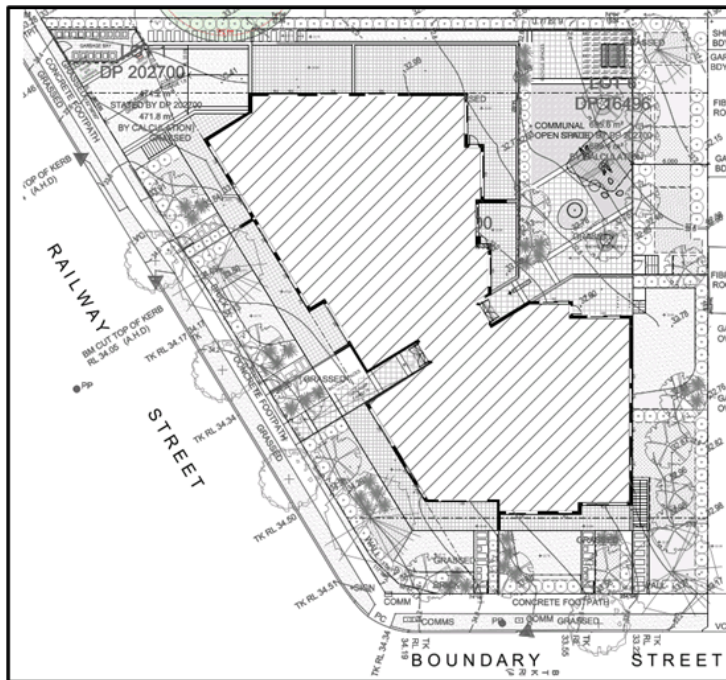


Figure 2: Proposed layout of the site (Source. extracted from the submitted plans)



Figure 3: Proposed northern side elevation of the building (Source. extracted from the submitted plans)



Figure 4: Proposed eastern side elevation of the building (Source. extracted from the submitted plans)



Figure 5: Proposed southern side elevation of the building (Source. extracted from the submitted plans)



Figure 6: Proposed western side elevation of the building (Source. extracted from the submitted plans)

5.0 RELEVANT DA HISTORY

24 January 2022	The application was lodged.
4 February to 25 February 2022	The application was notified in response one (1) unique objection were received.
28 April 2022	The proposal was referred to DEAP. The advice from DEAP is included in this report. DEAP issued an Amber Light for the proposal.
30 May 2022	Additional information was requested in relation to communal and private open spaces, deep soil zone, building design and articulation, stormwater drainage, tree and landscape management and universal access.
23 June 2022	The requested information was submitted.
6 September 2022	Additional information was requested in relation to clause 4.6 variation, BASIX Certificate, front fence, parking provision and stormwater drainage.
21 September 2022	The requested information was submitted.

6.0 ENVIRONMENTAL PLANNING INSTRUMENTS

6.1 Overview

The instruments applicable to this application are:

- State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development;

- State Environmental Planning Policy (Resilience and Hazards) 2021;
- State Environmental Planning Policy (Biodiversity & Conservation) 2021;
- State Environmental Planning Policy (Transport and Infrastructure) 2021;
- Parramatta Local Environmental Plan 2011; and
- Draft Parramatta Local Environmental Plan 2020.

Compliance with these instruments is addressed below:

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

This Policy aims to improve the design quality of residential flat development. This proposal has been assessed against the following matters relevant to SEPP 65 for consideration:

- Design Excellence Advisory Panel;
- The SEPP 65 Design Quality Principles; and
- The Apartment Design Guide (ADG).

Design Excellence Advisory Panel

The proposal was considered by DEAP on one occasion. The proposal has been given an 'amber light' by the Panel. Following the DEAP meeting, the plans were significantly amended. A summary of the comments provided by DEAP are provided below:

Note: The applicant has provided a response to the recommendations of the DEAP. [TRIM no. D08579586]

Meeting 28 April 2022 – Amber

- 1. The Panel commented that the DA drawings indicate the basement protrudes out of the ground (north-eastern portion of the site up to 2m from natural grade height, refer to section B on drawing # 3001). This is a concern and impacts how a viable communal landscape area can be demonstrated over a concrete deck.*

Noted. It is understood Council, has conditioned for a drainage easement at the north eastern corner of the site. In consideration of the natural profile and ease of access, the ground level COS shall be elevated almost similar to that of the finished ground floor level. Therefore, the COS shall remain elevated a maximum 1.15m from the eastern. Concerns of privacy impact is minimal considering, a 6m wide strip of the site on the eastern boundary is reduced to approximately 1m and the separation of the COS from the neighbouring dwellings. Furthermore, appropriate condition has been recommended to prevent privacy impact on the northern neighbouring properties from the ground level COS. Refer to discuss under 'Visual and Acoustic Privacy – Parramatta Development Control Plan 2011'.

- 2. The Panel noted that the drawing set needs to indicate more context in plan and section with reference to the relationship between the proposed RFB and the heritage listed building on # 6 Boundary Street.*

Noted. Additional information on contextual analysis of the streetscape has been submitted.

3. *The Panel suggested that the Proponent review the size and extent of the basement zone in terms of increasing the amount of viable deep soil zones with specific reference to the northern and eastern boundary setback.*

Noted. Appropriate deep soil zone has been provided mostly on the eastern and southern side of the site. The extent of the basement parking on the northern side has not been significantly reduced.

4. *The current location of the bin area is deemed inappropriate by the Panel due to proximity to bedroom of units G05 & 104, due to noise and potential odour. It was suggested a more appropriate location for this facility would be located in the north-western portion of the site near to the basement driveway entry.*

Noted. The waste bin area has been relocated to the north western corner of the site adjacent to the basement ramp and away from the units.

5. *It was noted that potential vehicular, cycle and pedestrian conflicts are evident in the basement and the Panel requested that these issues be resolved.*

Noted. The potential traffic conflict areas have been resolved.

6. *The Panel noted that a better streetscape activation would be achieved if the units fronting Railway Street should have a pedestrian access and a gate located off the footpath. This would also act as useful access for green and garden waste / recycling.*

Noted. All street facing units on the ground floor have a pedestrian access and a gate.

7. *The Panel suggested that the Proponent review the opportunity for the main building entrance be located off Railway Street and maintain the secondary building access from Boundary Street. This may provide an opportunity to break up the long elevation along Railway Street and to provide a view through the building from the entrance to the common open space at the rear.*

Noted. The revised proposal has a more centralised building entrance from the Railway Street with a view of the ground floor communal open space at the rear of the building. Appropriate articulations have been provided to break the monotony of the long elevation on Railway Street.

8. *The Panel suggested that due to the compromised extent and configuration of the ground floor communal open space, the Proponent review the option of utilising the roof level as an outdoor communal open space with appropriate BBQ, shade shelter, planting, and toilet facilities.*

Noted. Revised plans indicate provision of a variety of amenities for the ground floor communal open space including shade shelter, planting and bicycle storage. The BBQ and toilet facilities are provided with the roof top communal open space.

9. *The Panel suggested the Proponent review the layout of several of the unit living and bedroom locations. Some of these configurations could be swapped for better efficiency. For example, the units at the southern end should have their living areas*

facing Boundary Street for street activation and surveillance and the living room in G01 to face Railway Street.

Noted. The internal layout has been amended for street activation and surveillance of public domain.

10. Currently several bedrooms opening on to living spaces should be avoided – unit layout changes required.

Noted. Majority of the bedrooms of the submitted plans opens to internal corridors.

11. The internal layouts of units (G01, G02, G07, 106, 206 & 306) should be reviewed in terms of efficient use of internal spaces of en-suites. For example, the en-suite in G07 is undersized and the bathroom in G01 is on the opposite side of the living room, adjacent to the bedroom. Seek to maintain sleeping zones on one side and living zones on the other side in each apartment.

Noted. The amended plans have reviewed the unit layouts for better space utilisation.

12. The Panel suggested that the Proponent review the alignment of building to Boundary Street, with the building potentially to provide a positive façade to this address.

Noted. The layout of the development has been amended with satisfactory building materials and finishes to address both the street frontages.

13. The Panel queried the narrow balconies off living areas on the western side of the development. The application is to include furniture to demonstrate the size of balconies are adequate for required furniture and for circulation. Primary outdoor space should ideally be in front of living rooms, not bedrooms.

Noted. The proposal has been amended with wide balconies off the living areas for each west facing units of the building. It is however noted that the 1m wide balcony strips on the western façade have been continued as part of the building articulation. The revised plans indicate satisfactory furniture layout for each unit. The primary outdoor space for each street facing unit on the ground floor level is the living area.

14. The Panel suggested the design team review the texture, tone and materials on ground floor to express the bottom of building.

Noted. Together with the front landscaping and the revised materials and finishes of the ground floor the proposed development shall be of visual interest from the street.

15. The Panel noted that the plan drawings have poorly located dimension lines and are confusing and should be changed for future issue.

Noted. Amended plans with correct dimensions and information have been submitted.

16. Highlight windows in bedrooms should be avoided. The highlight windows at the southern end of the west elevation are detracting and should be replaced with standard windows. Note as well the comment above regarding unit layouts and relocating the living room to the corner position.

Noted. The bedrooms are proposed with standard height windows only. The submitted revised plans indicate living rooms at the corner of the units.

17. All north, east and west facing windows are required to be shaded.

Noted. Considering the development compiles with the minimum building separation on all sides for a R4 High Density zone, further privacy measures is not warranted in this instance.

18. The proposed lift and lobby space in the basement is concealed behind parking spaces and difficult to access, and should be in a more prominent and accessible area.

Noted. The lift and the lobby have been relocated to a central location in the basement level. The accessible parking spaces are located near the lift lobby for ease of access.

Design Quality Principles

Part 4 of the Policy introduces nine (9) design quality principles. As required by the Environmental Planning and Assessment Regulation, the application is accompanied by a response to those design principles, as prepared by the project Architect.

The following table provides an assessment of the proposal against those principles having regards to the comments of the DEAP and assessment by Council's officers:

PRINCIPLE
<p>Principle 1 - Context and neighbourhood character</p> <p>The immediate context and neighbourhood character is defined by transitioning from older, low density residential dwelling to new high density residential apartment buildings.</p> <p>The design of the proposed development satisfactorily responds to the qualities and identity of the area with respect to its relationship to adjoining sites, streetscape and neighbourhood. The site has been identified for high density redevelopment in accordance with the provisions for PLEP 2011.</p> <p>The bulk and scale of the development is appropriate for the context of the area as the proposal meets the built form controls for desired future character statement outlined within the Parramatta Development Control Plan 2011.</p>
<p>Principle 2 - Built form and scale</p> <p>The proposed scale of the building is generally compatible with the future desired character of the immediate neighbourhood. Appropriate articulation and materials are provided to reduce impact of the scale and volume of the building. The proposal will be acceptable as the built form is appropriate for the site, given the constraints in relation to corner profile, topography, and minimal impact on the neighbouring properties. Furthermore, the proposal ensures no single allotment in the neighbourhood will be isolated as a future development site.</p>
<p>Principle 3 - Density</p> <p>The proposal demonstrates that the gross floor area can be satisfactorily accommodated on the site and a high level of amenity for the residents can be achieved. The proposal meets the Density Principle and has been supported in this instance.</p>
<p>Principle 4 - Sustainability</p> <p>The energy and water efficiency targets under SEPP (BASIX) 2004 are achieved. The development achieves the Sustainability Principle subject to compliance with the commitments of the BASIX Certificate.</p>
<p>Principle 5 - Landscape</p> <p>The development proposal provides numerically sufficient landscaping within the site with opportunities for mature plantation in and around the street frontages and the ground level communal</p>

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open space to address the natural setting of the neighbourhood. The ground floor courtyard will provide reasonable amenity and functionality for the future residents. The roof top communal open space provides adequate landscaping and canopy for climate conditions. The submitted landscape plan demonstrates the development will achieve the future desired plan of the neighbourhood.

Principle 6 - Amenity

The proposal complies with majority of the regulatory requirements. The internal amenity of each unit is generally acceptable with no acute angles and unusable corners within the bedrooms and the living spaces. The common internal circulation corridors are legible without many corners. The ease of access of all groups of users to access both ground level and rooftop COS have been satisfactorily considered. The waste disposal is via a garbage bay to the north western corner of the site accessible from Railway Street. The development will provide reasonable level of amenities for the future residents.

Principle 7 - Safety

The windows of the units are oriented outward increasing potential passive surveillance of the existing and future public domain within the subject site and the roadway. The landscaping has been adequately designed to allow passive surveillance. Therefore, the development achieves a reasonable level of safety and security.

Principle 8 - Housing Diversity and Social Interaction

The development provides reasonable level of housing mix. The proposal provides a greater proportion of two bedroom units than one and three bedroom units. However, is acceptable in this instance given the proximity of the site to public transport and future access to the Parramatta CBD.

Principle 9 - Aesthetics

The use of various materials and finishes on the building elevation has been supported by DEAP. The overall aesthetic of the proposal is in keeping with the future desired character of the neighbourhood.

Apartment Design Guide

The SEPP requires consideration of the ADG which supports the 9 design quality principles by giving greater details as to how those principles might be achieved.

The application is supported by a detailed demonstrating consistency with the design criteria in the ADG. The table below considers the proposal against key matters:

Subject	Control	Proposed	Compliance
Part 3 – Siting the Development			
3D Communal and public open space	Communal open space (COS) has a minimum area equal to 25% of the site, with minimum 3m dimensions.	Required: 448.4m ² Proposed: 485m ² (27%)	Yes
	Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9am and 3pm mid-winter.	The submitted shadow diagrams indicate that the proposed roof top communal open space, shall receive direct sunlight for more than 2 hours between 9am and 3pm mid-winter.	Yes.
	Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements:	Various facilities like bbq, outdoor seating areas and landscaping are provided on the roof top communal space.	Yes.

	<ul style="list-style-type: none">• seating for individuals or groups• barbecue areas• play equipment or play areas• swimming pools, gyms, tennis courts or common rooms.																		
3E Deep soil zones Deep soil zones are to meet the following minimum requirements:	<table><tr><th>Site area</th><th>Minimum dimensions</th><th>Deep soil zone (% of site area)</th></tr><tr><td>Less than 650m²</td><td>-</td><td></td></tr><tr><td>650m² – 1,500m²</td><td>3m</td><td></td></tr><tr><td>Greater than 1,500m²</td><td>6m</td><td>7%</td></tr><tr><td>Greater than 1,500m² with significant existing tree cover</td><td>6m</td><td></td></tr></table>	Site area	Minimum dimensions	Deep soil zone (% of site area)	Less than 650m ²	-		650m ² – 1,500m ²	3m		Greater than 1,500m ²	6m	7%	Greater than 1,500m ² with significant existing tree cover	6m		Required – 7% or 125.5m ² Proposed - 195m ² (10.9%) Deep soil areas are provided at the ground level.	Yes.	
Site area	Minimum dimensions	Deep soil zone (% of site area)																	
Less than 650m ²	-																		
650m ² – 1,500m ²	3m																		
Greater than 1,500m ²	6m	7%																	
Greater than 1,500m ² with significant existing tree cover	6m																		
3F Visual Privacy Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:	<table><tr><th>Building Height</th><th>H-H</th><th>NH-H</th><th>NH-NH</th></tr><tr><td>up to 12m (4 storeys)</td><td>12m</td><td>9m</td><td>6m</td></tr><tr><td>up to 25m (5-8 storeys)</td><td>18m</td><td>12m</td><td>9m</td></tr><tr><td>over 25m (9+ storeys)</td><td>24m</td><td>18m</td><td>12m</td></tr></table>	Building Height	H-H	NH-H	NH-NH	up to 12m (4 storeys)	12m	9m	6m	up to 25m (5-8 storeys)	18m	12m	9m	over 25m (9+ storeys)	24m	18m	12m	Northern side - 6m separation from the boundary. Eastern side – 6m separation from the boundary. Southern side (rear) – 6.2m separation form the boundary. Western side – 6m separation from the boundary.	Yes.
Building Height	H-H	NH-H	NH-NH																
up to 12m (4 storeys)	12m	9m	6m																
up to 25m (5-8 storeys)	18m	12m	9m																
over 25m (9+ storeys)	24m	18m	12m																
3G Pedestrian access and entries	Building entries and pedestrian access connects to and address the public domain. Access, entries and pathways are accessible and easy to identify.	Pedestrian access from the Railway Street is satisfactory.	Yes.																
3H Vehicle Access	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	Separate pedestrian and vehicular access from Railway Street are provided.	Yes.																
3J Bicycle and car parking	For development in the following locations: 1 x 4 (one-bedroom unit) = 4 1.25 x 18 (two-bedroom unit) = 22.5 1.5 x 3 (three-bedroom unit) = 4.5 Visitor: 0.25 x 25 units = 6.25 (7) Total = 38 spaces 13 bicycle spaces required.	31 residential parking spaces including 3 accessible space and 7 visitors parking spaces provided. 15 bicycle space provided.	Yes.																

Part 4 - Amenity																	
4A Solar and daylight access	Living rooms and private open spaces of at least 70% or 18 units of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter.	19 units or 76% comply	Yes.														
4B Natural ventilation	Min 60% or 15 units of apartments is naturally cross ventilated in the first nine storeys of the building.	19 units or 76% comply. The balconies of the units allow adequate natural ventilation and cannot be enclosed.	Yes.														
4C Ceiling heights	Measured from finished floor level to finished ceiling level, minimum ceiling heights are: <table><tr><th colspan="2">Minimum Ceiling Height</th></tr><tr><td>Habitable rooms</td><td>2.7m</td></tr><tr><td>Non-habitable</td><td>2.4m</td></tr><tr><td></td><td>2.7m main living area</td></tr><tr><td>For 2 storey apartments</td><td>2.4m second floor where it does not exceed 50% of the apartment area.</td></tr><tr><td>Attic spaces</td><td>1.8m at edge of room with a 30 degree minimum ceiling slope.</td></tr><tr><td>Located in mixed use areas</td><td>3.3m for ground and first floor to promote future flexibility of use.</td></tr></table>	Minimum Ceiling Height		Habitable rooms	2.7m	Non-habitable	2.4m		2.7m main living area	For 2 storey apartments	2.4m second floor where it does not exceed 50% of the apartment area.	Attic spaces	1.8m at edge of room with a 30 degree minimum ceiling slope.	Located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use.	2.7m internal clear height for all units.	Yes.
Minimum Ceiling Height																	
Habitable rooms	2.7m																
Non-habitable	2.4m																
	2.7m main living area																
For 2 storey apartments	2.4m second floor where it does not exceed 50% of the apartment area.																
Attic spaces	1.8m at edge of room with a 30 degree minimum ceiling slope.																
Located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use.																
4D Apartment Size and Layout	Studio 35m ² 1 bedroom 50m ² 2 bedroom 70m ² 3 bedroom 90m ²	Studio N/A 1 bedroom 50m ² (min.) 2 bedroom 70m ² (min.) 3 bedroom 99m ² (min.)	Yes.														
	Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room.	Complies.	Yes.														
	Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry)	Complies.	Yes.														
	Habitable room depths are limited to a maximum of 2.5 x ceiling height. 2.5 x 2.7 = 6.75m	Complies. The units have open plan layouts.	Yes.														
	In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.	Complies.	Yes.														

	Master bedrooms have a minimum area of 10m ² and other bedrooms 9m ² (excluding wardrobe space).	Complies.	Yes.															
	Bedrooms have a minimum dimension of 3m.	Complies.	Yes.															
	Living rooms or combined living/dining rooms have a minimum width of: - 3.6m for studio and 1 bedroom apartments. - 4m for 2 and 3 bedroom apartments.	Complies.	Yes.															
4E – Private open space and balconies	<p>Primary balconies as follows:</p> <table><tr><th>Dwelling type</th><th>Minimum Area</th><th>Minimum Depth</th></tr><tr><td>Studio</td><td>4 m²</td><td>-</td></tr><tr><td>1 Bedroom</td><td>8 m²</td><td>2m</td></tr><tr><td>2 Bedroom</td><td>10 m²</td><td>2m</td></tr><tr><td>3 Bedroom</td><td>12 m²</td><td>2.4m</td></tr></table> <p>The minimum balcony depth to be counted as contributing to the balcony area is 1m.</p> <p>For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15 m² and a minimum depth of 3m.</p>	Dwelling type	Minimum Area	Minimum Depth	Studio	4 m ²	-	1 Bedroom	8 m ²	2m	2 Bedroom	10 m ²	2m	3 Bedroom	12 m ²	2.4m	<p>Complies.</p> <p>Complies.</p>	<p>Yes.</p> <p>Yes.</p>
Dwelling type	Minimum Area	Minimum Depth																
Studio	4 m ²	-																
1 Bedroom	8 m ²	2m																
2 Bedroom	10 m ²	2m																
3 Bedroom	12 m ²	2.4m																
4F – Common circulation and spaces	Max. apartments off a circulation core on a single level is eight.	Complies. Maximum 7 units proposed.	Yes.															
4G - Storage	<p>In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided</p> <table><tr><th>Apartment type</th><th>Storage size volume</th></tr><tr><td>Studio</td><td>4 m²</td></tr><tr><td>1 bedroom</td><td>6 m²</td></tr><tr><td>2 bedroom</td><td>8 m²</td></tr><tr><td>3 bedroom</td><td>10 m²</td></tr></table> <p>At least 50% of the required storage is to be located within the apartment.</p>	Apartment type	Storage size volume	Studio	4 m ²	1 bedroom	6 m ²	2 bedroom	8 m ²	3 bedroom	10 m ²	Adequate storage areas are provided.	Yes.					
Apartment type	Storage size volume																	
Studio	4 m ²																	
1 bedroom	6 m ²																	
2 bedroom	8 m ²																	
3 bedroom	10 m ²																	

6.2 STATE ENVIRONMENTAL PLANNING POLICY (RESILIENCE AND HAZARDS) 2021 – CHAPTER 4

The provisions of SEPP have been considered in the assessment of the development application.

The submitted Preliminary Site Investigation report ref. E21261-1 by Geotechnical Consultants Australia dated 10 December 2021, confirms that the subject site is historically used for

residential purposes. A search within NSW EPA contaminated land register did not yield any record of contamination within the site or within 200m of the site.

The soil samples yield that there are low evidence of heavy metals, hydrocarbons, pesticides and hazardous materials like asbestos and toxic deposits. There may be potential friable materials considering the age and presentation of the onsite structures.

The report recommends the following:

- All structures on the site shall have a Hazardous Materials Survey (HMS) conducted by a qualified occupational hygienist;
- An Asbestos Clearance shall be required after demolition of all existing structures;
- Any soils requiring excavation, onsite reuse and/or removal shall be classified in accordance with Waste Classification Guidelines Part 1: Classify Waste" NSW EPA (2014); and
- A site specific Unexpected Finds Protocol' shall be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered, including asbestos.

Conditions of consent are recommended that the developer must inform Council of any contamination that may be present on site that is found through the demolition and construction stages and compliance with the recommendation of the preliminary site investigation report

6.3 STATE ENVIRONMENTAL PLANNING POLICY – BASIX

The requirements outlined in the BASIX certificate have been satisfied in the design of the proposal.

A condition has been imposed to ensure such commitments are fulfilled during the construction of the development.

6.4 STATE ENVIRONMENTAL PLANNING POLICY (TRANSPORT AND INFRASTRUCTURE) 2021

The provisions of SEPP (Transport and Infrastructure) 2021 have been considered in the assessment of the development application.

The development is consistent with the controls contained with the SEPP.

6.5 STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY & CONSERVATION) 2021 - VEGETATION IN NON-RURAL AREAS (CHAPTER 2)

The application has been assessed against the requirements of SEPP, for protection of the biodiversity values of trees and other vegetation in non-rural areas of the State, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

Council's Tree and Landscape Officer has reviewed the application and raised no objections to the removal of the following vegetation from the site subject to facilitate the development:

Tree No.	Name	Common Name	Location	Condition/Height
2	<i>Schinus molle</i>	Pepper Tree	Rear garden	Poor / 8m

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3	<i>Cinnamomum camphora</i>	Camphor Laurel	Rear garden	Poor / 4m
4	<i>Prunus cerasifera</i>	Ornamental Plum	Rear garden	Poor / 4m
5	<i>Macadamia tertrapphylla</i>	Macadamia Nut Tree	Rear garden	Good / 4m
6	<i>Lagerstroemia indica</i>	Crepe Myrtle	Front garden	Good / 7m
7	<i>Brunfelsia latifolia</i>	Yesterday, today, tomorrow	Front garden	Good / 2m
8	<i>Callistemon viminalis</i>	Weeping Bottlebrush	Front garden	Good / 3m
9	<i>Hibiscus syriacus</i>	Rose of Sharon	Front garden	Good / 3m
10	<i>Olea africana</i>	African Olive	Front garden	Good / 4m

Appropriate conditions have been included in the recommendation tree removal procedure with minimal environmental impacts.

6.6 SYDNEY REGIONAL ENVIRONMENTAL PLAN (BIODIVERSITY AND COSERVATION) 2021 – CHAPTER 10

The site is not located on the foreshore or adjacent to a waterway and therefore, with the exception of the objective of improved water quality, the objectives of the SEEP are not applicable to the proposed development.

The development is consistent with the controls contained with the SEPP.

7.0 PARRAMATTA LOCAL ENVIRONMENTAL PLAN 2011

PERMISSIBILITY

The site is zoned R4 High Density Residential under Parramatta Local Environmental Plan 2011. The proposed works are permissible with consent in the zone.

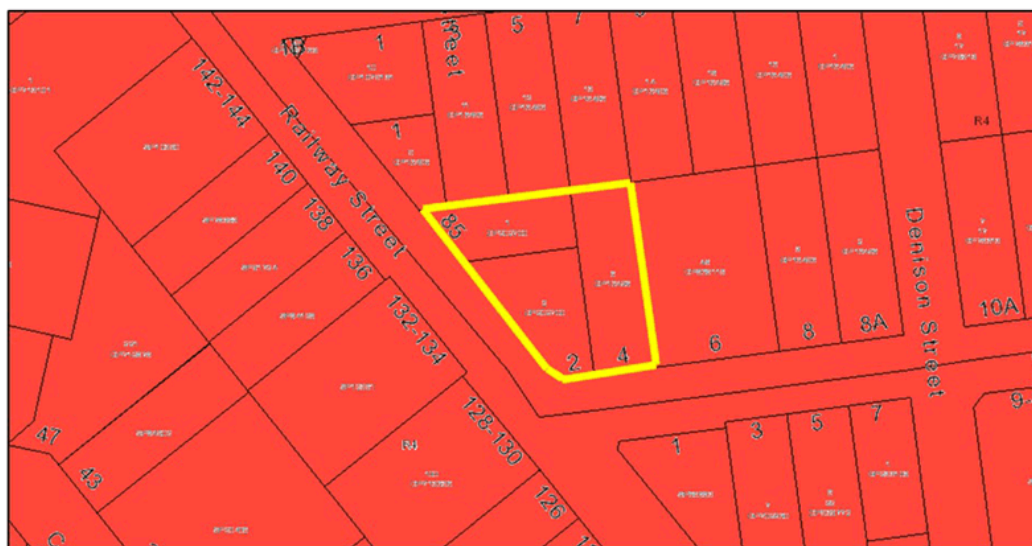


Figure 7: Land Zoning Map with the site outlined in yellow. (Source: PLEP 2011)

Zone Objectives

The proposed development is consistent with the aims and objectives of the R4 High Density Residential zoning applying to the land as the proposed works:

- To provide for the housing needs of the community within a high density residential environment.

The proposal is not inconsistent with other objectives of the zone.

The relevant development standards to be considered under LEP for the proposed development are outlined below:

Development standard	Compliance	
Cl. 2.7 Demolition requires development consent	Yes. The proposed demolition is permissible with consent.	
Cl. 4.3 Height of buildings <i>Allowable – 14m</i>	No. Proposed – 16.2m Variation - 2.2m or 15.7% The application was accompanied by a Clause 4.6 Statement to justify the variation which is discussed later in the report.	
Cl. 4.4 Floor space ratio <i>Allowable – 1.2:1 or 2,152.3m²</i>	Yes. Proposed – 2,151.5m ² or 1.19:1	
Cl. 4.6 Exception to development standards	Yes. The applicant relies upon this clause to allow the exceedance of the height as discussed below.	
Clause 4.6 of LEP 2012 allows the consent authority to provide an appropriate degree of flexibility on applying certain development standards, where flexibility would achieve better outcomes.		
Clause 4.6(1) – Objectives of clause 4.6		
The objectives of this clause are:		
(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,		
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances'		
Clause 4.6(2) – Operation of clause 4.6		
The operation of clause 4.6 is not limited by terms of cluse 4.6(8) of the LEP, or otherwise by any other instrument.		
Clause 4.3 of the LEP provides that the height of a building on any land in the neighbourhood should not exceed the maximum height shown on the Height of Buildings map. The development proposes the following:		
Maximum permissible building height	Proposed	Variation
14m	16.2m	2.2m or 15.71m

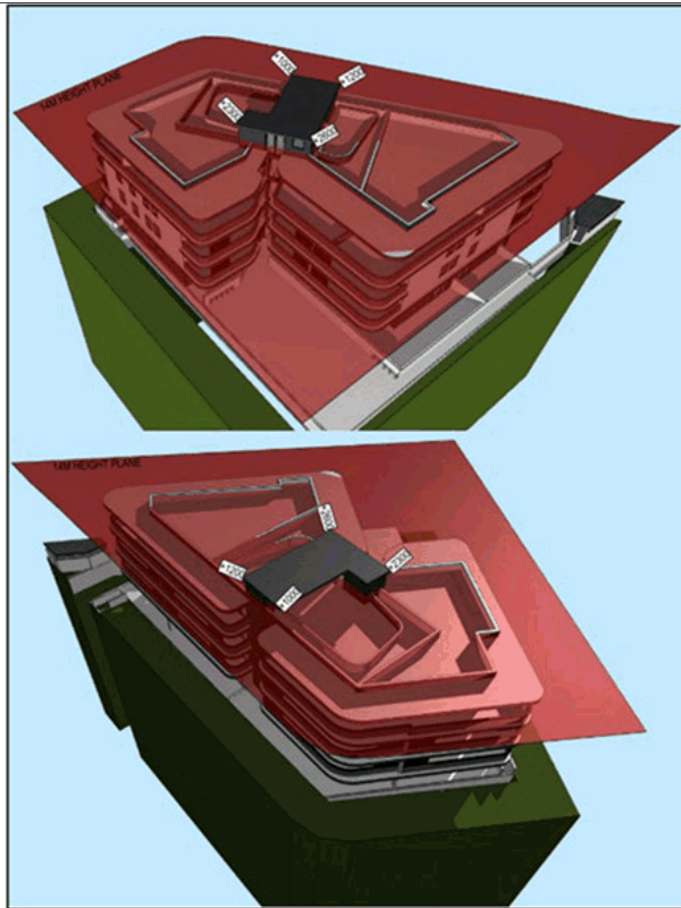


Figure 8: Height Plane showing extent of breach in Height of Building development standard of LEP 2011.
(Source: extracted from the submitted plans)

Clause 4.6(3) - Unreasonable and Unnecessary

Clause 4.6(3) outlines that development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:

- (a) That compliance with the development standard is unreasonable or unnecessary on the circumstances of the case, and
- (b) That there are sufficient environmental planning grounds to justify contravening the development standards.

The departure from the maximum permissible building height standard is supported by a written request justifying contravention of the development standard summarised below:

- The height exceedance is limited to the lift and fire staircase over-runs, shade structures for the roof top communal open space and the associated amenities including toilet;
- The variation arises from the need to provide additional amenities and access to them;
- The roof top elements are recessed centrally to the building such as they are not 'read' in the streetscape;
- Strict compliance will reduce amenities and access to the roof top communal open space;

- The proposed variation does not impact on the amenities of the neighbouring properties such as solar access;
- The proposed departure from the regulatory standard shall enable a high quality utilisation of suitable space without eroding the fundamentals of the suitable planning outcomes for the site; and
- The proposal will be consistent with the desired future character of the locality and will be reflective of the objectives for the zone and locality in general.

Planner's comment

An assessment against the relevant case law established in the NSW Land and Environment Court has been undertaken below. These cases establish tests that determine whether a variation under Clause 4.6 of an LEP is acceptable and whether compliance with the standard is unreasonable or unnecessary.

Wehbe v Pittwater Council

Case law in the NSW Land & Environment Court has considered circumstances in which an exception to a development standard may be well founded. In the case of *Wehbe v Pittwater Council* [2007] NSWLEC 827 the presiding Chief Judge outlined the following five (5) circumstances:

1. The objectives of the development standard are achieved notwithstanding non-compliance with the standard.
2. The underlying objective or purpose is not relevant to the development with the consequence that compliance is unnecessary.
3. The underlying objective or purpose would be defeated or thwarted if compliance was required with the consequence that compliance is unreasonable
4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable
5. The zoning of particular land is unreasonable or inappropriate so that a development standard appropriate for that zoning was also unreasonable or unnecessary as it applied to that land and that compliance with the standard in that case would also be unreasonable or unnecessary.

1. Height of Buildings Objectives

Objective	Comment
(a) to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,	<p>The proposed development will have a built form that is generally consistent with other residential flat buildings in the locality. The height breach incorporates the lift and services over-runs, shades structures, toilet as well as the parapet roof. These structures are centrally recessed from the sides of the building and will not readily visible from the street.</p> <p>The proposal does not facilitate additional habitable floor space. In this regard, it is considered that the building height variation does not negatively impact upon the built form, nor the land use intensity to the surrounding area.</p>
(b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development,	The proposed variation is not significant and only incorporates the lift and services over-runs shade structure, toilet and parapet roof. It is not considered to adversely impact on the views, privacy or solar access to adjoining properties.

	Being within the R4 High Density Residential zone, it has been established that the proposed building separation is appropriate in its setting.
(c) to require the height of future buildings to have regard to heritage sites and their settings,	Considering the extent of the height variation and the recessed location of the elements on the top of the roof, there will be minimal impact on the value of the adjoining heritage item on 6 Boundary Street.
(d) to ensure the preservation of historic views,	It has been established that there are no significant views to and from the sight that has been identified in the planning controls. Accordingly, the proposal is not required to have any adverse impacts in that regard.
(e) to reinforce and respect the existing character and scale of low density residential areas,	The surrounding neighbourhood is envisioned to have a higher density due to proximity to the CBD. The existing nearby low density residential development are long standing and in transition to high density development.
(f) to maintain satisfactory sky exposure and daylight to existing buildings within commercial centres, to the sides and rear of tower forms and to key areas of the public domain, including parks, streets and lanes.	The proposed variation accommodates lift and services over-runs, shade structure, toilet and parapet roof, and does not significantly impact the sky exposure of the public domain, street or lane.

2. The applicant does not contend that the underlying objectives are not relevant.

3. The applicant does not contend that the underlying objectives would be defeated or thwarted if the compliance was required.

4. The applicant does not contend that the development standard has been virtually abandoned or destroyed.

5. The applicant does not contend that the zoning is inappropriate or that the standard is unreasonable or unnecessary.

Four2Five Pty Ltd v Ashfield Council

The decision in the Land & Environment Court case of *Four2Five Pty Ltd v Ashfield Council* [2015] NSWLEC 90, suggests that 'sufficient environmental planning grounds' for a Clause 4.6 variation is more onerous than compliance with zone and standard objectives. The Commissioner in the case also established that the additional grounds had to be particular to the circumstances of the proposed development, and not merely grounds that would apply to any similar development.

In this instance, it is deemed unreasonable and unnecessary to restrict the proposed increase in the building height by 2.2 metres. The applicant's justification is generally supported in this instance. As such, a variation to the height of building development standard is worthy of support in the context of clause 4.6 for the following reasons:

- The proposal is considered appropriate without setting an undesirable precedent within the neighbourhood;
- The configuration, layout and design of units, their overall size and spaces are practical and will allow future users to furnish their units in a variety of ways;
- The non-compliant height relates primarily to the non-living components such as lift and services overrun, shade structure, toilet and parapet roof. Both the lift and services overrun are centrally located within the roof and will not be readily discernible from the public domain. Appropriate building articulation has been provided to reduce adverse impact on the visual coherence;

- In accessing the reasonableness of the proposal, it is appropriate to consider the breach of the building height to the overall scale of the building will not result in a radical transformation to the development proposal;
- The additional building height will not result in unreasonable overshadowing impacts to surrounding properties.
- The proposal complies with the objective of the height of building control and the R4 zone objectives.

Compliance with the development standard in this instance is unreasonable and unnecessary given the above.

Initial Action Pty Ltd v Woollahra Municipal Council

Chief Judge Preston, in *Initial Action Pty Ltd v Woollahra Municipal Council* [2018] NSWLEC 118 clarified, at paragraph 87, that, "Clause 4.6 does not directly or indirectly establish a test that the non-compliant development should have a neutral or beneficial effect relative to a compliant development".

Clause 4.6(4) - Consent Authority Assessment of Proposed Variation

Clause 4.6(4) outlines that development consent must not be granted for development that contravenes a development standard unless:

- 'a) the consent authority is satisfied that:*
- i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and*
 - ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and*
- b) the concurrence of the Secretary has been obtained.'*

The matters of clause 4.6(4)(a)(i) have been dealt within the preceding section. Clause 4.6(4)(a)(ii) and Clause 4.6(4)b) have been assessed below:

Public Interest

The proposed development is in the public interest as it allows for development of a site suitable under the applicable regulatory standards. It also provides additional housing options in an area slated for higher density.

The Secretary's concurrence has been assumed given the variation to the numerical standard, as per NSW Department of Planning Circular 'Variations to development standards' Ref: PS 20-002 dated 5 May 2020.

Clause 4.6(5) - Concurrence

- Clause 4.6(5) outlines that in deciding whether to grant concurrence, the Secretary must consider:*
- (a) Whether contravention of the development standard raises any matter of significance for State or Regional environmental planning, and*
 - (b) The public benefit of maintaining the development standard, and*
 - (c) Any other matters required to be taken into consideration by the Secretary before granting concurrence.*

Concurrence from the DPIE Secretary is not required.

Conclusion

In *Al Maha Pty Ltd v Huajun Investments Pty Ltd* [2018] NSWCA 245, Basten JA formed a somewhat contradictory position to *Initial Action* (above), clarifying in paragraphs [21-24] that “the commission [or consent authority in this instance] had to be satisfied that there were proper planning grounds to warrant the grant of consent, and that the contravention was justified”.

Baron Corporation Pty Limited v Council of the City of Sydney [2019] NSWLEC 61 reconfirmed this approach in paragraph [78-79]: “The consent authority’s consideration of the applicant’s written request, required under cl 4.6(3), is to evaluate whether the request has demonstrated the achievement of the acoustic that are the matters in cl 4.6(3)(a) and (b)”, “The consent authority may not be in a position to be satisfied that the applicant’s written request does demonstrate both of these things unless the consent authority forms its own view about these things”

Finally, *RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 190 confirmed the approach in *Al Maha* and *RebelMH* (above) in paragraph [51] (emphasis added) “...in order for the consent authority to be satisfied that the applicant’s written request has “adequately addressed” the matters required to be demonstrated by cl 4.6(3), the consent authority needs to be satisfied that those matters have in fact been demonstrated. It is not sufficient for the request to merely **seek to demonstrate** the matters in subcl (3) (which is the process required by Cl 4.6(3)), the request **must in fact demonstrate** the matters in subcl (3) (which is the outcome required by cl 4.6(3) and (4)(a)(i)).”

The applicant’s written request has adequately addressed the matters in clause 4.6(3) of the *Parramatta LEP 2011* and can be supported as the proposal satisfactorily achieves the intents of the building height development standard and zone, and the proposal is in the public interest.

In reaching this conclusion, regard has been given to the relevant Judgements of the LEC.

Cl. 5.6 Architectural roof features	An architectural roof feature is not proposed.
Cl. 5.7 Development below mean high water mark	The proposal is not for the development of land that is covered by tidal waters.
Cl. 5.10 Heritage conservation	The subject site does not contain a heritage item, or within a heritage conservation area. The subject site is in the vicinity of a number of items. The current proposal will have no impact upon the heritage curtilage of existing heritage items within proximity to the development site.
Cl. 5.10(8) Aboriginal places of heritage significance	Yes, the subject site is located within a low sensitivity recorded area.
Cl. 5.21 Flood planning	The site is not identified on this map.
Cl. 6.1 Acid sulphate soils	An Acid Sulphate Soils Management plan is not required to be prepared.
Cl. 6.2 Earthworks	Significant excavation of the site is proposed. The applicant has submitted a geotechnical assessment report for the site. The proposed development is in keeping with the objectives of the clause.
Cl. 6.4 Biodiversity protection	The site is not identified on this map.

8.0 DRAFT PARRAMATTA LOCAL ENVIRONMENTAL PLAN 2020

Draft Parramatta LEP 2020 was placed on public exhibition on the 31 August 2020, with exhibition closing on the 12 October 2020. The draft LEP will replace the five existing LEPs

that apply within the Local Government Area and will be the primary legal planning document for guiding development and land use decisions made by Council.

Whilst the draft LEP must be Assessment Act, the LEP is neither imminent or certain and therefore limited weight has been placed on it. Nonetheless, it is noted that considered when assessing this application, under cl4.15(1)(a)(ii) of the Environmental Planning & the following principal development standards of the draft LEP are compared with the current LEP 2011 as discussed below:

Development Standard	LEP 2011	Draft Parramatta LEP 2020	Proposal
Land zoning	R4 – High Density Residential	R4 – High Density Residential	Permissible within the zone.
Height of building	14m	14m	16.2m Variation – 2.2m of 15.7%
Floor space area	1.2:1	1.2:1	1.19:1

The proposal is, therefore, compliant with the relevant development standards of the draft PLEP 2020.

9.0 PARRAMATTA DEVELOPMENT CONTROL PLAN 2011

The relevant matters to be considered under Paramatta Development Control Plan for the proposed development are outlined below.

Development standard	Compliance
Part 2 Site Planning	
Views and vistas	There are no significant views and vistas from the subject site identified in Appendix 2 of Council's DCP.
Flood affection	The site is not identified in Council's database as being flood prone.
Protection of waterways	The site is not located on/near a waterway
Protection of groundwater	Yes- Basement parking is proposed. Council's Development Engineer does not consider the proposal will impact on the quality of the groundwater.
Sedimentation	The submitted erosion and sedimentation plan has been considered satisfactory by Council. Appropriate conditions have been included in the consent to its effect.
Acid sulphate soils	The proposal does not impact on acid sulphate soils.
Salinity	The proposal does not impact on salinity.
Land contamination	Refer to assessment under SEPP (Resilience and Hazards) 2021.
Air quality	The proposal does not impact on air quality.
Development on sloping land	The cut proposed is to accommodate basement parking. No concerns have been raised by Council's development engineer in relation to impact on the nature of the overland flowpath.
Biodiversity	The site does not include EEC.
Development on land abutting the E2 & W1	The site is not abutting E2 and/or W1 land.
Public domain	The proposal meets the controls.

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Part 3 Development Principles	
Minimum Site Frontage <i>Allowable - 18m for corner lot</i>	Yes. Proposed: Railway Street frontage – 50.4m; and Boundary Street frontage – 21.68m
Building height <i>Allowable - 14m</i>	No but acceptable. The proposal seeks to exceed the maximum height limit prescribed under Clause 4.3. Please refer to the Clause 4.6 variation discussion.
Minimum front setback <i>Primary frontage - 5-9m; and Secondary frontage – 3m.</i>	Yes. Both frontages to Railway Street and Boundary Street comply with the 6m setback.
Minimum side setbacks <i>Control – As per ADG</i>	Yes. Both the side setbacks to the north and east boundaries comply with the 6m setback.
Deep soil zone <i>Control - 30% or 538m²</i>	Yes. There will be deep soil area located to the northeastern corner and on the southern boundary of the site. It is noted that the proposed deep soil zone complies with the requirements of the ADG.
Landscaping	The proposal was referred to Council's landscape and tree officer, who raised no objections subject to conditions of consent.
Building form and massing	Yes. The proposal has an acceptable bulk and scale as the variation of the building height is considered to be appropriate in this context. The building envelope is generally compliant in all other aspects.
Building façades and articulation	Yes. The proposal is designed with appropriate articulation, to create visual interest at the pedestrian level. The façade treatment will appear sympathetic with other contemporary high density residential development within the neighbourhood.
Roof design	Yes. The proposal incorporates roof form that does not dominate the streetscape.
Energy efficient design	Refer to assessment under State Environmental Planning Policy (BASIX) 2004.
Streetscape	Yes. The proposal is consistent with the existing built form elements that contribute to the character of the street as the proposed built form visually presents as a 4 storey residential flat building with landscaped front and side setbacks. In this context the proposal is consistent with the existing and future desired character of the locality.
Front Fences <i>Control - 1.2m high</i>	Yes. – A 1.2m front fence is proposed.
Private Open Space <i>Min 10m² with 2.5m dimensions per unit</i>	Yes. Each dwelling unit has a compliant POS, that meets the minimum dimensions.
Common Open Space <i>Min 10m² of COS provided per unit or 250m²</i>	Yes. A combined area of 485m ² of communal open space has been provided on the roof top and at ground level.
Visual and Acoustic Privacy	Yes. As per Clause 6A(1a) in SEPP 65, the proposal complies with the requirements of the ADG with respect to separation between the common areas and bedrooms. The views from the ground floor units and private open spaces will be screened by boundary fence and landscaping.

	<p>A condition is recommended to install privacy screen on the north of the pedestrian ramp connecting the ground level communal open space and the northern side landscaped area to prevent any privacy impact on the adjoining properties.</p> <p>The double parapet will reduce opportunity of privacy impacts on the northern and eastern neighbouring properties from the roof terrace.</p>
Acoustic Amenity	Yes. The accompanying acoustic report has been accepted subject to conditions of consent.
Solar access	Yes. The proposal is compliant with the solar access requirements of the ADG.
Cross Ventilation	Yes. The proposal is compliant with the cross-ventilation requirements of the ADG.
Water Sensitive Urban Design	<p>Yes. Refer to the discussion below.</p> <p>Council's Development Engineer considers the development proposal complies with the objectives of water sensitive urban design. The proposal has been supported subject to conditions.</p> <p>Council's Development Engineer provided the following discussion: <i>'As the site falls to the rear, an easement was proposed along the eastern side boundary of No. 7 Rosehill Street. The applicant later claimed that the easement was already registered to satisfy the deferred commencement condition in DA/573/2014, however, the evidence that was subsequently provided revealed that the easement was actually registered along the western side boundary of No. 7 Rosehill Street.</i></p> <p><i>The applicant initially sought to rely on the previously registered easement due to existing structures located within the proposed easement path, however, this was not considered to be suitable as there is no provision for emergency overflows of the system to be directed to the point of discharge. It was later decided with the applicant that a deferred commencement condition requiring an easement to be obtained from the north-eastern corner of the site through either or a combination of Nos. 7 & 9 Rosehill Street and 6 Boundary Street would be imposed.'</i></p> <p>Planner's comment</p> <p>A condition has been included in the recommendation for creation of a 1.2m wide easement to drain water over a downstream property or properties to drain the subject development to Rosehill Street. The easement path shall begin at the north-eastern corner of Lot 6 DP16496 (No. 4 Boundary Street Parramatta) and continue through either:</p> <ol style="list-style-type: none"> Along the eastern side boundary of Lot 13 DP16496 (No. 7 Rosehill Street Parramatta), or, Along the western side boundary of Lot 14 DP16496 (No. 9 Rosehill Street Parramatta) with an additional easement at the south-eastern corner of Lot 13 DP16496 (No. 7 Rosehill Street Parramatta) or the north-western corner of Lot 45 DP868115 (No. 6 Boundary Street Parramatta) to provide a continuous path for both pipe and surface flows.
Waste Management	Yes. The Waste Management Plan is satisfactory, detailing the types and amounts of waste that will be generated by the development and the methods of removal and disposal.
Access for People with Disabilities	Yes. The provides adequate access for people with a disability, in accordance with the requirements of the BCA.
Safety and Security	The proposal does not contribute to the provision of any increased opportunity for criminal or anti-social behaviour to occur. The front entry door faces towards adjacent street, promoting natural surveillance from within the unit to the front setback and public domain.
Housing diversity and choice	Yes.

1 bedroom: 10-20% 2 bedroom: 60-75% 3 bedroom: 10-20%	1 bedroom (4) = 16% 2 bedroom (18) = 72% 3 bedroom (3) = 12% The proposed housing stock will satisfactorily contribute to the housing diversity and choice for the neighbourhood.
Parking and vehicular access 1 x 4 (one-bedroom unit) = 4 1.25 x 18 (two-bedroom unit) = 22.5 1.5 x 3 (three-bedroom unit) = 4.5 Visitor: 0.25 x 25 units = 6.25 (7) Total = 38 spaces required.	Yes. Proposed: 31 residential parking spaces including 3 accessible space and 7 visitors parking spaces provided.
Site consolidation and isolation	The proposal is for consolidation of three sites into one site. The proposal does not result in the isolation of any adjoining properties.

10.0 REFERRALS

INTERNAL REFERRALS	COMMENT
Development Engineer	Supported subject to conditions
Landscape	Supported subject to conditions
Heritage	Supported subject to conditions
Traffic and Transport	Supported subject to conditions
Environmental Health	Supported subject to conditions
Universal Access	Supported subject to conditions
EXTERNAL REFERRALS	
No external referrals required.	

11.0 PUBLIC CONSULTATION

The application was notified between 4 February to 25 February 2022, in accordance with Council's notification procedures contained within Council's Community Engagement Strategy, Appendix 1 – Consolidated Notification Requirements. In response one (1) unique submission were received. The issues raised within those submissions are addressed below. Issues have been grouped to avoid repetition

Issue	Response
Privacy impacts	Potential privacy impact is an unavoidable consequence of living in vicinity of high-rise development. However, appropriate privacy measures such as double parapet are provided to mitigate overlooking from the rooftop terrace onto the adjoining properties.
Impact on the heritage items	The proposal seeks amalgamation of three lots into one lot without impacting on the existing subdivision pattern of the neighbourhood. The building has been appropriately designed with building height, ample setbacks, articulation and façade treatment to ensure it would not visually dominate the nearby heritage items.

	Council's Heritage Advisor confirmed that the proposal conforms with the basic heritage requirements and has been supported.
Impact on solar access	The accompanying shadow diagram indicates that due to the subdivision pattern, the adjoining neighbouring properties will receive a minimum of 3 hours sunlight from 9am to 3pm during the winter solstice.
Impact on the views	Council's records do not indicate the surrounding neighbourhood is located within any significant view path. No concerns are raised on any impact on the significant views.
Impact on property value	Property values do not fall under the current assessment of the development application.

12.0 AMENDED PLANS SUBMITTED**YES**

Summary of amendments

1. Revised plans submitted to comply with the regulatory requirements but not limited to private and communal open spaces, deep soil zone, landscape management, universal access and stormwater drainage policies of the Council.

In accordance with page 6 of the Consolidated Notification Requirements the application did not require re-notification as the amended application is considered to be substantially the same development and does not result in a greater environmental impact.

Conciliation Conference

On 11 December 2017, Council resolved that:

"If more than 7 unique submissions are received over the whole LGA in the form of an objection relating to a development application during a formal notification period, Council will host a conciliation conference at Council offices."

Conciliation Conference – Not Required

The application received one (1) unique submissions during the formal notification period and as a result, a Conciliation Conference was not required to be held.

13.0 DEVELOPMENT CONTRIBUTIONS

According to City of Parramatta (Outside CBD) Development Contributions Plan 2021, the following Section 7.11 Development Contribution shall require to be paid:

Contribution Type	Amount
Open space and outdoor recreation	\$ 260,963.76
Indoor sports courts	\$ 23,785.04
Community facilities	\$ 31,282.47
Aquatic facilities	\$ 7,290.63
Traffic and transport	\$ 73,578.62

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Plan administration	\$ 3,826.33
Total	\$ 400,726.85

A standard condition of consent has been imposed requiring the contribution to be paid prior to the issue of a Construction Certificate.

14.0 BONDS

In accordance with Council's Schedule of Fees and Charges, the developer will be obliged to pay Security Bonds to ensure the protection of civil infrastructure located in the public domain adjacent to the site.

- A standard condition of consent has been imposed requiring the Security Bond to be paid prior to the issue of a Construction Certificate.

15.0 ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Applicable Regulation considerations including demolition, fire safety, fire upgrades, compliance with the Building Code of Australia, compliance with the Home Building Act, PCA appointment, notice of commencement of works, sign on work sites, critical stage inspections and records of inspection have been addressed by appropriate consent conditions.

15.0 SUITABILITY OF THE SITE

The potential constraints of the site has been assessed and it is considered that the site is suitable for the proposed development.

16.0 CONCLUSION

After consideration of the development against Section 4.15 of the Environmental Planning and Assessment Act 1979, and the relevant statutory and policy provisions, the proposal is suitable for the site and is in the public interest.

The proposed development is appropriately located within a locality, with a variation to Parramatta LEP 2011 being sought. The request to vary the height standard is considered to be well founded for reasons including, but not limited to the constraints imposed by the site and amenities for the future residents.

Considering from the merit perspective, Council is satisfied that the development has been appropriately designed and will provide acceptable levels of amenity for future residents. It is considered that the proposal will have minimal adverse impact on the amenity of neighbouring properties. Irrespective of the departure from a planning standard the development has satisfactorily complied with other relevant statutory and non-statutory controls applying to the land.

For the reasons given above, it is recommended that the proposal is satisfactory having regard to the matters of consideration under Section 4.15 of the Environmental Planning and Assessment Act, 1979 and is recommended for approval as deferred commencement consent.

17.0 RECOMMENDATION

Pursuant to Section 4.17 of the Environmental Planning and Assessment Act, 1979,

DEFERRED COMMENCEMENT APPROVAL SUBJECT TO CONDITIONS

(a) **That**, the Parramatta Local Planning Panel, exercising the functions of Council, pursuant to Section 4.17 of the Environmental Planning and Assessment Act 1979, grant **deferred commencement consent** to DA/61/2022 for a period of five (5) years within which physical commencement is to occur from the date on the Notice of Determination, subject to conditions of consent,

(b) **Further**, that objectors be advised of the Panel's decision.

Reasons of Approval

It has been recommended for approval for the following reasons:

1. The height variation is not significant and retains the primary presentation of the building as a 4-storey residential flat building that is consistent with other residential flat buildings with the locality;
2. The building has been appropriately articulated and modulated. Façade treatment, material variation and private open spaces have been provided in order to minimise the external bulk and scale;
3. The height variation does not result in reasonable amenity impact on the neighbouring properties;
4. Council is satisfied that the Applicant's Clause 4.6 variation request has adequately addressed the matters required to be demonstrated in Clause 4.6(3) of Parramatta LEP 2011;
5. The proposed density is reasonable for the site, with regards to context and zoning;
6. The development is permissible in the R4 zone and satisfies the requirements of all of the applicable planning controls;
7. The design of the development was considered satisfactory by Council's Design Excellence Advisory Panel subject to recommended amendments;
8. The development will be compatible with the emerging and planned future character of the area; and
9. For the reasons given above, approval of the application is in the public interest.

“Appendix 4” to Section 4.15 Assessment Report - DA/61/2022**DRAFT DEFERRED COMMENCEMENT CONDITIONS**

Upon the signature of the applicable delegate the deferred commencement conditions in this Appendix will form the conditions of development consent.

Development Consent No.: DA/61/2022
Property Address: LOT 2 DP 202700, LOT 6 DP 16496, LOT 1 DP 202700

Schedule 1:**DAA0002 #Interallotment Drainage Easement**

Pursuant to the provisions of Section 4.16(3) of the Environmental Planning and Assessment Act, 1979, the development application be granted a Deferred Commencement Consent subject to the completion of the following:

Submission to Council of suitable documentary evidence issued by NSW Land Registry Services confirming the creation of an easement to drain water, minimum 1.2 metres wide, over a downstream property or properties to drain the subject development to Rosehill Street and benefiting the subject lots known as Lot 1 DP202700 (No. 85 Railway Street Parramatta), Lot 2 DP202700 (No. 2 Boundary Street Parramatta) and Lot 6 DP16496 (No. 4 Boundary Street Parramatta) has been registered.

The easement path is to begin at the north-eastern corner of Lot 6 DP16496 (No. 4 Boundary Street Parramatta) and continue through either:

- a) Along the eastern side boundary of Lot 13 DP16496 (No. 7 Rosehill Street Parramatta), or,
- b) Along the western side boundary of Lot 14 DP16496 (No. 9 Rosehill Street Parramatta) with an additional easement at the south-eastern corner of Lot 13 DP16496 (No. 7 Rosehill Street Parramatta) or the north-western corner of Lot 45 DP868115 (No. 6 Boundary Street Parramatta) to provide a continuous path for both pipe and surface flows.

Suitable documentary evidence includes up to date title searches of all properties involved and copies of the registered transfer documents or deposited plans with LRS stamps and/or barcodes.

The above requirement(s) must be satisfied within 24 months of this determination or the consent will lapse.

Advisory Note: Easements through Council properties (or Crown land managed by Council) can take up to 12 months to finalise.

Upon compliance with the above requirements, a full Consent will be issued subject to the following conditions:

Advisory Note:

Requesting Operational Consent: Once logged into the NSW Planning Portal, locate and open the development application with the deferred commencement in your Active work – Select “Request Operational Consent” from the Actions dropdown Menu – Enter the details of the Request – Upload your documents and categorise the file type before clicking attach – Click on the submit button

If you need more information, or experience any issues, you will need to liaise directly with ServiceNSW. To contact ServiceNSW, please phone 1300 305 695 or email info@service.nsw.gov.au.

Schedule 2:

PART A – GENERAL CONDITIONS

PA0001 #Approved Plans & Support Doc(DIEP Mandatory Cond)

1. Development must be carried out in accordance with the following approved plans and supporting documentation (stamped by Council), except where the conditions of this consent expressly require otherwise:

Architectural Drawings (Project No.28806) by IDA Design Group

Drawing/Plan No.	Issue	Plan Title	Dated
0006	B	Site Plan	25.10.2022
1001	B	Basement Plan	14.09.2022
1002	B	Ground Floor Plan	14.09.2022
1003	B	Level 1 Floor Plan	14.09.2022
1004	B	Level 2 Floor Plan	14.09.2022
1005	B	Level 3 Floor Plan	14.09.2022
1006	B	Roof Plan	14.09.2022
2001	B	Elevations Plan	14.09.2022
2002	B	Elevations Plan	14.09.2022
3001	B	Section Plan	25.10.2022
4012	B	Details	14.09.2022

Civil Drawings/Stormwater (Project No.2021316) by Telford Civil

Drawing/Plan No.	Issue	Plan Title	Dated
000	B	Cover Sheet Plan	21.06.2022
101	B	Stormwater Concept Plan- Basement Level Sheet 1 of 2	21.06.2022
102	B	Stormwater Concept Plan- Basement Level Sheet 2 of 2	21.06.2022
103	B	Stormwater Concept Plan	21.06.2022
104	B	Site Plan	21.06.2022
105	B	WSUD Catchment Plan	21.06.2022
106	B	OSD & WSUD Details & Calculations Sheet 1 of 2	21.06.2022
107	B	OSD & WSUD Details & Calculations Sheet 2 of 2	21.06.2022
108	B	Miscellaneous Details Sheet	21.06.2022

Landscape Drawings by Canvas Landscape Architects

Drawing/Plan No.	Issue	Plan Title	Dated
DA-L101	B	Landscape Plan – Ground Floor	22.06.2022
DA-L102	B	Landscape Plan – roof top COS & Sections	22.06.2022
DA-L103	B	Landscape typical details & maintenance schedule	22.06.2022

Specialist Reports

Document	Ref No.	Issue	Prepared By	Dated
Statement of Environmental Effects	-	-	Think Planners	19.12.2021
Waste Management Plan	-	-	Ali Ibshara	16.12.2021
Finishes Schedule	5002	A	IDA Design Group	Undated
BASIX Certificate No.1264524M_02	-	-	EPS	20.09.2022
Preliminary Site Investigation report	E21261-1	-	Geotechnical Consultants Australia	10.12.2021
Geotechnical Investigation & Acid Sulfate Soils Assessment report	31552/5832D-G	21/3410	STS Geotechnics P/L	2.12.2021
Traffic Report	N216716A	1b	Motion Traffic Engineers P/L	June 2022

Access report	21409	A	Vista Access Architects	11.12.2021
Arboricultural Impact Assessment Statement	-	-	TreeHaven Environscapes	6.12.2021
Addendum to Arboricultural Impact Assessment Statement	-	-	TreeHaven Environscapes	20.06.2022
Acoustic report	R210908	R1	Rodney Stevens Acoustics	2.12.2021
Hazardous Materials Survey	E21250-1	-	Geotechnical Consultants Australia	3.12.2021
BCA Compliance Assessment report	-	-	VCD Certification	25.11.2021

In the event of any inconsistency between the approved plans and the supporting documentation, the approved plans prevail. In the event of any inconsistency between the approved plans and a condition of consent, the condition prevails.

Note: An inconsistency occurs between an approved plan and supporting documentation or between an approved plan and a condition when it is not possible to comply with both at the relevant time.

Reason: To ensure all parties are aware of the approved plans and supporting documentation that applies to the development

PA0003 Construction Certificate

2. Prior to commencement of any construction works associated with the approved development (including excavation if applicable), it is mandatory to obtain a Construction Certificate. Plans, specifications and relevant documentation accompanying the Construction Certificate must include any requirements imposed by conditions of this Development Consent.

Reason: To ensure compliance with legislative requirements.

PA0011 #Demolition of Buildings

3. Approval is granted for the demolition of all buildings and outbuildings currently on the property, subject to compliance with the following: -
 - (a) Demolition is to be carried out in accordance with the applicable provisions of Australian Standard AS2601-2001 - Demolition of Structures.

Note: Developers are reminded that WorkCover requires that all plant and equipment used in demolition work must comply with the relevant Australian Standards and manufacturer specifications.
 - (b) The developer is to notify owners and occupiers of premises on either side, opposite and at the rear of the development site 5 working days prior to demolition commencing. Such notification is to be a clearly written on A4 size paper giving the date demolition will commence and is to be placed in the letterbox of every premises (including every residential flat or unit, if any). The demolition must not commence prior to the date stated in the notification.

- (c) 5 working days (i.e., Monday to Friday with the exclusion of Public Holidays) notice in writing is to be given to City of Parramatta for inspection of the site prior to the commencement of works. Such written notice is to include the date when demolition will commence and details of the name, address, business hours, contact telephone number and licence number of the demolisher. Works are not to commence prior to Council's inspection and works must also not commence prior to the commencement date nominated in the written notice.
- (d) On the first day of demolition, work is not to commence until City of Parramatta has inspected the site. Should the building to be demolished be found to be wholly or partly clad with asbestos cement, approval to commence demolition will not be given until Council is satisfied that all measures are in place so as to comply with Work Cover's document "Your Guide to Working with Asbestos", and demolition works must at all times comply with its requirements.
- (e) On demolition sites where buildings to be demolished contain asbestos cement, a standard commercially manufactured sign containing the words "DANGER ASBESTOS REMOVAL IN PROGRESS" measuring not less than 400mm x 300mm is to be erected in a prominent visible position on the site to the satisfaction of Council's officers. The sign is to be erected prior to demolition work commencing and is to remain in place until such time as all asbestos cement has been removed from the site to an approved waste facility. This condition is imposed for the purpose of worker and public safety and to ensure compliance with Clause 469 of the Work Health and Safety Regulation 2017.
- (f) Demolition must not commence until all trees required to be retained are protected in accordance with the conditions detailed under "Prior to Works Commencing" in this Consent.
- (g) All previously connected services are to be appropriately disconnected as part of the demolition works. The applicant is obliged to consult with the various service authorities regarding their requirements for the disconnection of services.
- (h) Prior to the commencement of any demolition works, and where the site ceases to be occupied during works, the property owner must notify Council to discontinue the domestic waste service and to collect any garbage and recycling bins from any dwelling/ building that is to be demolished. Waste service charges will continue to be charged where this is not done. Construction and/ or demolition workers are not permitted to use Council's domestic waste service for the disposal of any waste.
- (i) Demolition works involving the removal and disposal of asbestos cement in excess of 10 square meters, must only be undertaken by contractors who hold a current WorkCover "Demolition Licence" and a current WorkCover "Class 2 (Restricted) Asbestos Licence".
- (j) Demolition is to be completed within 5 days of commencement.
- (k) Demolition works are restricted to Monday to Friday between the hours of 7.00am to 5.00pm. No demolition works are to be undertaken on Saturdays, Sundays or Public Holidays.
- (l) 1.8m high Protective fencing is to be installed to prevent public access to the site.

- (m) A pedestrian and Traffic Management Plan must be submitted to the satisfaction of Council prior to commencement of demolition and/or excavation. It must include details of the:
 - (i) Proposed ingress and egress of vehicles to and from the construction site;
 - (ii) Proposed protection of pedestrians adjacent to the site;
 - (iii) Proposed pedestrian management whilst vehicles are entering and leaving the site.
- (n) All asbestos laden waste, including asbestos cement flat and corrugated sheets must be disposed of at a tipping facility licensed by the NSW Environment Protection Authority (EPA).
- (o) Before demolition works begin, adequate toilet facilities are to be provided.
- (p) After completion, the applicant must notify City of Parramatta within 7 days to assess the site and ensure compliance with AS2601-2001 – Demolition of Structures.
- (q) Within 14 days of completion of demolition, the applicant must submit to Council:
 - (i) An asbestos clearance certificate issued by a suitably qualified person if asbestos was removed from the site; and
 - (ii) A signed statement verifying that demolition work and the recycling of materials was undertaken in accordance with the Waste Management Plan approved with this consent. In reviewing such documentation Council will require the provision of original.
 - (iii) Payment of fees in accordance with Council's current schedule of fees and charges for inspection by Parramatta Council of the demolition site prior to commencement of any demolition works and after the completion of the demolition works.

Reason: To protect the amenity of the area.

LA0001 #Tree Retention

4. Trees to be retained are:

Tree No.	Name	Common Name	Location	Tree Protection Zone (m)
1	<i>Olea africana</i>	African Olive	3 Rosehill Street	6m

Reason: To protect significant trees which contribute to the landscape character of the area.

LA0003 #Replacement of street trees

5. The following street trees shall be planted within the road reserve;

Qty	Name	Common Name	Minimum Pot Size	Name of Street Frontage
3	<i>Corymbia maculata</i>	Spotted Gum	45L	Railway Street
1	<i>Corymbia maculata</i>	Spotted Gum	45L	Boundary Street

Note: All approved street tree plantings shall be planted a minimum of 3m from any driveway and 12m from an intersection.

Reason: To ensure restoration of environmental amenity.

PA0004 No encroachment on Council and/or Adjoining proper

6. The development must be constructed within the confines of the property boundary. No portion of the proposed structure, including footings/slabs, gates and doors during opening and closing operations must encroach upon Council's footpath area or the boundaries of the adjacent properties.

Reason: To ensure no injury is caused to persons and the building is erected in accordance with the approval granted within the boundaries of the site.

PA0013 #LSL Payment Const> \$25,000 (DIEP Mandatory Cond)

7. Before the issue of a construction certificate, the applicant is to ensure that the person liable pays the long service levy of either *0.35% of the value of building and construction work where the cost of building is \$25,000 or more (inclusive of GST)* or as calculated at the date of this consent to the Long Service Corporation or Council under section 34 of the Building and Construction Industry Long Service Payments Act 1986 and provides proof of this payment to the certifier.

Note: The Long Service Levy is to be paid directly to the **Long Service Corporation** at www.longservice.nsw.gov.au. For more information, please contact the Levy support team on 13 14 41.

Reason: To ensure that the long service levy is paid.

PA0014 #Payment of Security deposits(DIEP Mandatory Cond)

8. Before the commencement of any works on the site or the issue of a construction certificate, the applicant must make all of the following payments to Council and provide written evidence of these payments to the certifier:

Bond Type	Amount
Nature Strip and Roadway: <i>Applies to all developments with a cost greater than \$1,000,000 (fee is per street frontage). See current Schedule of Fees and Charges.</i>	\$51,500.00

The payments will be used for the cost of:

- making good any damage caused to any council property (including street trees) as a consequence of carrying out the works to which the consent relates,
- completing any public work such as roadwork, kerbing and guttering, footway construction, stormwater drainage and environmental controls, required in connection with this consent, and
- any inspection carried out by Council in connection with the completion of public work or the making good any damage to council property.

Note: The inspection fee includes Council's fees and charges and includes the Public Road and Footpath Infrastructure Inspection Fee (under the Roads Act 1993). The amount payable must be in accordance with council's fees and charges at the payment date.

Reason: To ensure any damage to public infrastructure is rectified and public works can be completed.

Note: The bond may be paid, by EFTPOS, bank cheque, or be an unconditional bank guarantee.

Should a bank guarantee be lodged it must:

- (a) Have no expiry date;
- (b) Be forwarded directly from the issuing bank with a cover letter that refers to Development Consent **DA/61/2022**;
- (c) Specifically reference the items and amounts being guaranteed. If a single bank guarantee is submitted for multiple items it must be itemised.

Should it become necessary for Council to uplift the bank guarantee, notice in writing will be forwarded to the applicant fourteen days prior to such action being taken. No bank guarantee will be accepted that has been issued directly by the applicant.

A dilapidation report is required to be prepared and submitted electronically to the City of Parramatta Council (council@cityofparramatta.nsw.gov.au) prior to any work or demolition commencing and with the payment of the bond/s.

The dilapidation report is required to document/record any existing damage to kerbs, footpaths, roads, nature strips, street trees and furniture within street frontage/s bounding the site up to and including the centre of the road.

Reason: To safe guard the public assets of council and to ensure that these assets are repaired/maintained in a timely manner so as not to cause any disruption or possible accidents to the public.

EWA0002 Amenity of waste storage areas (general)

9. All waste storage areas/rooms are to comply with the City of Parramatta Waste Management Guidelines for New Developments. No waste materials are to be stored outside the building or any approved waste storage area at any time.

Reason: To ensure waste is adequately separated and managed in mixed use developments.

EWA0006 Provide waste storage room on premises

10. A waste storage room is to be provided on the premises and shall be constructed to comply with all the relevant provisions of Council's Development Control Plan (DCP) including:
 - (a) The size being large enough to accommodate all waste generated on the premises, with allowances for the separation of waste types and bulky materials;
 - (b) The floor being graded and drained to an approved drainage outlet connected to the sewer and having a smooth, even surface, coved at all intersections with walls;
 - (c) The walls being cement rendered to a smooth, even surface and coved at all intersections;
 - (d) Cold water being provided in the room with the outlet located 1.5m above floor level to avoid damage and a hose fitted with a nozzle being connected to the outlet;

- (e) The room shall be adequately ventilated (either natural or mechanical) in accordance with the Building Code of Australia.

Reason: To ensure provision of adequate waste storage arrangements

ECA0001 Hazardous/intractable waste disposed legislation

11. Hazardous or intractable wastes arising from the demolition process shall be removed and disposed of in accordance with the requirements of Safework NSW and the EPA, and with the provisions of:

- a) Work Health and Safety Act 2011;
- b) NSW Protection Of the Environment Operations Act 1997 (NSW); and
- c) NSW Environment Protection Authority (EPA) Waste Classification Guidelines.

Reason: To ensure that the land is suitable for the proposed development and any contaminating material required to be removed from the property is removed in accordance with the prescribed manner.

ECA0004 Imported fill

12. All fill imported onto the site shall be validated to ensure the imported fill is suitable for the proposed land use from a contamination perspective. Fill imported on to the site shall also be compatible with the existing soil characteristic for site drainage purposes.

Council may require details of appropriate validation of imported fill material to be submitted with any application for future development of the site. Hence all fill imported onto the site should be validated by either one or both of the following methods during remediation works:

- (a) Imported fill should be accompanied by documentation from the supplier which certifies that the material is not contaminated based upon analyses of the material for the known past history of the site where the material is obtained; and/or
- (b) Sampling and analysis of the fill material shall be conducted in accordance with NSW EPA (1995) Sampling Design Guidelines.

Reason: To ensure imported fill is of an acceptable standard.

ECA0005 Signage – Contamination

13. A sign displaying the contact details of the remediation shall be displayed on the site adjacent to the site access. This sign shall be displayed throughout the duration of the remediation works.

Reason: To provide contact details for council inspectors and for the public to report any incidents.

ECA0006 Require to notify about new contamination evidence

14. Any new information which comes to light during remediation, demolition or construction works which has the potential to alter previous conclusions about site contamination shall be notified to the Council and the principal certifying authority immediately.

Reason: To ensure that the land is suitable for its proposed use and poses no risk to the environment and human health.

ECA0007 Discharge of Contaminated Groundwater

15. Groundwater shall be analysed for pH and any contaminants of concern identified during the preliminary or detailed site investigation, prior to discharge to the stormwater system. The analytical results must comply with relevant NSW EPA water quality standards and Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

Other options for the disposal of groundwater include disposal to sewer with prior approval from Sydney Water or off-site disposal by a liquid waste transporter for treatment/disposal to an appropriate waste treatment/processing facility.

Reason: To ensure that contaminated groundwater does not impact upon waterways.

ECA0009 Contaminated waste to licensed EPA landfill

16. Any contamination material to be removed from the site shall be disposed of to an EPA licensed landfill.

Reason: To comply with the statutory requirements of the Protection of the Environment Operations Act 1997.

PANSC Non-standard - General Matters

17. The Principal Certifying Authority (PCA) shall ensure the approved development complies with the following matters:

- Compliance with the recommendation of the accompanying *Access report ref. 21409 rev. A by Vista Access Architects dated 11.12.2021*;
- Low level thresholds at the abutment of differing surfaces;
- Abutment of surfaces have a smooth transition; and
- Universal access to all common features and areas including the communal open spaces, seating, tables and BBQs etc.

Reason: To comply with the Australian Standards.

18. The Principal Certifying Authority (PCA) shall ensure the approved development complies with the recommendation of the accompanying *Preliminary Site Investigation report ref. E21261-1 by Geotechnical Consultants Australia dated 10 December 2021*

Reason: To comply with the Australian Standards.

PART B – BEFORE THE ISSUE OF A CONSTRUCTION CERTIFICATE

(Note: Some conditions contained in other sections of this consent (including prior to occupation/use commencing) may need to be considered when preparing detailed drawings/specifications for the Construction Certificate.)

PBNSC Non-standard - Prior to the issue of a CC

19. Amended plans shall be submitted for satisfaction for the Principal Certifying Authority (PCA) showing 1.8m privacy screen installed to the north of the pedestrian ramp between the ground level communal open space and the northern side nature strip prior to issue of the Construction Certificate.

Reason: To prevent privacy impacts.

DB0001 Stormwater Disposal

20. All roof water and surface water is to be connected to an operable drainage system. Details are to be shown on the plans and documentation accompanying the application for a Construction Certificate.

Reason: To ensure satisfactory stormwater disposal.

DB0002 Retaining walls

21. If no retaining walls are marked on the approved plans no approval is granted as part of this approval for the construction of any retaining wall that is greater than 600mm in height or within 900mm of any property boundary.

The provision of retaining walls along common boundary lines shall not impact on neighbouring properties. If impact upon neighbouring properties (including fences) is anticipated, then written approval from the affected neighbour shall be obtained and submitted to the certifying authority prior commencement of the works.

Structural details, certified by a practicing structural engineer, shall accompany the application for a Construction Certificate for assessment and approval by the certifying authority.

Reason: To minimise impact on adjoining properties.

DB0003 Sydney Water Quick check

22. A building plan approval must be obtained from Sydney Water Tap in™ to ensure that the approved development will not impact Sydney Water infrastructure.

A copy of the building plan approval receipt from Sydney Water Tap in™ must be submitted to the Principal Certifying Authority upon request prior to works commencing.

Please refer to the website <http://www.sydneywater.com.au/tapin/index.htm>, Sydney Water Tap in™, or telephone 13 20 92.

Reason: To ensure the requirements of Sydney Water have been complied with.

DB0004 Dial Before you Dig Service

23. Prior to any excavation on or near the subject site the person/s having benefit of this consent are required to contact the NSW Dial Before You Dig Service (NDBYD) on 1100 to receive written confirmation from NDBYD that the proposed excavation will not conflict with any underground utility services. The person/s having the benefit of this consent are required to forward the written confirmation from NDBYD to their Principal Certifying Authority (PCA) prior to any excavation occurring.

Reason: To ensure Council's assets are not damaged.

DB0007 Basement carpark and subsurface drainage

24. The basement stormwater pump-out system, must be designed and constructed to include the following:

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- (a) A holding tank capable of storing the run-off from a 100 year ARI (average reoccurrence interval) - 2 hour duration storm event, allowing for pump failure.
- (b) A two pump system (on an alternate basis) capable of emptying the holding tank at a rate equal to the lower of:
 - (i) The permissible site discharge (PSD) rate; or
 - (ii) The rate of inflow for the one hour, 5 year ARI storm event.
- (c) An alarm system comprising of basement pump-out failure warning sign together with a flashing strobe light and siren installed at a clearly visible location at the entrance to the basement in case of pump failure.
- (d) A 100 mm freeboard to all parking spaces.
- (e) Submission of full hydraulic details and pump manufacturers specifications.
- (f) Pump out system to be connected to a stilling pit and gravity line before discharge to the street gutter.

Plans and design calculations along with certification from the designer indicating that the design complies with the above requirements are to be submitted to the satisfaction of the Principal Certifying Authority prior to issue of the Construction Certificate.

Reason: To ensure satisfactory storm water disposal.

DB0012 #On Site Detention

25. Full engineering construction details of the stormwater system, including OSD structures, pipe networks and calculations as per following points, shall be submitted for the approval of the PCA prior to release of the Construction Certificate for any work on the site.

- (a) The stormwater drainage detail design shall be prepared by a Registered Stormwater Design Engineer and shall be generally in accordance with the following Stormwater Plans approved by this consent and with Council's Stormwater Disposal Policy, Council's Design and Development Guidelines, The Upper Parramatta River Catchment Trust On Site Detention Hand book (Third or Fourth Edition), the relevant Australian Standards and the National Construction Code.
 - (i) Concept stormwater drainage plans, Project No. 2021316, Issue B, dated 21 June 2022, prepared by Telford Civil.
- (b) A Site Storage Requirement of 215 m³/ha and a Permissible Site Discharge of 235 L/s/ha (when using 3rd edition of UPRCT's handbook).
- (c) Adequate grate(s) to be provided so the OSD tank storage area can be inspected from outside for silt and debris, and to ensure adequate cross ventilation within the tank.
- (d) Certificate from registered structural engineer certifying the structural adequacy of the OSD tank structure.

Reason: To minimise the quantity of storm water run-off from the site, surcharge from the existing drainage system and to manage downstream flooding.

DB0013 #Water treatment for stormwater

26. Water quality treatment devices must be installed to manage surface runoff water to satisfy Section 3.3.6.1 of Parramatta Development Control Plan 2011. Details of the proposed devices and their location must accompany the application for a Construction Certificate to the satisfaction of the Certifying Authority and shall be consistent with the concept stormwater drainage plans, Project No. 2021316, Issue B, dated 21 June 2022, prepared by Telford Civil.

Reason: To ensure appropriate water quality treatment measures are in place.

DB0015 Shoring for adjoining Council property

27. Where shoring will be located on or will support Council property, engineering details of the shoring are to be prepared by an appropriately qualified and practising structural engineer. These details are to include the proposed shoring devices, the extent of encroachment and the method of removal and de-stressing of the shoring elements. These details shall accompany the application for a Construction Certificate. A copy of this documentation must be provided to Council for record purposes. All recommendations made by the qualified practising structural engineer must be complied with.

Reason: To ensure the protection of existing public infrastructure and adjoining properties.

DB0017A Construction of a heavy duty vehicular crossing

28. A heavy duty vehicular crossing shall be constructed in accordance with Council's Standard Drawing numbers DS9 and DS10. Details must accompany an application for a Construction Certificate to the satisfaction of the Certifying Authority.

A Vehicle Crossing application must be submitted to Council together with the appropriate fee as outlined in Council's adopted Fees and Charges prior to any work commencing.

Reason: To ensure appropriate vehicular access is provided.

DB0021 Impact on Existing Utility Installations

29. Where work is likely to disturb or impact upon utility installations, (e.g. power pole, telecommunications infrastructure etc.) written confirmation from the affected utility provider that they raise no objections to the proposed works must accompany an application for a Construction Certificate to the satisfaction of the Certifying Authority.

Reason: To ensure no unauthorised work to public utility installations and to minimise costs to Council.

DB0022 Support for Council Rds, footpath, drainage reserv.

30. Council property adjoining the construction site must be fully supported at all times during all demolition, excavation and construction works. Details of any required shoring, propping and anchoring devices adjoining Council property, are to be prepared by a qualified structural or geotechnical engineer. These details must accompany an application for a Construction Certificate and be to the

satisfaction of the Principal Certifying Authority (PCA). A copy of these details must be forwarded to Council prior to any work being commenced.

Backfilling of excavations adjoining Council property or any void remaining at the completion of the construction between the building and Council property must be fully compacted prior to the completion of works.

Reason: To protect Council's infrastructure.

DB0026 Driveway Grades

31. The grades of the driveway, including transitions, must comply with Australian Standard 2890.1 to prevent the underside of the vehicles scraping. Where the geometric change in grade exceeds 18%, the gradients of the driveway and ramps shall be checked using the method at Appendix C in AS2890.1:2004 and adjustments will be made to accommodate suitable transition lengths. Details are to be provided with the application for a Construction Certificate.

Reason: To provide suitable vehicle access without disruption to pedestrian and vehicular traffic.

LB0001A Planting upon Structure

32. Plans and documents submitted must include the following with an application for a Construction Certificate:
- (a) Construction details are to be provided by a suitably qualified structural engineer showing substrate depth, drainage, waterproofing for all planting on structures, including planting over on-site detention tanks, raised planters and rooftop gardens.
 - (b) All raised planting boxes/beds containing trees must be retained to a minimum height of 800mm.
 - (c) Any soil mounding must not exceed a maximum 1:8 grade which must be demonstrated on amended plans and certified by a suitably qualified Landscape Architect.
 - (d) Sections through the planters supporting the trees and shrubs at both ground level and podium level are required to show the soil volume and soil depth meet the prescribed soil standards as stated in "Apartment Design Guide – Part 4, 4P Planting on Structures - Tools for improving the design of residential apartment development" (NSW Department of Planning and Environment, 2015).
 - Typical tree planting on structure to show overall 800-1200mm soil depth. (Soil Volume to be reflective of proposed tree species size)
 - Typical shrub planting on structure 500-600mm soil depth;
 - Typical turf planting on structure 200-300mm soil depth.
 - (e) Sections through the OSD supporting shrubs and groundcovers are required to show the soil volume and soil depth meet the prescribed soil standards as stated in "Apartment Design Guide – Part 4, 4P Planting on Structures - Tools for improving the design of residential apartment development" (NSW Department of Planning and Environment, 2015).
 - Typical shrub planting on structure 500-600mm soil depth;
 - Typical turf planting on structure 200-300mm soil depth.
 - (f) Tree planting densities shall not exceed the prescribed soil volume and area as per ADG – Part 4 requirements.

- (g) A specification ('Fit-for-purpose' performance description) for soil type and a maintenance schedule specified by a suitably qualified Soil Scientist, to ensure sufficient nutrient and water availability is achieved.
- (h) An Irrigation plan and specification must be provided by a suitably qualified Hydraulic Engineer.

Reason: To ensure the creation of functional gardens.

LB0003 #Tree Retention

33. Prior to the issue of the Construction Certificate, the Certifying Authority must be satisfied the installation of drainage pipes and sub-soil pipes within the Tree Protection Zones (TPZ) of tree T1 are to be installed using non-destructive construction method such as hydro-vac or careful hand-dig to retain all roots over 30mm in diameter. Pipes are to be tread through roots. Notes and Tree Protection Zones to be added to the civil plans and Arboricultural Impact Assessment Report.

All designs for these construction works will need to be pre-approved and done in consultation with the Project Arborist before they are issued for Construction Certificate to ensure they have minimise the impact to the tree roots within the Tree Protection Zone (TPZ) to below 10% encroachment as per the AS4970-2009 *Protection of trees on development sites*. Once all adequate design amendments have been made, plans submitted with the Construction Certificate application must reflect the above requirements.

Tree No.	Name	Common Name	Radius from the trunk
1	<i>Olea africana</i>	African Olive	6m

Plans submitted with the Construction Certificate application must reflect the above requirements.

Reason: To ensure adequate protection of existing trees.

LB0004 #Landscaping Plan

34. The final Landscape Plan must be consistent with plan numbered DA-L101 to DA-L03, rev B dated 22.06.2022, prepared by Canvas Landscape Architects together with any additional criteria required by the Development Consent to the satisfaction of the Certifying Authority addressing the following requirements:
- (a) Ensure screening between properties and along all rear boundaries to provide privacy and amenity is provided. Hedge species must be able to reach a mature height of 1.8m.
 - (b) Ensure all tree replacement species are located with a minimum setback of 3.5m to the outside enclosing wall of a legally constructed building edge, and a minimum 2m away from any existing or proposed drainage line.
 - (c) GFC planters supporting the trees at both ground level and podium level are to be replaced with suitably larger planters which meet the soil volume and soil depth prescribed in "Apartment Design Guide – Part 4, 4P Planting on Structures - Tools for improving the design of residential apartment development" (NSW Department of Planning and Environment, 2015).

- Typical planter supporting a small tree on structure to show overall 800-1200mm soil depth. (Soil volume to be reflective of proposed tree species size – Small trees must have a minimum 9m³ / 3.5 x 3.5m width).

(d) All landscape plans are to be prepared by a professionally qualified Landscape Architect.

Reason: To ensure restoration of environmental amenity.

LF0001 Landscape maintenance

35. All landscape works shall be maintained for a minimum period of one (1) year following the issue of a Final Occupation Certificate, in accordance with the approved landscape plan and conditions.

Reason: To ensure restoration of environmental amenity.

PB0008 No external service ducts for multi-unit develop

36. Service ducts, plumbing installations and plant servicing the development must be concealed within the building to keep external walls free from service installations. Details are to be included within the plans and documentation accompanying the Construction Certificate to the satisfaction of the Certifying Authority.

Reason: To ensure the quality built form of the development.

PB0012 Single master TV antenna

37. A single master TV antenna not exceeding a height of 3.0m above the finished roof level must be installed on each building to service the development. A connection is to be provided internally to each dwelling/unit within the development.

Details of these connections are to be annotated on the plans and documentation accompanying the Construction Certificate to the satisfaction of the Certifying Authority.

Reason: To protect the visual amenity of the area.

PB0028 SEPP 65 verification

38. Design Verification issued by a registered architect is to be provided with the application for a Construction Certificate detailing the construction drawings and specifications are consistent with the design quality principles in State Environmental Planning Policy No-65. Design Quality of Residential Flat Development.

Note: Qualified designer in this condition is as per the definition in SEPP 65.

Reason: To comply with the requirements of SEPP 65.

PB0030 Infrastructure & Restoration Adm. fee for all DAs

39. An Infrastructure and Restoration Administration Fee must be paid to Council prior to the issue of a Construction Certificate.

The fee will be in accordance with Councils adopted 'Fees and Charges' at the time of payment.

Note: Council's Customer Service Team can advise of the current fee and can be contacted on 9806 5524.

Reason: To comply with Council's adopted Fees and Charges Document and to ensure compliance with conditions of consent.

PB0032 Constr. Noise Managt. Plan for townhouses & above

40. A noise management plan must be prepared in accordance with the NSW Department of Environment, Climate Change and Water 'Interim Noise Construction Guidelines 2009' and accompany the application for a Construction Certificate. The Certifying Authority must be satisfied the Construction Noise Management Plan will minimise noise impacts on the community during the construction of the development.

The Construction Noise Management Plan must include:

- (a) Identification of nearby residences and other sensitive land uses.
- (b) Assessment of expected noise impacts.
- (c) Detailed examination of feasible and reasonable work practices that will be implemented to minimise noise impacts.
- (d) Community Consultation and the methods that will be implemented for the whole project to liaise with affected community members to advise on and respond to noise related complaints and disputes.

Reason: To prevent loss of amenity to the area.

PB0033 Energy Provider requirements for Substations

41. Documentary evidence to the satisfaction of the Certifying Authority is to accompany the application for a Construction Certificate confirming satisfactory arrangements have been made with the energy provider for the provision of electricity supply to the development.

If a substation is required of the energy provider, it must be located internally within a building/s.

Substations are not permitted within the front setback of the site or within the street elevation of the building; unless such a location has been outlined and approved on the Council stamped Development Application plans. Substations are not permitted within Council's road reserve.

Reason: To ensure adequate electricity supply to the development and to ensure appropriate streetscape amenity.

PB0039 #Adaptable Dwellings for Multi-unit and RFB's

42. The development must incorporate three (3) adaptable dwellings. Plans submitted with the Construction Certificate must illustrate that the required adaptable dwellings have been designed in accordance with the requirements of AS 4299-1995 for a class C Adaptable House.

Reason: To ensure the required adaptable dwellings are appropriately designed.

TB0001 #Car Parking Condition

43. The PCA shall ascertain that any new element in the basement carpark not illustrated on the approved plans such as columns, garage doors, fire safety

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measures and the like do not compromise appropriate manoeuvring and that compliance is maintained with AS 2890.1, AS 2890.2 and AS 2890.6. Details are to be illustrated on plans submitted with the construction certificate application.

Reason: To ensure appropriate vehicular manoeuvring is provided.

TB0002 #Bicycle parking condition

44. 15 bicycle spaces/racks are to be provided on-site and used accordingly. The bicycle storage/racks are to comply with AS 2890.3-2015. Details are to be illustrated on plans submitted with the construction certificate.

Reason: To comply with Council's parking requirements.

TB0003 #Parking Provision

45. Parking spaces are to be provided in accordance with the approved plans and with AS 2890.1, AS 2890.2 and AS 2890.6. A total of 38 parking spaces is to be provided and be allocated as follows:

- a) 31 spaces for the residential units including 3 spaces as accessible parking;
- b) 7 visitor parking;

Tandem car spaces are to be allocated to same same unit. Details are to be illustrated on plans submitted with the construction certificate application.

Reason: To comply with Council's parking requirements and Australian Standards.

TB0004 Pedestrian Safety

46. A splay extending 2m from the driveway edge along the front boundary and 2.5m from the boundary along the driveway in accordance with Figure 3.3 of AS2890.1 shall be provided to give clear sight lines of pedestrians from vehicles exiting the site. This shall be illustrated on plans submitted with the construction certificate and not be compromised by the landscaping, signage fences, walls or display materials.

Reason: To comply with Australian Standards and ensure pedestrian safety.

TB0013 #Waiting Bay and Traffic Signal System

47. One (1) waiting bay and traffic signal system are to be installed and implemented on the ground level and basement level to regulate traffic flow and safety along the ramp to the basement. Details are to be illustrated on plans submitted with the construction certificate.

Reason: To ensure safe traffic movement at parking areas.

PB0052 #Parra Develop Contrib. Plan – Outside CBD 2021 (net resident increase)

48. A monetary contribution comprising \$400,726.85 is payable to City of Parramatta Council in accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and the *City of Parramatta (Outside CBD) Development Contributions Plan 2021*. Payment must be made by direct bank transfer or credit/debit card only. Payment can be made by contacting Council's Customer Contact Centre on 1300 617 058.

Contribution Type	Amount
Open space and outdoor recreation	\$ 260,963.76

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Indoor sports courts	\$ 23,785.04
Community facilities	\$ 31,282.47
Aquatic facilities	\$ 7,290.63
Traffic and transport	\$ 73,578.62
Plan administration	\$ 3,826.33
Total	\$ 400,726.85

Timing of payment

The contribution is to be paid to Council prior to the release of the construction certificate. Deferred payments of contributions will not be accepted, and requests for payment by multiple instalments will not be granted.

The contribution levy is subject to indexation on a quarterly basis in accordance with movements in the Consumer Price Index (All Groups Index) for Sydney issued by the Australian Statistician. At the time of payment, the contribution levy may have been the subject of indexation

The *City of Parramatta (Outside CBD) Development Contributions Plan 2021* can be viewed on Council's website at:
<https://www.cityofparramatta.nsw.gov.au/business-development/planning/development-contributions>

Reason: To comply with legislative requirements and to provide for the increased demand for public amenities and services resulting from the development.

EWB0002 Management of Construction and/or Demolition Waste

49. Waste materials must be appropriately stored and secured within a designated waste area onsite at all times, prior to reuse or being sent offsite. This includes waste materials such as paper and containers which must not litter the site or leave the site onto neighbouring public or private property. Receipts of all waste/recycling tipping must be retained and produced in a legible form to any authorised officer of the Council who asks to see them.

Reason: To provide for the appropriate collection/ recycling of waste from the proposal whilst minimising the impact of the development upon adjoining residents.

EAB0001 Noise impact on residential building

50. Prior to the issue of a Construction Certificate, written certification from a suitably qualified person(s) shall be submitted to the Principal Certifying Authority and City of Parramatta Council, stating that appropriate design and construction materials are to be utilised within the development to ensure compliance with the following noise criteria specified for managing the noise impact on **residential buildings** from rail corridors and/or busy roads:

- (a) In any bedroom in the building: 35dB(A) between 10pm – 7am;
- (b) Anywhere else in the building (other than a garage, hallway, kitchen or bathroom) 40dB(A) at any time.

Reason: Compliance with relevant noise amenity criteria in Infrastructure SEPP.

EAB0005 Noise Management Plan -Demo. Excav. & Construction

51. A noise management plan must be submitted to Council for approval prior to any work commencing and complied with during any construction works. The plan must be prepared by a suitably qualified person, who possesses qualifications to render them eligible for membership of the Australian Acoustic Society, Institution of Engineers Australia or the Australian Association of Acoustic Consultants.

The plan must include, but not be limited to, the following:

- a) Confirmation of the level of community engagement that has, is and will be undertaken with the Building Managers/occupiers of the main adjoining noise sensitive properties likely to be most affected by site works and the operation of plant/machinery particularly during the demolition and excavation phases;
- b) Confirmation of noise, vibration and dust monitoring methodology that is to be undertaken during the main stages of work at neighbouring noise sensitive properties during the main stages of work;
- c) The course of action that will be taken following receipt of a complaint concerning site noise, dust and vibration;
- d) Details of any noise mitigation measures that have been outlined by an acoustic engineer or otherwise that will be deployed on site to reduce noise impacts on the occupiers of neighbouring properties to a minimum; and
- e) What plant and equipment is to be used on the site, the level of sound mitigation measures to be undertaken in each case and the criteria adopted in their selection taking into account the likely noise impacts on the occupiers of neighbouring properties and other less intrusive technologies available.

Reason: To maintain appropriate amenity to nearby occupants.

PART C – BEFORE THE COMMENCEMENT OF BUILDING WORK

BC0001 Toilet facilities on site

52. Prior to work commencing, adequate toilet facilities are to be provided on the work site.

Reason: To ensure adequate toilet facilities are provided.

DC0002 Road Opening Permits - DA's involving drainage wrk

53. The applicant must apply for a road-opening permit where a new pipeline is proposed to be constructed within or across Council owned land. Additional road opening permits and fees may be necessary where connections to public utilities are required (e.g. telephone, electricity, sewer, water or gas).

In addition, no drainage work can be carried out within the Council owned land without this permit being issued. A copy is required to be kept on site.

Reason: To protect Council's assets throughout the development process.

DC0003 Dilapidation survey & report for private properties

54. Prior to the commencement of any excavation works on site, the applicant must submit for approval by the Principal Certifying Authority (with an electronic copy forwarded to Council at council@cityofparramatta.nsw.gov.au) a dilapidation report on the visible and structural condition of all neighbouring structures within the 'zone of influence' of the excavation face to a depth of twice that of the excavation.

The report must include a photographic survey of the adjoining properties detailing their physical condition, both internally and externally, including such items as walls, ceilings, roof, structural members and other similar items. The report must be completed by a consulting structural/geotechnical engineer in accordance with the recommendation of the geotechnical report.

In the event access to adjoining allotments for the completion of a dilapidation survey is denied, the applicant must demonstrate in writing that all reasonable steps have been taken to advise the adjoining allotment owners of the benefit of this survey and details of failure to gain consent for access to the satisfaction of the Principle Certifying Authority.

Note: This documentation is for record keeping purposes only, and can be made available to an applicant or affected property owner should it be requested to resolve any dispute over damage to adjoining properties arising from works. It is in the applicant's and adjoining owner's interest for it to be as detailed as possible.

Reason: Management of records.

DC0004 Geotechnical report

55. Prior to the commencement of any excavation works on site the applicant must submit, for approval by the Principal Certifying Authority (PCA), a geotechnical/civil engineering report which addresses (but is not limited to) the following:
- (a) The type and extent of substrata formations. A minimum of 4 representative bore hole logs which are to provide a full description of all material from the ground surface to a minimum of 1.0m below the finished basement floor level. The report is to include the location and description of any anomalies encountered in the profile, and the surface and depth of the bore hole logs shall be to Australian Height Datum.
 - (b) Having regard to the findings of the bore hole testing, details of the appropriate method of excavation/shoring together with the proximity to adjacent property and structures can be ascertained. As a result potential vibration caused by the method of excavation and how it will impact on nearby footings/foundations must be established together with methods to ameliorate any impact.
 - (c) The proposed methods for temporary and permanent support required by the extent of excavation can be established.
 - (d) The impact on groundwater levels in relation to the basement structure.
 - (e) The drawdown effects if any on adjacent properties (including the road reserve), resulting from the basement excavation will have on groundwater together with the appropriate construction methods to be utilised in controlling groundwater.

Where it is considered there is potential for the excavation to create a "dam" for natural groundwater flows, a groundwater drainage system must be designed to transfer groundwater through or under the proposed development. This design is to ensure there is no change in the range of the natural groundwater level fluctuations. Where an impediment to the natural flow path of groundwater results, artificial drains such as perimeter drains and through drainage may be utilised.

- (f) The recommendations resulting from the investigations are to demonstrate the works can be satisfactorily implemented. An implementation program is to be prepared along with a suitable monitoring program (where required) including control levels for vibration, shoring support, ground level and groundwater level movements during construction.

The implementation program is to nominate suitable hold points for the various stages of the works in order verify the design intent before certification can be issued and before proceeding with subsequent stages.

The geotechnical report must be prepared by a suitably qualified consulting geotechnical/hydrogeological engineer with demonstrated experience in such investigations and reporting. It is the responsibility of the engaged geotechnical specialist to undertake the appropriate investigations, reporting and specialist recommendations to ensure a reasonable level of protection to adjacent properties and structures both during and after construction. The report must contain site specific geotechnical recommendations and must specify the necessary hold/inspection points by relevant professionals as appropriate. The design principles for the geotechnical report are as follows:

- (i) No ground settlement or movement is to be induced which is sufficient enough to cause an adverse impact to adjoining property and/or infrastructure.
- (ii) No changes to the ground water level are to occur as a result of the development that is sufficient enough to cause an adverse impact to the surrounding property and infrastructure.
- (iii) No changes to the ground water level are to occur during the construction of the development that is sufficient enough to cause an adverse impact to the surrounding property and infrastructure.
- (iv) Vibration is to be minimised or eliminated to ensure no adverse impact on the surrounding property and infrastructure occurs, as a result of the construction of the development.
- (v) Appropriate support and retention systems are to be recommended and suitable designs prepared to allow the proposed development to comply with these design principles.
- (vi) An adverse impact can be assumed to be crack damage which would be classified as Category 2 or greater damage according to the classification given in Table CI of AS 2870 - 1996.

Reason: To ensure the ongoing safety and protection of property.

DC0006 Erosion and Sediment Control measures

56. Erosion and sediment control measures are to be installed in accordance with the publication 'Urban Stormwater: Soils and Construction "The Blue Book" 2004 (4th edition) prior to the commencement of any demolition, excavation or construction works upon the site. These measures are to be maintained throughout the entire works.

Reason: To ensure soil and water management controls are in place before site works commence.

DC0007 Site Maintenance

57. Prior to commencement of works and during construction works, the development site and any road verge immediately in front of the site must be maintained in a safe and tidy manner. In this regard the following must be undertaken:

- (a) all existing buildings are to be secured and maintained to prevent unauthorised access and vandalism
- (b) all site boundaries are to be secured and maintained to prevent unauthorised access to the site;
- (c) all general refuse and/or litter (inclusive of any uncollected mail/advertising material) is to be removed from the site on a fortnightly basis;
- (d) the site is to be maintained clear of weeds; and
- (e) all grassed areas are to be mowed on a monthly basis.

Reason: To ensure public safety and maintenance of the amenity of the surrounding environment.

DC0008 Shoring and adequacy of adjoining property

58. If development involves excavation that extends below the level of the base, of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the persons own expense:

- (a) Protect and support the adjoining premises from possible damage from the excavation
- (b) Where necessary, underpin the adjoining premises to prevent any such damage.

Note: If the person with the benefit of the development consent owns the adjoining land or the owner of the adjoining land has given consent in writing to the condition not applying, this condition does not apply.

Reason: As prescribed under the Environmental Planning and Assessment Regulation 2000.

DC0009 Special Permits

59. Unless otherwise specifically approved in writing by Council, all works, processes, storage of materials, loading and unloading associated with the development are to occur entirely within the property boundaries. The applicant, owner or builder must apply for specific permits if the following activities are required seeking approval pursuant to Section 138 of the Roads Act 1993:

- (a) On-street mobile plant:
E.g. Cranes, concrete pumps, cherry-pickers, etc. - restrictions apply to the hours of operation and the area where the operation will occur, etc. Separate permits are required for each occasion and each piece of equipment. It is the applicant's, owner's and builder's responsibilities to take

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whatever steps are necessary to ensure the use of any equipment does not violate adjoining property owner's rights.

- (b) Storage of building materials and building waste containers (skips) on Council's property.
- (c) Permits to utilise Council property for the storage of building materials and building waste containers (skips) are required for each location they are to be stored. Failure to obtain the relevant permits will result in the building materials or building waste containers (skips) being impounded. Storage of building materials and waste containers within Council's open space areas, reserves and parks is prohibited.
- (d) Kerbside restrictions - construction zones:
The applicant's attention is drawn to the possible existing kerbside restrictions adjacent to the development. Should the applicant require alteration of existing kerbside restrictions, or the provision of a work zones, the appropriate application must be made to Council and the fee paid. Applicants should note that the alternatives of such restrictions may require referral to Council's Traffic Committee. An earlier application is suggested to avoid delays in construction programs..

The application is to be lodged with Council's Customer Service Centre.

Reason: Proper management of public land.

DC0010 Driveway Crossing Application

60. All works associated with the construction and/or extension of a driveway crossover/layback within Council owned land requires an application to be lodged and approved by Council.

All footpath crossings, laybacks and driveways are to be constructed according to Council's Specification for Construction or Reconstruction of Standard Footpath Crossings and in compliance with Standard Drawings DS1 (Kerbs & Laybacks); DS7 (Standard Passenger Car Clearance Profile); DS8 (Standard Vehicular Crossing); DS9 (Heavy Duty Vehicular Crossing) and DS10 (Vehicular Crossing Profiles).

The application for a driveway crossing requires the completion of the relevant application form and accompanied by plans, grades/levels and specifications. A fee in accordance with Councils adopted 'Fees and Charges' will need to be paid at the time of lodgement.

Note 1: This development consent is for works wholly within the property. Development consent does not imply approval of the footpath or driveway levels, materials or location within the road reserve, regardless of whether the information is shown on the development application plans.

Note 2: Council's Customer Service Team can advise of the current fee and can be contacted on 9806 5524

Reason: To provide suitable vehicular access without disruption to pedestrian and vehicular traffic.

LC0002 #Tree protection as per arborist report

61. The trees identified for protection within the consent shall be protected prior to and during the demolition/construction process in accordance with the

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Arboricultural Impact Assessment (including the Addendum) prepared by Treehaven Environments dated 20.06.2022 and 06.12.2021 and the conditions of consent.

Reason: To ensure the protection of tree 1 to be retained on the adjacent site.

LC0006 Pruning/works on tree(s)

62. Consent from Council must be obtained prior to any pruning works being undertaken on any tree on site, or any trees located in adjoining properties.

All approved pruning works must be supervised by an Australian Qualifications Framework (AQF) Level 3 certified Arborist. This includes the pruning of any roots that are 30mm in diameter or larger.

Reason: To ensure the protection of the tree(s) to be retained.

LC0007 Tree Protection During Construction

63. Tree protection measures are to be installed prior to works commencing on site and maintained, under the supervision of an Australian Qualification Framework (AQF) Level 5 Arborist in accordance with AS4970 - Protection of Trees on Development Sites.

Reason: To ensure trees are protected during construction.

PC0001 #Appointment of PCA

64. Prior to commencement of work, the person having the benefit of the Development Consent and Construction Certificate approval must:

- (a) Appoint a Principal Certifying Authority (PCA) and notify Council in writing of the appointment (irrespective of whether Council or an accredited private certifier) within 7 days; and
- (b) Notify Council in writing a minimum of 48 hours prior to work commencing of the intended date of commencement.

The Principal Certifying Authority must determine and advise the person having the benefit of the Construction Certificate when inspections, certification and compliance certificates are required.

Reason: To comply with legislative requirements.

PC0002 Enclosure of the site

65. The site must be enclosed by a 1.8m high security fence erected wholly within the confines of the site to prevent unauthorised access. The fence must be installed to the satisfaction of the Principal Certifying Authority prior to the commencement of any work on site.

Reason: To ensure public safety.

PC0003 Site Sign

66. A sign must be erected in a prominent position on any site involving excavation, erection or demolition of a building in accordance with Clause 70 of the Environmental Planning and Assessment Regulations 2000 detailing:

- (a) Unauthorised entry of the work site is prohibited;
- (b) The name of the principal contractor (or person in charge of the work site), their telephone number enabling 24hour contact; and
- (c) The name, address and telephone number of the Principal Certifying Authority;

- (d) The development consent approved construction hours;
- (e) The sign must be maintained during excavation, demolition and building work, and removed when the work has been completed.
- (f) This condition does not apply where works are being carried out inside an existing building.

Reason: Statutory requirement.

PC0005 Public liability insurance

67. Public risk insurance in the amount of not less than \$20 million or such other amount as Council may require by notice) must be obtained and furnished to Council before any works authorised by this consent are conducted:

- (a) Above;
- (b) Below; or
- (c) On

Any public land owned or controlled by Council. The public risk insurance must be maintained for the period during which these works are being undertaken.

The public risk insurance must be satisfactory to Council and list Council as an insured and/or interested party.

A copy of the insurance policy obtained must be forwarded to Council before any of the works commence.

Note: Applications for hoarding permits, vehicular crossing etc. will require evidence of insurance upon lodgement of the application.

Reason: To ensure the community is protected from the cost of any claim for damages arising from works authorised by this consent conducted above, below or on any public land owned or controlled by Council.

PC0007 Footings and walls near boundaries

68. Prior to the commencement of work, a registered surveyor is to undertake a set out survey to identify the location of all footings, slabs, posts and walls adjacent to a boundary. This is to ensure the development when complete, will be constructed wholly within the confines of the subject allotment. This set out survey showing the location of the development relative to the boundaries of the site, is to be forwarded to the Principal Certifying Authority prior to pouring of any footings or slabs and/or the construction of any walls/posts.

Reason: To ensure that the building is erected in accordance with the approval granted and within the boundaries of the site.

EWC0002 Asbestos – signage

69. On demolition sites where buildings are known to contain friable or non-friable asbestos material, standard warning signs containing the words 'DANGER ASBESTOS REMOVAL IN PROGRESS' measuring not less than 400mm x 300mm are to be erected in a prominent position on site visible from the street kerb. The sign is to be erected prior to demolition work commencing and is to remain in place until such time as all asbestos material has been removed from the site. Advice on the availability of these signs can be obtained by contacting the Safework NSW hotline or their website www.safework.nsw.gov.au.

Reason: To comply with the requirements of Safework NSW.

EWC0003 Waste management plan – demolition

70. An updated Waste Management Plan is to be submitted immediately after the letting of all contracts detailing the:

- (a) expected volumes and types of waste to be generated during the demolition and construction stages of the development;
- (b) destination of each type of waste, including the name, address and contact number for each receiving facility.

The Waste Management Plan is to be submitted to the satisfaction of the Principal Certifying Authority prior to commencement of any works on site.

Reason: To ensure waste is managed and disposed of properly.

ECC0001 Asbestos Hazard Management Strategy

71. The preparation of an appropriate hazard management strategy by an appropriately licensed asbestos consultant pertaining to the removal of contaminated soil, encapsulation or enclosure of any asbestos material is required. This strategy shall ensure that any such proposed demolition works involving asbestos are carried out in accordance with the requirements of the 'Code of Practice: How to Safely Remove Asbestos' published by Safework NSW. The strategy shall be submitted to the Principal Certifying Authority, prior to the commencement of any works. The report shall confirm that the asbestos material has been removed or is appropriately encapsulated and that the site is rendered suitable for the development.

Reason: To ensure risks associated with the demolition have been identified and addressed prior to demolition work commencing.

PART D – WHILE BUILDING WORK IS BEING CARRIED OUT**DD0002 #Stormwater must be connected to the kerb & gutter**

72. Stormwater must be connected to the kerb and gutter within Rosehill Street via the drainage easement.

Reason: To ensure satisfactory storm water disposal.

DD0005 Erosion & sediment control measures

73. Works are not to result in sedimentation and or run-off from the approved works onto the adjoining properties and or public lands. The person having the benefit of this consent must ensure sediment is not tracked out from the development site.

Reason: To ensure no adverse impacts on neighbouring properties.

DD0006 Damage to public infrastructure

74. Any damage to Council assets that impacts on public safety during construction is to be rectified immediately to the satisfaction of Council with all costs to be borne by the person having the benefit of the Development Consent.

Reason: To protect public safety.

LD0006 #Excavation to be supervised by arborist

75. All excavation within 6m of *Olea africana* (African Olive), located within the rear garden of 3 Rosehill Street, is to be supervised by an Australian Qualifications

Framework (AQF) Level 5 arborist. All works within this zone is to be carried out using non-destructive construction method such as hydrovac or careful hand-dig to retain all roots over 30mm in diameter. Pipes are to be tread through roots. If during excavation the Arborist identifies remedial work is necessary, it is to be supervised by this Arborist.

Once the work is completed a written report detailing the work undertaken is to be forwarded to the Principal Certifying Authority **Reason:** To provided adequate protection of trees.

LD0011 Tree Removal

76. Trees to be removed are:

Tree No.	Species	Common Name	Location
2	<i>Schinus molle</i>	Pepper Tree	Rear garden
3	<i>Cinnamomum camphora</i>	Camphor Laurel	Rear garden
4	<i>Prunus cerasifera</i>	Ornamental Plum	Rear garden
5	<i>Macadamia tertraphylla</i>	Macadamia Nut Tree	Rear garden
6	<i>Lagerstroemia indica</i>	Crepe Myrtle	Front garden
7	<i>Brunfelsia latifolia</i>	Yesterday, today, tomorrow	Front garden
8	<i>Callistemon viminalis</i>	Weeping Bottlebrush	Front garden
9	<i>Hibiscus syriacus</i>	Rose of Sharon	Front garden
10	<i>Olea africana</i>	African Olive	Front garden

Reason: To facilitate development.

LD0012 Trees with adequate root volume

77. All trees/shrubs planted within the site must be of an adequate root volume and maturity so as not to require staking or mechanical support unless in a wind-prone area. Planting must be carried out in accordance with the approved Landscape Plan and conditions of consent.

Reason: To ensure the trees/shrubs planted within the site are able to reach their required potential.

LD0013 Removal of trees by an arborist

78. All approved tree removal must be supervised by an Australian Qualification Framework (AQF) Level 3 Arborist and undertaken in accordance with the Code of Practice for Amenity Tree Industry 1998.

Reason: To ensure tree works are carried out safely.

PD0006 Hours of work and noise (DPIE Mandatory Condition)

79. The principal certifier must ensure that building work, demolition or vegetation removal is only carried out between:

- 7am to 5pm on Monday to Friday
- 8am to 5pm on Saturday

The principal certifier must ensure building work, demolition or vegetation removal is not carried out on Sundays and public holidays, except where there is an emergency.

Unless otherwise approved within a construction site management plan, construction vehicles, machinery, goods or materials must not be delivered to the site outside the approved hours of site works.

Note: Any variation to the hours of work requires Council's approval.

Council may permit an extension to the approved hours of work in extenuating or unforeseen circumstances subject to an application and approval by City of Parramatta Council (CoPC) in accordance with the 'After Hours Works for Approved Development Applications Policy' (Policy).

A copy of this Policy and associated application form is available on the CoPC website. A fee will apply to any application made in accordance with this Policy.

The matters of consideration of any extension sought would include, but not be limited to the following aspects and should be detailed in any application made:

- Nature of work to be conducted;
- Reason for after-hours completion;
- Residual effect of work (noise, traffic, parking);
- Demographic of area (residential, industrial);
- Compliance history of subject premises;
- Current hours of operation;
- Mitigating or extenuating circumstance; and
- Impact of works not being completed.

Reason: To protect the amenity of the surrounding area.

PD0020 Building Work Compliance BCA (DIEP Mandatory Cond)

80. All building work must be carried out in accordance with the current provisions of the Building Code of Australia (National Construction Code).

Reason: To comply with the Environmental Planning & Assessment Act 1979, as amended and the Environmental Planning & Assessment Regulation 2000.

TD0001 Road Occupancy Permit

81. Occupation of any part of the footpath or road at or above (carrying out work, storage of building materials and the like) during construction of the development shall require a Road Occupancy Permit from Council. The applicant is to be required to submit an application for a Road Occupancy Permit through Council's Traffic and Transport Services, prior to carrying out the construction/restoration works.

Reason: To ensure proper management of Council assets.

TD0002 Oversize vehicles using local roads

82. Oversize vehicles using local roads require approval from the National Heavy Vehicle Regulator (NHVR). The applicant is required to submit an application for

an Oversize Vehicle Access Permit through NHVR's portal (www.nhvr.gov.au/about-us/nhvr-portal) prior to driving through local roads within the City of Parramatta LGA.

Reason: To ensure maintenance of Council's assets.

EWD0002 Asbestos handled& disposed of by licensed facility

83. All friable and non-friable asbestos-containing waste material on-site shall be handled and disposed off-site at an EPA licensed waste facility by an EPA licensed contractor in accordance with the requirements of the Protection of the Environment Operations (Waste) Regulation 2014 and the Waste Classification Guidelines – Part 1 Classifying Waste (EPA 2014) and any other regulatory instrument as amended.

Reason: To ensure appropriate disposal of asbestos materials.

EWD0003 Waste data file maintained

84. A Waste Data file is to be maintained, recording building/demolition contractor's details and waste disposal receipts/dockets for any demolition or construction wastes from the site. These records must be retained and made available to Council on request.

Reason: To confirm waste minimisation objectives under Parramatta Development Control Plan 2011 are met.

ECD0005 Disposal of Material at Licensed Landfill

85. Any contamination material to be removed from the site shall be disposed of to an EPA licensed landfill.

Reason: To comply with the statutory requirements of the Protection of the Environment Operations Act 1997.

PART E – BEFORE THE ISSUE OF AN OCCUPATION CERTIFICATE

BE0001 Record of inspections carried out

86. In accordance with Clause 162B of the Environmental Planning and Assessment Regulation 2000, the Principal Certifying Authority responsible for the critical stage inspections must make a record of each inspection as soon as practicable after it has been carried out. The record must include:

- (a) The development application and Construction Certificate number as registered;
- (b) The address of the property at which the inspection was carried out;
- (c) The type of inspection;
- (d) The date on which it was carried out;
- (e) The name and accreditation number of the certifying authority by whom the inspection was carried out; and
- (f) Whether or not the inspection was satisfactory in the opinion of the certifying authority who carried it out.

Reason: To comply with statutory requirements.

DE0003 Work-as-Executed Plan (DPIE Condition)

87. Works-As-Executed stormwater plans are to address the following:
- (a) A WAE survey shall be conducted and plans prepared showing the 'as built' of the complete on-site detention system including (but not limited to) discharge point into Council system, storage tank (including all critical elements), all pipes and pits connected to the OSD system, overland flow swale and surface levels that control surface flows to the OSD system and by design bypassing the OSD system.
 - (b) The Work-As-Executed plans are prepared on the copies of the approved drainage plans issued with the Construction Certificate with the variations marked in red ink.
 - (c) The Work-As-Executed plans have been prepared by a registered surveyor certifying the accuracy of dimensions, levels, storage volumes, etc.
 - (d) The as built On-Site Detention (OSD) storage volumes are to be presented in a tabular form (depth verses volume table)
 - (e) OSD Works-As-Executed dimensions form (refer to UPRCT Handbook).
 - (f) Certificate of Hydraulic Compliance from a qualified drainage / hydraulic engineer (refer to UPRCT Handbook). The certificate must only be provided after conducting a satisfactory final inspection. The final inspection shall include the application of all the ancillary components of the system including but not limited to: step-irons, orifice plate, trash screen with appropriate wall attachment, hinged lockable grates, confined space sign, functioning return lap valve and relief drains within DCP sump etc.
 - (g) Certificate of Structural compliance of the OSD tank shall reference the structural elements including floor slab/foundations, walls and cover slab from a qualified structural engineer

The above is to be submitted to the Principal Certifying Authority prior to the issue of an occupation certificate and a copy is to accompany the Occupation Certificate when lodged with Council.

Reason: To ensure works comply with approved plans and adequate information is available for Council to update the Upper Parramatta River Catchment Trust.

DE0005 #OSD Positive Covenant/Restriction

88. Prior to the issue of an Occupation Certificate a Positive Covenant and Restriction on the Use of Land under Section 88E of the Conveyancing Act 1919 must be created, burdening the owner with the requirement to maintain the on-site stormwater detention facilities on the lot.

The terms of the 88E Instruments are to be generally in accordance with Council's "standard terms" available in Council's website, under Development Forms.

Where a Title exists, the Positive Covenant and Restriction on the Use of Land is to be created through via an application to the NSW Land Registry Services using forms 13PC and 13RPA. Accompanying this form is the requirement for a plan to scale showing the relative location of the On-Site Detention facility, including its relationship to the building footprint.

Registered title documents showing the covenants and restrictions must be submitted to and approved by the Principal Certifying Authority prior to Occupation or use of on-site.

Electronic colour photographs in jpg format of the on-site detention facility shall accompany the application for the Positive Covenant and the Restriction on the Use of the Land. These photos shall include such elements as the orifice plate, trash screen, step irons, weir, sump and bench on the floor of the DCP, return pipe and flap valve, wide angle view of the storage area or multiple photos, grates closed from above, grates open showing the edges to the opening and under frame packing with mortar or concrete, all pipe entries to the DCP and confined space warning signs at each entry point. The photos must be well labelled and must differentiate between multiple tanks. Additional photos may be requested if required.

Reason: To ensure maintenance of on-site detention facilities.

DE0006 Section 73 Certificate

89. A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained prior to the issue of any Occupation Certificate. The application must be made through an authorised Water Servicing Coordinator. Please refer to "Your Business" section of Sydney Water's web site at www.sydneywater.com.au then the "e-developer" icon or telephone 13 20 92.

Reason: To ensure the requirements of Sydney Water have been complied with.

DE0014 Lot consolidation

90. All individual parcels of land holding a separate title within the development site must be consolidated into one lot. A plan of consolidation must be registered with the Land and Property Information Division of the NSW Land Registry Services, prior to an Occupation Certificate being issued.

Reason: To comply with the Conveyancing Act 1919.

DE0015 Driveway Crossover

91. Prior to the issue of any Occupation Certificate, an application is required to be obtained from Council for any new, reconstructed or extended sections of driveway crossings between the property boundary and road alignment.

All footpath crossings, laybacks and driveways are to be constructed according to Council's Specification for Construction or Reconstruction of Standard Footpath Crossings and in compliance with Standard Drawings DS1 (Kerbs & Laybacks); DS7 (Standard Passenger Car Clearance Profile); DS8 (Standard Vehicular Crossing); DS9 (Heavy Duty Vehicular Crossing) and DS10 (Vehicular Crossing Profiles).

The application for a driveway crossing requires the completion of the relevant application form and be accompanied by detailed plans showing, grades/levels and specifications that demonstrate compliance with Council's standards, without conflict with all internal finished surface levels. The detailed plan must be submitted to Council's Civil Assets Team for approval prior to commencement

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of the driveway crossing works. A fee in accordance with Councils adopted 'Fees and Charges' will need to be paid at the time of lodgement.

Note 1: This development consent is for works wholly within the property. Development consent does not imply approval of the footpath or driveway levels, materials or location within the road reserve, regardless of whether the information is shown on the development application plans.

Note 2: Council's Customer Service Team can advise of the current fee and can be contacted on 9806 5524.

Reason: Pedestrian and Vehicle safety.

DE0018 Reinstatement of laybacks etc

92. All redundant lay-backs and vehicular crossings must be reinstated to conventional kerb and gutter, foot-paving or grassed verge in accordance with Council's Standard Plan No. DS1. The reinstatement must be completed prior to the issue of an Occupation Certificate. All costs must be borne by the applicant.

Reason: To provide satisfactory drainage.

LE0002 Cert.Auth.Arrange Qualified LandscapeArch.(multi)

93. A qualified Landscape Architect/Designer must certify that the completed works are in accordance with the approved landscape plan. All landscape works must be completed prior to the issue of an Occupation Certificate.

Reason: To ensure restoration of environmental amenity.

PE0001 Occupation Certificate

94. Occupation or use of the building or part is not permitted until an Occupation Certificate has been issued in accordance with Section 6.9 of the Environmental Planning and Assessment Act 1979.

Reason: To comply with legislative requirements of the Environmental Planning and Assessment Act 1979.

PE0006 Street Number when site readily visible location

95. A street number is to be placed on the site in a readily visible location from a public place prior to the issue of an Occupation Certificate. The numbers are to have a minimum height of 75mm.

Reason: To ensure a visible house number is provided.

PE0007 #BASIX Compliance

96. Under Section 75 of the Environmental Planning & Assessment Regulation 2021, it is a condition of this development consent that all design measures identified in the BASIX Certificate No. **1264524M_02**, will be complied with prior to occupation.

Reason: To comply with legislative requirements of section 75 of the Environmental Planning & Assessment Regulation 2021.

PE0008 Completion of Public Utility Services

97. Before the issue of the relevant occupation certificate, the principal certifier must ensure any adjustment or augmentation of any public utility services including

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gas, water, sewer, electricity, street lighting and telecommunications, required as a result of the development, is completed to the satisfaction of the relevant authority.

Before the issue of the occupation certificate, the certifier must request written confirmation from the relevant authority that the relevant services have been completed.

Reason: To ensure required changes to public utility services are completed, in accordance with the relevant agency requirements, before occupation

PE0025 SEPP 65 verification statement OC stage

98. Design Verification issued by a registered architect is to be provided with the application for an Occupation Certificate verifying that the residential flat development achieves the design quality of the development as shown in the plans and specifications in respect of which the construction certificate was issued, having regard to the design quality principles set out in Part 2 of State Environmental Planning Policy No 65 - Design Quality of Residential Flat Development.

Note: Qualified designer in this condition is as per the definition in SEPP 65.

Reason: To comply with the requirements of SEPP 65.

PE0026 PE25 –Adaptable dwellings Multi-unit and RFB’s modi

99. Certification must be provided prior to the issue of an occupation certificate that the required adaptable dwelling(s) have achieved a class C design in accordance with the requirements of AS 4299 -1995.

Reason: To ensure the requirements of DCP 2011 have been met.

PE0027 Post Constr. Private Property Dilapidation Report

100. Before the issue of an occupation certificate, a suitably qualified engineer must prepare a post-construction dilapidation report, to the satisfaction of the principal certifier, detailing whether:

- (a) after comparing the pre-construction dilapidation report to the postconstruction dilapidation report required under this condition, there has been any structural damage to any adjoining buildings; and
- (b) where there has been structural damage to any adjoining buildings, that it is a result of the building work approved under this development consent.

Before the issue of an occupation certificate, the principal certifier is to provide a copy of the post-construction dilapidation report to Council (where Council is not the principal certifier) and to the relevant adjoining property owner(s).

Reason: To identify damage to adjoining properties resulting from building work on the development site

EWENSC Non-standard - Prior to issue of Occ/Sub Cert/Use

101. Prior to the issue of any Occupation Certificate, communal waste facilities and associated vehicle access on the site shall be inspected and approved by Council's Waste Service Team. Written confirmation of the waste facility approval

from Council shall be submitted to the Principal Certifying Authority before the issue of any Occupation Certificate.

Reason: To ensure that appropriate waste collection facilities are provided.

102. Prior to the issue of any Occupation Certificate, a draft strata by-law with the insertion of waste specific by-laws is to be provided to Council's Waste Service Team. The waste specific by-laws can be provided by Council's Waste Service Team.

Reason: To ensure that appropriate waste collection facilities are adequately managed by the authorised representatives and occupants of the building and to ensure no waste activities generated on site is placed on public land.

EAE0001 #All works/methods/procedures/control measures

103. Prior to the issue of an occupation certificate (Interim or Final), written certification from a suitably qualified person(s) shall be submitted to the Principal Certifying Authority and City of Parramatta Council, stating that all works/methods/procedures/control measures approved by Council in the following report have been completed:

(a) Acoustic Report No. R210908 rev. R1, dated 2.12.2021, prepared by Rodney Stevens Acoustics.

Reason: To demonstrate compliance with submitted reports.

PART F – OCCUPATION AND ONGOING USE

PF0004 External Plant/Air-conditioning noise levels

104. Any external plant/air-conditioning system must not exceed a noise level of 5dBA above the background noise level when measured at the boundaries of the property.

Reason: To minimise noise impact of mechanical equipment.

PF0049 Graffiti Management

105. The owner/manager of the site/business is responsible for the removal of all graffiti from the building/structures/signage and/or fencing within 48 hours of its application.

Reason: To ensure the removal of graffiti.

PF0054 Release of Securities/Bonds (DIEP Mandatory Cond)

106. When Council receives an occupation certificate from the principal certifier, the applicant may lodge an application to release the securities held in accordance with ***Council's Schedule of Fees and Charges 2022-2023***.

Council may use part, or all of the securities held to complete the works to its satisfaction if the works do not meet Council's requirements.

Note: A written application to Council's Civil Assets Team is required for the release of a bond and must quote the following:

(a) Council's Development Application number; and

(b) Site address.

Note: Council's Civil Assets Team will take up to 21 days from receipt of the request to provide the written advice.

Reason: To allow release of securities and authorise Council to use the security deposit to complete works to its satisfaction.

TF0002 #Roller shutter door intercom is installed

107. If a roller shutter door is to be provided at the driveway entry and exit from Railway Street, it is to be operated via remote control. If an intercom is installed, it is to be provided at the centre of the driveway (not attached on the wall) to the carpark in accordance with Clause 3.3 (b) of AS 2890.1 - 2004.

Reason: To comply with Australian Standards.

EWF0005 Management of waste storage facilities

108. All waste storage areas are to be maintained in a clean and tidy condition at all times.

Reason: To ensure the ongoing management of waste storage areas.

EWF0006 Storage of bins between collection periods

109. Between collection periods, all waste/recyclable materials generated on site must be kept in enclosed bins with securely fitting lids so the contents are not able to leak or overflow. Bins must be stored in the designated waste/recycling storage room(s) or area(s) between collection periods.

Reason: To ensure waste is adequately stored within the premises.

EWF0009 Signage in Shared Waste Areas

110. Signage to encourage correct recycling and reduce contamination is required within shared waste rooms / bin storage areas. Standard signage is available through Council.

Reason: To encourage proper waste and recycling practices onsite.

EAF0001 Use is not to cause offensive noise or vibration

111. The use of the premises not giving rise to:

- (a) transmission of unacceptable vibration to any place of different occupancy,
- (b) a sound pressure level measured at any point on the boundary of any affected residential premises that exceeds the background noise level by more than 5 dB(A). The source noise level shall be assessed as an LAeq,15 min and adjusted in accordance with Environment Protection Authority (EPA) guidelines for tonality, frequency weighting, impulsive characteristics, fluctuations, and temporal content as described in the NSW Environmental Planning & Assessment Act 1979: Noise Policy for Industry 2017 and the Protection of the Environment Operations Act 1997.

Reason: To prevent loss of amenity to the area.

EAF0004 No 'offensive noise'

112. Noise and vibration from the use and operation of any plant and equipment and/or building services associated with the premises shall not give rise to 'offensive noise' as defined by the Protection of the Environment Operations Act 1997.

Reason: To reduce noise levels.

EA0007 Noise from mechanical equipment

113. The proposed use of the premises and the operation of all plant and equipment shall not give rise to an 'offensive noise' as defined in the Protection of the Environment Operations Act 1997.

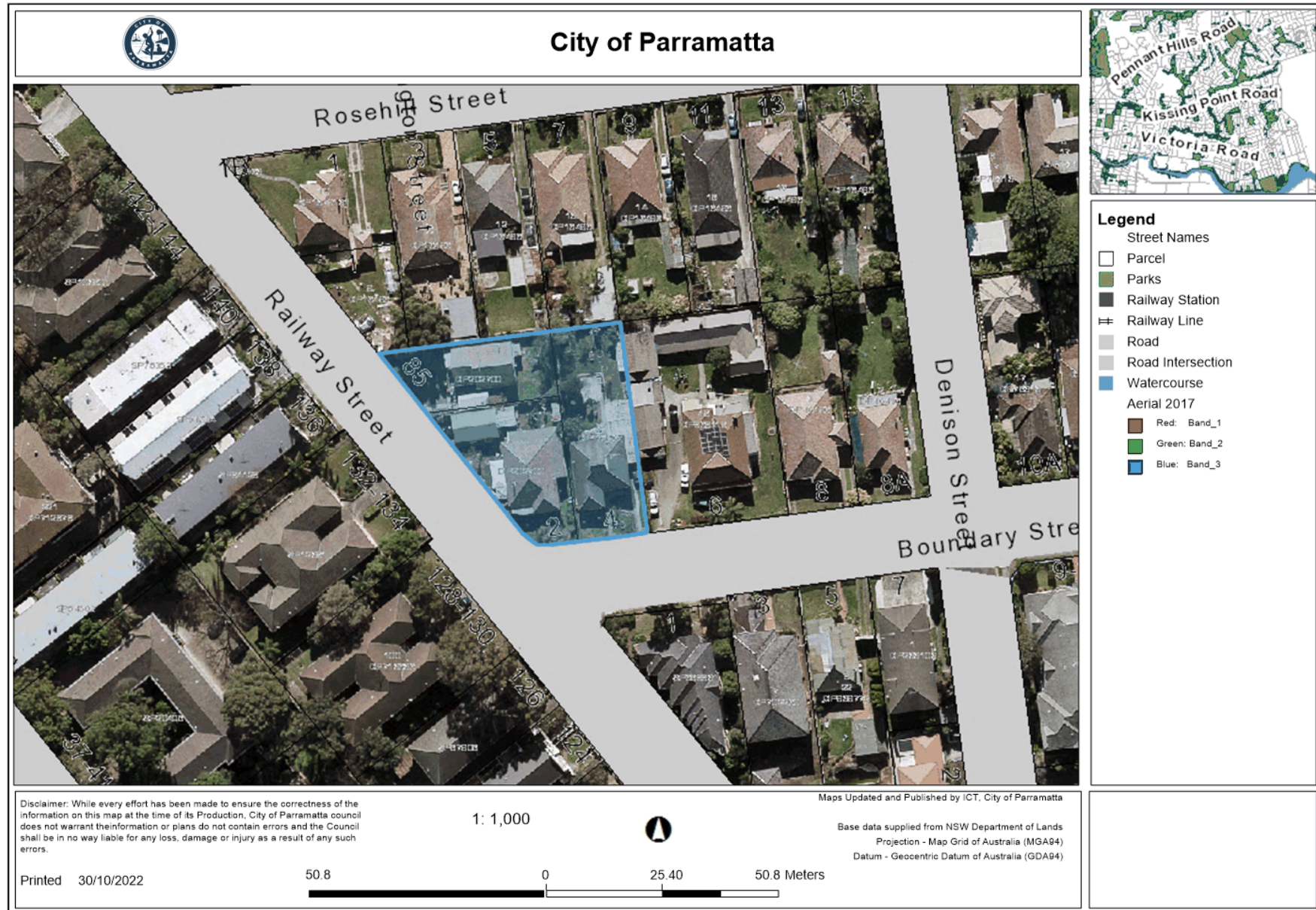
Reason: To protect the amenity of the area.

EA0009 Use of Premises

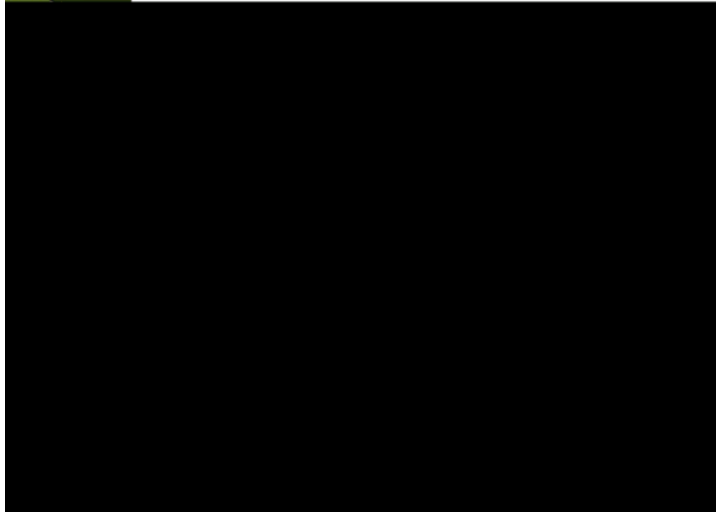
114. The use of the premises not giving rise to:

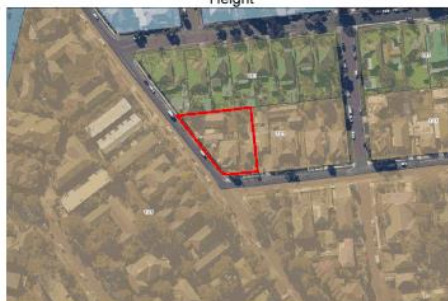
- (a) transmission of unacceptable vibration to any place of different occupancy;
- (b) a sound pressure level at any affected premises that exceeds the background (LA90) noise level in the absence of the noise under consideration by more than 5dB(A). The source noise level shall be assessed as an LAeq,15min and adjusted in accordance with Environment Protection Authority guidelines for tonality, frequency weighting, impulsive characteristics, fluctuations and temporal content.

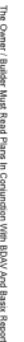
Reason: To prevent loss of amenity to the area.

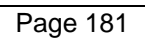


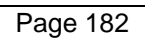
2-4 BOUNDARY ST & 85 RAILWAY ST, PARRMATT A PROPOSED RESIDENTIAL FLAT BUILDING



[illegible]







Site Area	1,793.6m ²
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CATEGORY	REQUIREMENT	PROPOSAL
Zoning	R4 Residential High Density	
FSR	2.1 = 2,152.32m ²	2,152
Max Height	14m	4 storeys
Communal Open Space	ADG 25% min, 448.4m ²	469
Landscaping	30% min, 538.06m ²	609
Deep Soil	07% min, 142.72m ²	220
Parking	15% min, 266.04m ² 31 Spaces Residential 6.25 Visitor 37.25 Spaces	31 Resident Spaces 7 Visitor Spaces
Solar Access	70% of units, 18 Units	70%, 18 Units
Natural Ventilation	60% of units, 15 Units	70%, 18 Units

ADG - LANDSCAPE	
NAME	AREA (m2)
LANDSCAPE	600

MATERIALS & FINISHES SCHEDULE

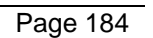
RENDER EXTERIOR WALLS - OFF WHITE

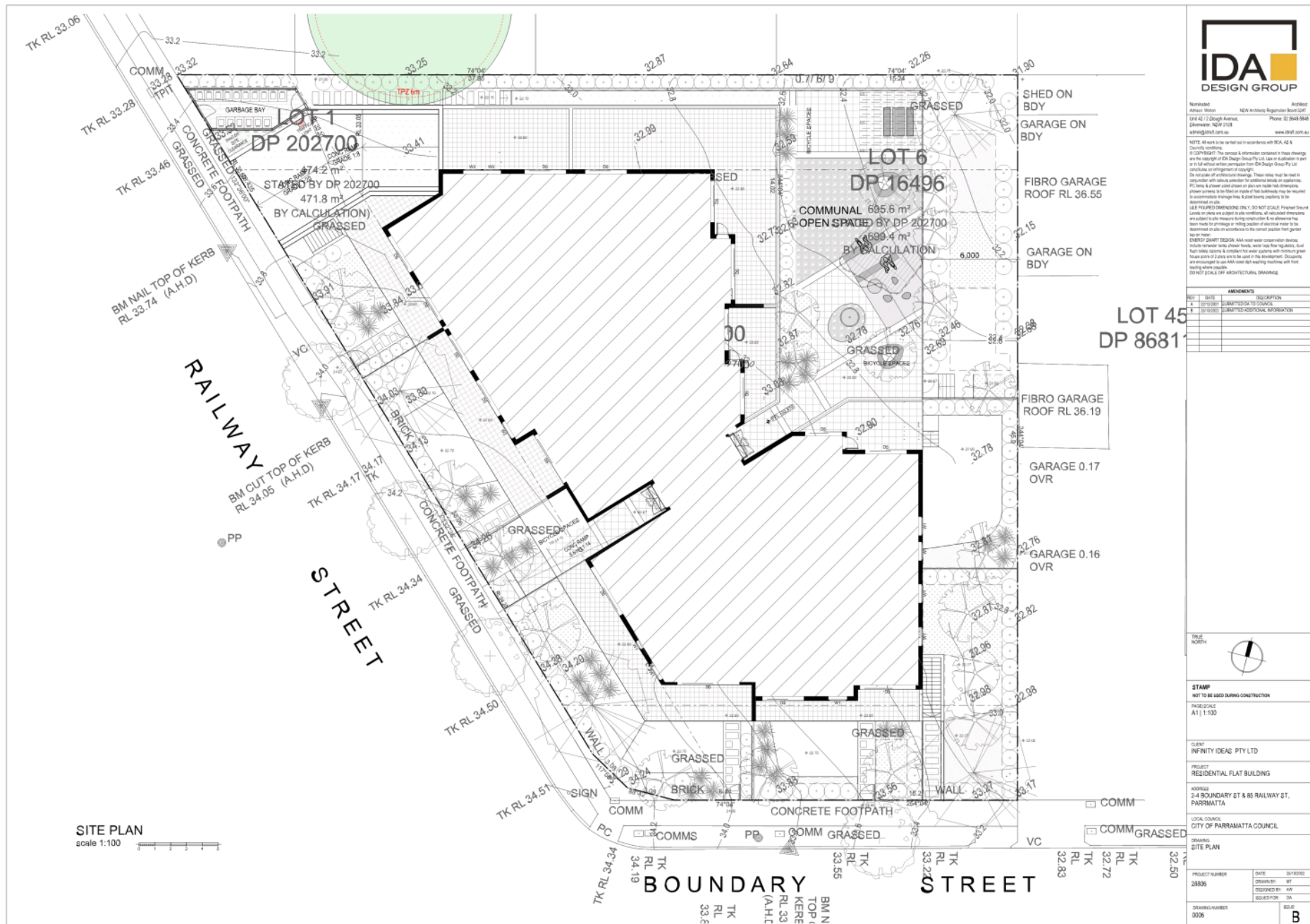
POS SCHEDULE			
UNIT	POS	AREA (m2)	ADG (m2)
Unit G01	COURTYARD	97	15m
Unit G02	COURTYARD	84	15m
Unit G03	COURTYARD	88	15m
Unit G04	COURTYARD	84	15m
Unit G05	COURTYARD	71	15m
Unit G06	COURTYARD	110	15m
Unit G07	COURTYARD	81	15m
Unit 101	BALCONY	21	10m
Unit 102	BALCONY	26	10m
Unit 103	BALCONY	56	10m
Unit 104	BALCONY	20	10m
Unit 105	BALCONY	17	10m
Unit 106	BALCONY	21	10m
Unit 107	BALCONY	17	10m
Unit 201	BALCONY	21	10m
Unit 202	BALCONY	26	10m
Unit 203	BALCONY	56	10m
Unit 204	BALCONY	20	10m
Unit 205	BALCONY	17	10m
Unit 206	BALCONY	21	10m
Unit 207	BALCONY	17	10m
Unit 301	BALCONY	83	12m
Unit 302	BALCONY	46	12m
Unit 303	BALCONY	42	12m
Unit 304	BALCONY	72	12m

INTERNAL STORAGE SCHEDULE			
UNIT	NAME	LOCATION	VOLUME (m)
Unit G01	S1R	Internal	
Unit G02	S1R	Internal	
Unit G03	S1R	Internal	
Unit G04	S1R	Internal	
Unit G05	S1R	Internal	
Unit G06	S1R	Internal	
Unit G07	S1R	Internal	
Unit I01	S1R	Internal	
Unit I02	S1R	Internal	
Unit I03	S1R	Internal	
Unit I04	S1R	Internal	
Unit I05	S1R	Internal	
Unit I06	S1R	Internal	
Unit I07	S1R	Internal	
Unit 201	S1R	Internal	
Unit 202	S1R	Internal	
Unit 203	S1R	Internal	
Unit 204	S1R	Internal	
Unit 205	S1R	Internal	
Unit 206	S1R	Internal	
Unit 207	S1R	Internal	
Unit 301	S1R	Internal	
Unit 302	S1R	Internal	
Unit 303	S1R	Internal	
Unit 304	S1R	Internal	

EXTERNAL STORAGE SCHEDULE			
UNIT	NAME	LOCATION	VOLUME (m)
Unit G01	Storage	External	
Unit G02	Storage	External	
Unit G03	Storage	External	
Unit G04	Storage	External	
Unit G05	Storage	External	
Unit G06	Storage	External	
Unit G07	Storage	External	
Unit 101	Storage	External	
Unit 102	Storage	External	
Unit 103	Storage	External	
Unit 104	Storage	External	
Unit 105	Storage	External	
Unit 106	Storage	External	
Unit 107	Storage	External	
Unit 201	Storage	External	
Unit 202	Storage	External	
Unit 203	Storage	External	
Unit 204	Storage	External	
Unit 205	Storage	External	
Unit 206	Storage	External	
Unit 207	Storage	External	
Unit 301	Storage	External	
Unit 302	Storage	External	
Unit 303	Storage	External	
Unit 304	Storage	External	

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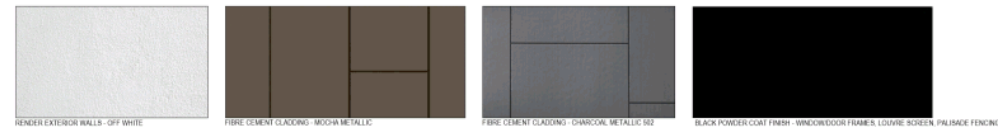








MATERIALS & FINISHES SCHEDULE



Notified
Address: 18/18A North Sydney Road, North Sydney, NSW 1585
Phone: (02) 9448 0848
Email: admin@ida.com.au
Website: www.ida.com.au

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PC items & elements noted drawn on plan are made to dimensions shown, unless otherwise stated. All other items are to be made to dimensions shown, unless otherwise stated.
USE FOR: (DIMENSIONS ONLY) DO NOT SCALE. Project Owner: Levels or points are subject to the conditions of the relevant authority. Levels are subject to site measures during construction. No alterations have been made to drawings or existing conditions of the site. The drawings are to be used in accordance with the relevant codes of practice.
NOTES: (DIMENSIONS ONLY) DO NOT SCALE. Project Owner: Levels or points are subject to the conditions of the relevant authority. Levels are subject to site measures during construction. No alterations have been made to drawings or existing conditions of the site. The drawings are to be used in accordance with the relevant codes of practice.
DO NOT SCALE OFF ARCHITECTURAL DRAWINGS

REV	DATE	DESCRIPTION
1	10/10/2021	SUBMITTED FOR APPROVAL
2	10/10/2021	SUBMITTED FOR APPROVAL
3	10/10/2021	SUBMITTED FOR APPROVAL
4	10/10/2021	SUBMITTED FOR APPROVAL
5	10/10/2021	SUBMITTED FOR APPROVAL
6	10/10/2021	SUBMITTED FOR APPROVAL
7	10/10/2021	SUBMITTED FOR APPROVAL
8	10/10/2021	SUBMITTED FOR APPROVAL
9	10/10/2021	SUBMITTED FOR APPROVAL
10	10/10/2021	SUBMITTED FOR APPROVAL



STAMP

NOT TO BE USED DURING CONSTRUCTION

PAGE SCALE
A1 | 1:100CLIENT
INFINITY IDEAS PTY LTDPROJECT
RESIDENTIAL FLAT BUILDINGADDRESS
2-4 BOUNDARY ST & 85 RAILWAY ST,
PARRAMATTALOCAL COUNCIL
CITY OF PARRAMATTA COUNCILDRAWING
ELEVATIONS

PROJECT NUMBER
28805

DATE
10/10/2021

DRAWN BY
MT

CHECKED BY
JH











ISSUED FOR
DW

DRAWING NUMBER
2001

SCALE
B

The Owner / Builder Must Read Plans in Conjunction With IDAV and Base Report



WINDOW SCHEDULE					
ID	W1	W2	W3	W4	W5
NAME	W Asewing 15	W Asewing 15	W Asewing 15	W Asewing 15	W Asewing 15
QUANTITY	10	2	37	7	7
HEIGHT	1,800	1,800	1,800	1,800	750
WIDTH	2,400	900	1,200	1,800	2,400
HEAD HEIGHT	2,700	2,700	2,700	2,700	2,700
SILL HEIGHT	900	900	900	900	1,950
PLAN					
ELEVATION					

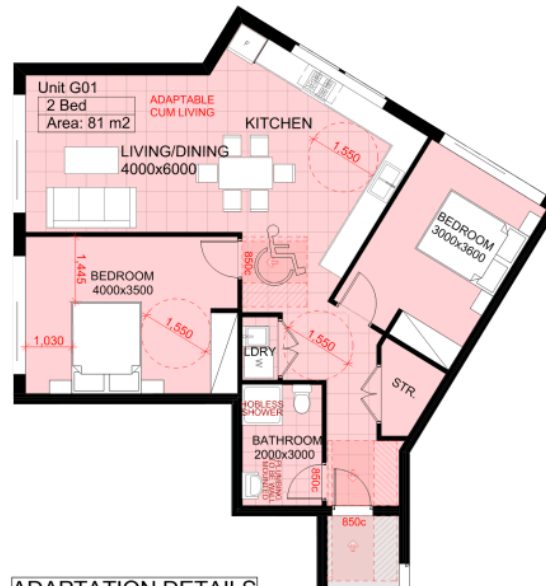
DOOR SCHEDULE									
ID	D1	D2	D3	D4	D5	D6	D7	D8	D9
NAME	(D2 Sliding 15)	(D2 Sliding 15)	(D2 Sliding 15)	(D2 Sliding 15)	(D2 Sliding 15)	(D2 Sliding 15)	(D2 Sliding 15)	(D2 Sliding 15)	(D2 Sliding 15)
QUANTITY	14	5	1	5	4	11	6	6	1
HEIGHT	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700
WIDTH	3,500	2,100	3,200	3,300	2,700	6,000	2,400	3,600	1,700
PLAN									
ELEVATION									

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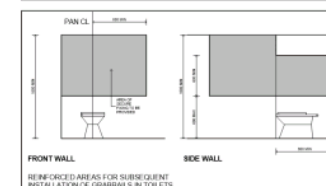
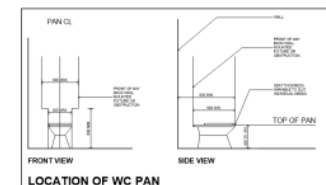
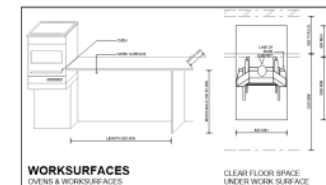
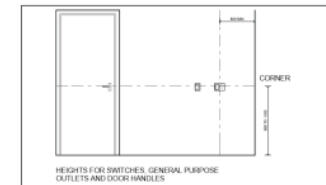
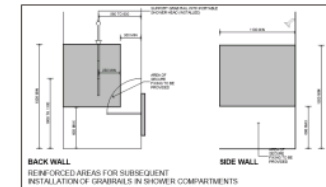


ADAPTABLE HOUSE CLASS C

	DRAWINGS	CLAUSE
	Provision of drawings showing the housing unit in its pre-adaptation and post-adaptation stages	2.3
1	SITING	
	A continuous accessible path of travel from street frontage and vehicle parking to entry complying with AS 1428.1	3.3.2
11	LETTERBOXES IN ESTATE DEVELOPMENTS	
	Letterboxes to be on hard standing area connected to accessible pathway	3.8
14	PRIVATE CAR ACCOMMODATION	
	Carparking space or garage min. area 6.0m x 3.8m	3.7.2
20	ACCESSIBLE ENTRY	
	Accessible entry	4.3.1
22	Accessible entry to be level (i.e. max. 1.40 slope)	4.3.2
23	Threshold to be low level	4.3.2
24	Landing to enable wheelchair manoeuvrability	4.3.2
25	Accessible entry door to have 850mm min clearance	4.3.1
27	Door lever handles and hardware to AS 1428.1	4.3.4
	INTERIOR GENERAL	
32	Internal doors to have 820 mm min clearance	4.3.3
33	Internal corridors min. width of 1000mm	
34	Provision for compliance with AS 1428.1 for door approaches	4.3.7
	LIVING ROOM & DINING ROOM	
36	Provision for circulation space of min 2250mm diameter	4.7.1
38	Telephone adjacent to GPO	4.7.4
41	Potential illumination level min 300 lux	4.10
	KITCHEN	
42	Minimum width 2.7m (1550mm clear between benches)	
43	Provision for circulation at doors to comply with AS 1428.1	4.5.1
44	Provision for benches planned to include at least one worksurface of 800mm length, adjustable in height from 750mm to 850mm or replaceable, refer to Figure 4.8	
45	Refrigerator adjacent to work surface	4.5.5
46	Kitchen sink adjustable to heights from 750mm to 850mm or replaceable	4.5.6
47	Kitchen sink bowl max 150mm deep	4.5.6
48	Tap set capable of lever handles or lever mixer	4.5.6 (e)
49	Tap set located within 300mm of front of sink	4.5.6 (e)
51	Cooktops to include either front or side controls with raised cross bars	4.5.7
52	Cooktops to include isolating switch	4.5.7
53	Worksurface min 800mm length adjacent to cooktop at same height	4.5.7
54	Open located adjacent to an adjustable height or replaceable work surface	4.5.8
59	GPOs to comply with AS 1428.1. At least one double GPO with 300mm of front of work surface	4.5.11
60	GPO for refrigerator to be easily reachable when the refrigerator is in its operating position	4.5.11
61	Slip-resistant floor surface	4.5.14
	MAIN BEDROOM	
62	At least one bedroom of area sufficient to accommodate queen size bed and wardrobe and circulation space requirements of AS 1428.2	4.6.1
	BATHROOM	
75	Provision for bathroom area to comply with as 1428.1	4.4.1
76	Slip-resistant floor surface	4.4.2
77	Shower enclose - no hot. Minimum size 1180 x 1100 to comply with AS 1428.1.	4.4.3
78	Shower area waterproofed to AS 3740 with floor to fall to waste	4.4.4 (f)
79	Recessed soap holder	4.4.4 (f)
80	Shower taps positioned for easy reach to access side of shower sliding track	4.4.4 (f)
82	Provision for adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall-strengthening provision)	4.4.4 (h)
83	Provision for grabrail in shower to comply with AS 1428.1	4.4.4 (h)
85	Tap sets to be capable of lever handles with single outlet	4.4.4 (j)
88	Provision for workbench with clearance to comply with AS 1428.1	4.4.4 (j)
90	Double GPO beside mirror	4.4.4 (d)
	TOILET	
92	Provision of either 'visible' toilet or accessible toilet	4.4.3
93	Provision to comply with AS 1428.1	4.4.1
94	Location of VVC pan at correct distance from fixed walls	4.4.3
95	Provision for grab rail zone.	4.4.4 (h)
96	Slip-resistant floor surface (Vitreous tiles or similar).	4.4.2
	LAUNDRY	
98	Circulation at doors to comply with AS 1428.1	4.8
99	Provision for adequate circulation space in front of or beside appliances (min 1550 mm depth)	4.8
100	Provision for automatic washing machine	4.8 (a)
102	Where clothes line is provided an accessible path of travel to this	4.8 (a)
105	Double GPO	4.8 (g)
108	Slip-resistant floor surface	4.9.1
	DOOR LOCKS	
110	Door hardware operable with one hand, locked 90-1100mm above floor.	4.3.



ADAPTABLE UNITS REQUIRED 10% -	2.5 UNITS
ADAPTABLE UNITS PROVIDED 10% -	3 UNITS
(UNIT G01, UNIT 101, UNIT 201)	

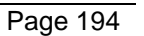


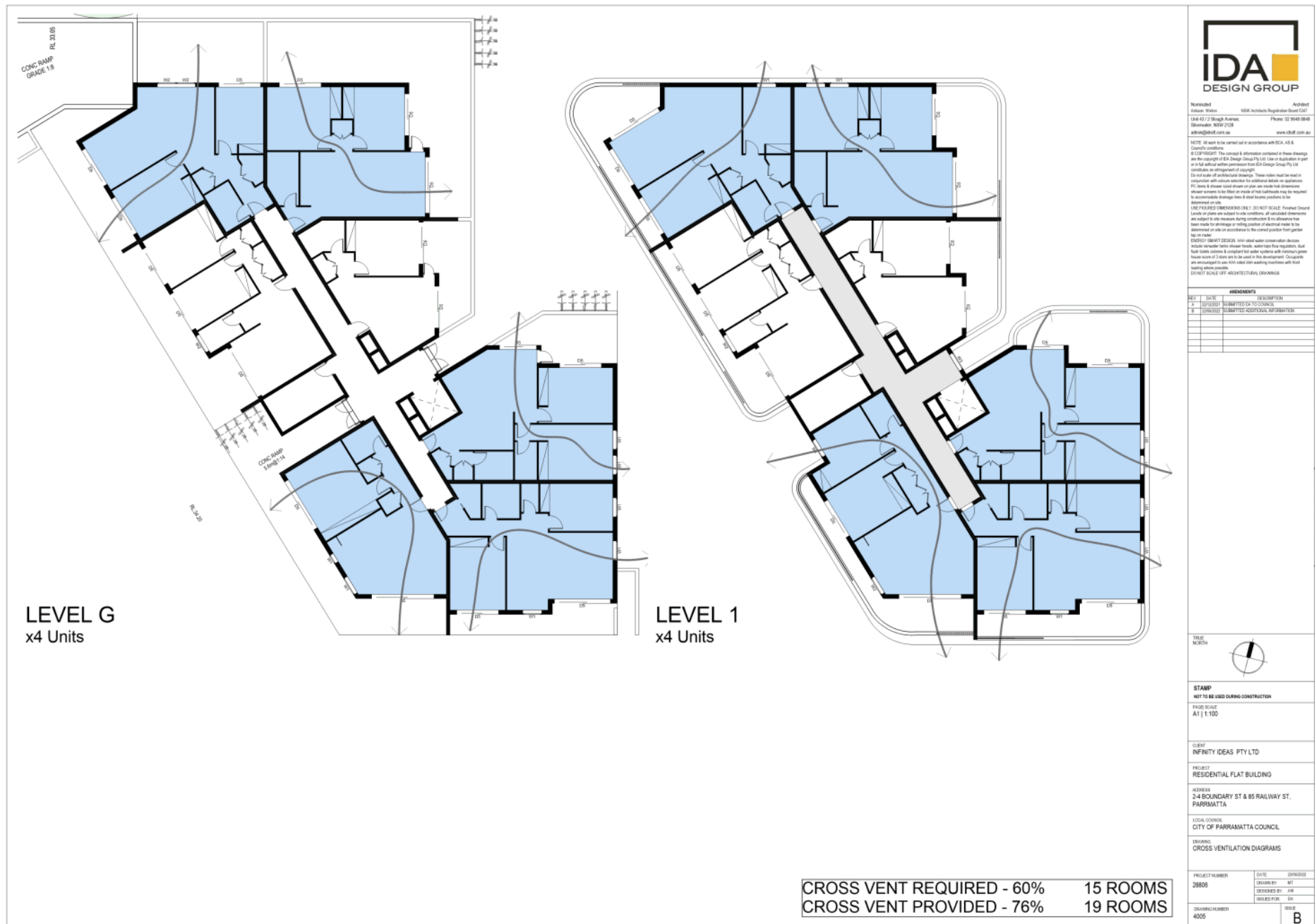


LEVEL 1
x4 Units

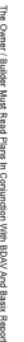
SOLAR ACCESS REQUIRED - 70%	18 ROOMS
SOLAR ACCESS PROVIDED - 76%	19 ROOMS

		Notified Address: Winton	
14414 41 / 2 (Bough Avenue), Breamore, NSW 2108		NSW Architects Registration Board C617 Phone: (02) 9549 3848	
admin@ida.com.au www.ida.com.au			
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DO NOT SCALE OFF ARCHITECTURAL DRAWINGS			
AMENDMENTS			
REV	DESCRIPTION		
1	REVISIONS SUBMITTED TO THE COUNCIL		
2	REVISIONS SUBMITTED FOR INFORMATION		
TRUE NORTH			
			
STAMP NOT TO BE USED DURING CONSTRUCTION			
PAGE SIZE A1 / 11 100			
CLIENT INFINITY DESIGN PTY LTD			
PROJECT RESIDENTIAL PLOT BUILDING			
ADDRESS 2-4 BOUNDARY ST & 85 RAILWAY ST, PARRAMATTA			
LOCAL COUNCIL CITY OF PARRAMATTA COUNCIL			
DRAWING SOLAR DIAGRAMS			
PROJECT NUMBER 28805		DATE 20/06/2012	
DRAWN BY JHE		CHECKED BY JHE	
DRAUGHTING NUMBER 4003		ISSUED FOR EN	











2-4 BOUNDARY STREET & 85 RAILWAY STREET, PARRAMATTA PROPOSED RESIDENTIAL DEVELOPMENT

STORMWATER CONCEPT PLANS

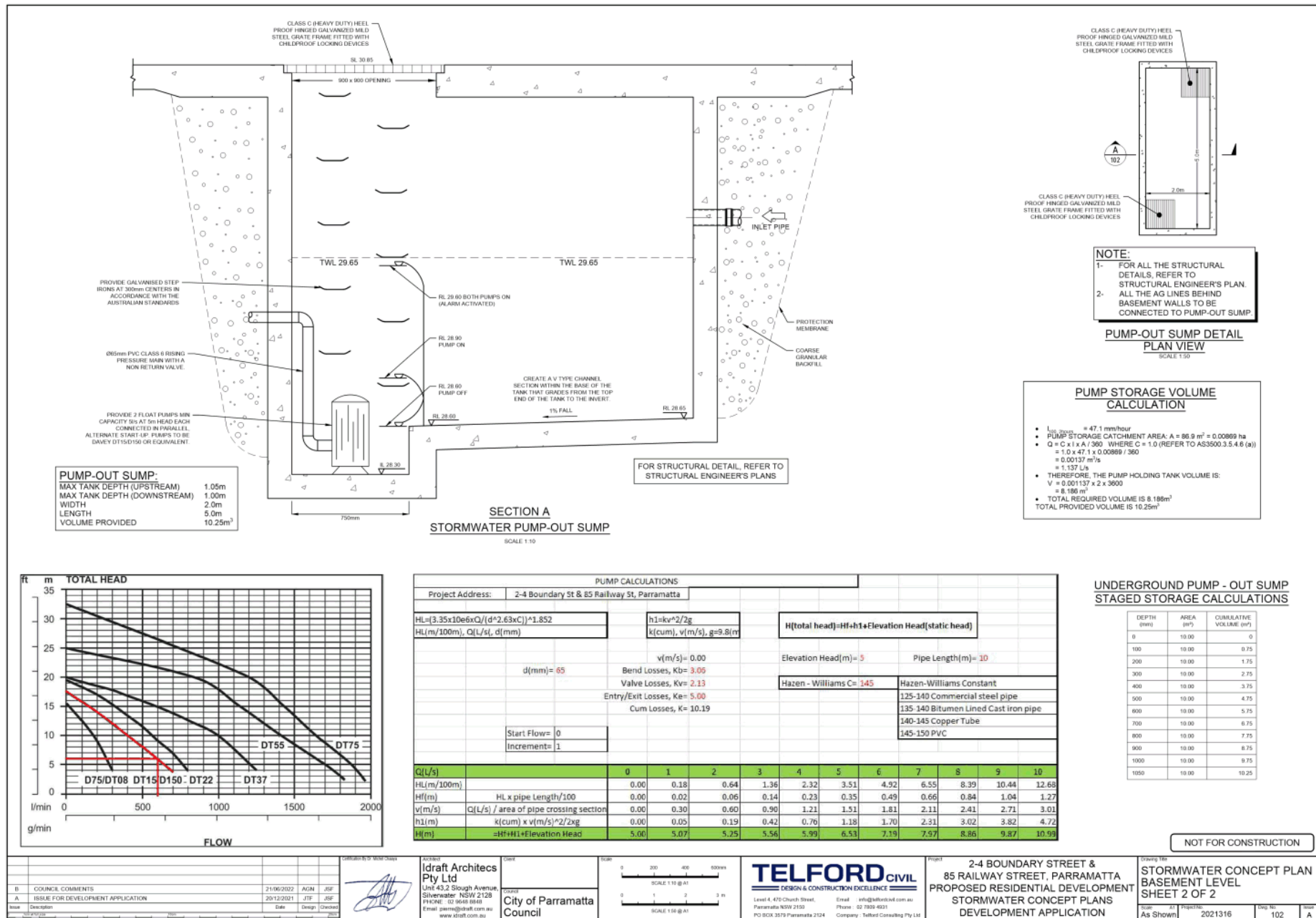


LOCALITY PLAN
N.T.S.

DRAWING INDEX	
Drawing No.	DESCRIPTION
000	COVER SHEET PLAN
101	STORMWATER CONCEPT PLAN BASEMENT LEVEL SHEET 1 OF 2
102	STORMWATER CONCEPT PLAN BASEMENT LEVEL SHEET 2 OF 2
103	STORMWATER CONCEPT PLAN
104	SITE PLAN
105	WSUD CATCHMENT PLAN
106	OSD & WSUD DETAILS & CALCULATIONS SHEET 1 OF 2
107	OSD & WSUD DETAILS & CALCULATIONS SHEET 2 OF 2
108	MISCELLANEOUS DETAILS SHEET

<table border="1"> <tr> <td>B</td> <td>COUNCIL COMMENTS</td> <td>21/06/2022</td> <td>AGN</td> <td>JRF</td> </tr> <tr> <td>A</td> <td>ISSUE FOR DEVELOPMENT APPLICATION</td> <td>20/12/2021</td> <td>JTF</td> <td>JRF</td> </tr> <tr> <td>Issue</td> <td>Description</td> <td>Date</td> <td>Design</td> <td>Checked</td> </tr> </table>				B	COUNCIL COMMENTS	21/06/2022	AGN	JRF	A	ISSUE FOR DEVELOPMENT APPLICATION	20/12/2021	JTF	JRF	Issue	Description	Date	Design	Checked	Prepared By: <i>[Signature]</i> Drafted By: <i>[Signature]</i> Checked By: <i>[Signature]</i>	Project: Unit 43.2 Slough Avenue, Silverwater NSW 2128 PHONE: 02 9645 8468 Email: parram@tdraft.com.au www.tdraft.com.au	Client: City of Parramatta Council	Scale: N.T.S.	TELFORD CIVIL DESIGN & CONSTRUCTION EXCELLENCE Level 4, 470 Church Street, Parramatta NSW 2150 PO BOX 3879 Parramatta 2124 Email: info@telfordcivil.com.au Phone: 02 7899 4931 Company: Telford Consulting Pty Ltd	Project: 2-4 BOUNDARY STREET & 85 RAILWAY STREET, PARRAMATTA PROPOSED RESIDENTIAL DEVELOPMENT STORMWATER CONCEPT PLANS DEVELOPMENT APPLICATION	Drawing Title: COVER SHEET PLAN Scale: N.T.S. Project No: 2021316 Page No: 000 Issue: A
B	COUNCIL COMMENTS	21/06/2022	AGN	JRF																					
A	ISSUE FOR DEVELOPMENT APPLICATION	20/12/2021	JTF	JRF																					
Issue	Description	Date	Design	Checked																					

NOT FOR CONSTRUCTION



WSUD CHAMBER DETAILS

TOTAL SITE AREA = 1753.3m²
 BY PASS AREA = 15.8m²
 SITE AREA DRAINING TO OSD = 1774.4m²

EFFECTIVE DEPTH OF WATER WITHIN FILTRATION CHAMBER:
 0.60 (CARTRIDGE HEIGHT) + 0.08 (HEAD REQUIRED FOR SW 600 CARTRIDGE) = 0.77m
 AREA NEEDED FOR THE FILTRATION CARTRIDGES = 1774.4/0.77 = 2304.4m²
 AREA PROVIDED = 7.0m²

3x600mm PSORB CARTRIDGES PROVIDED - OUTFLOW = 2.79 L/s

OSD ORIFICE DETAILS

PSD (D) = PSD (T) - 4.91 L/s
 = 37.307 - 2.79 = 34.517 L/s
 ORIFICE HEAD = 31.60 - 30.60 = 0.90m NEW ORIFICE DIAMETER = Ø135mm

ORIFICE CALCULATIONS:

$$Q = C \times A \times (2 \times g \times h)^{0.5}$$

$$SO: A = \frac{Q}{C \times \sqrt{2 \times g \times h}}$$

$$= \frac{0.034607}{(0.61 \times \sqrt{2 \times 9.81 \times 0.80})}$$

$$= 0.01432 \text{ m}^2$$

THEREFORE:
 $d = \sqrt{\frac{4 \times A}{\pi}}$
 $= \sqrt{\frac{4 \times 0.01432}{3.14159}}$
 $= 135 \text{ mm}$

GENERAL NOTES

- INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
- IF THE PEAK FLOW RATE AS DETERMINED BY THE SITE CIVIL ENGINEER EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT STORMWATER360 FOR OPTIONS.
- THE FILTER CARTRIDGES ARE SPRING-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH AS3600.
- FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT STORMWATER360 FOR DESIGN OPTIONS.
- ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDE AND PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
- STRUCTURE AND ACCESS COVERS DESIGNED TO MEET AUSTRALASIAN T44 LOAD RATING WITH 0.2m TILL MAXIMUM.
- THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
- ANY BACKFILL, DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
- STORMFILTER BY STORMWATER360.
 STONEY AND PHONE: 020 5025 5803.
 BRISBANE (AU) PHONE: (07) 3272 1872.

CITY OF PARRAMATTA COUNCIL

On-Site Detention Calculation Sheet

Project:	TEL2021316 SW DA	Lot No.:	2
Location:	24 Boundary St & 85 Railway St, Parramatta	D.P. No.:	202700
Designer:	Albert Naseeh	D.A. No.:	
Phone:	02 7809 4931		

OSD Area	Front Lot	UPRGT	UPRGT	UPRGT
Site Area	0.171	0.171	0.171	0.171
Basic Storage Volume	38.56	38.56	38.56	38.56
Basic Discharge	42.14	42.14	42.14	42.14
Area of Site to Storage	0.171	0.171	0.171	0.171
Percentage of Site	95.22	95.22	95.22	95.22
Storage per ha of contributing area	225.79	225.79	225.79	225.79
Volume/PSD Adjustment	219.05	219.05	219.05	219.05
PSD for site	37.40	37.40	37.40	37.40
Maximum Head to Orifice Centre	0.800	0.800	0.800	0.800
Calculated Orifice Diameter	0.135	0.135	0.135	0.135
Maximum discharge	37.307	37.307	37.307	37.307
Head for high early discharge	0.700	0.700	0.700	0.700
High Early Discharge	34.982	34.982	34.982	34.982
Mean Discharge	36.189	36.189	36.189	36.189
Average Discharge per Hectare	211.530	211.530	211.530	211.530
Final Site Storage Ratio	232	232	232	232
Site Storage Volume	39.63	39.63	39.63	39.63
Volume Provided	41.45	41.45	41.45	41.45

Checked By: Joe Frangie
 Date Checked: 21-Jun-22
 OSD Plan Number: 101-107

NOTE:
 USE 135mm ORIFICE DIAMETER. REFER TO ORIFICE CALCULATIONS

StormFilter Flow Calculator - Psorb Media

The equation below defines the relationship between the diameter of the orifice plate, the flow rate through the cartridge and head.

$$Q = \frac{0.111d^2 \sqrt{2.06h^3 \times 0.5}}{60}$$

where d = Restrictor Disc Diameter
 Δh = head

Cartridge Name	PSO
Cartridge Quantity	3
Δh (m)	0.82
Total Q at head	2.79

SYSTEM HYDRAULIC DROP CARTRIDGE FLOW RATE

MUSIC MODEL & RESULTS

N.T.S.

Flow (ML/yr)	Source	Reduction	% Reduction
1.94	1.94	1.94	0
97	97	97	98.4
0.229	0.229	0.0039	99.2
2.43	2.43	1.94	56.1
26.6	26.6	0	100

UNDERGROUND OSD/WSUD TANK DETAIL

PLAN VIEW

SCALE 1:25

STORMFILTER DESIGN TABLE

• STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 80L/S.

• ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 AUSTRALIA UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	SYSTEM HYDRAULIC DROP	TREATMENT BY MEDIA SURFACE AREA L/s/m ²	CARTRIDGE FLOW RATE

City of Parramatta Council

Idraft Architects Pty Ltd
 Unit 43.2 Slough Avenue,
 Silverwater NSW 2128
 PHONE: 02 9640 6468
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 www.idraft.com.au

City of Parramatta Council

TEL FORD CIVIL
 DESIGN & CONSTRUCTION EXCELLENCE

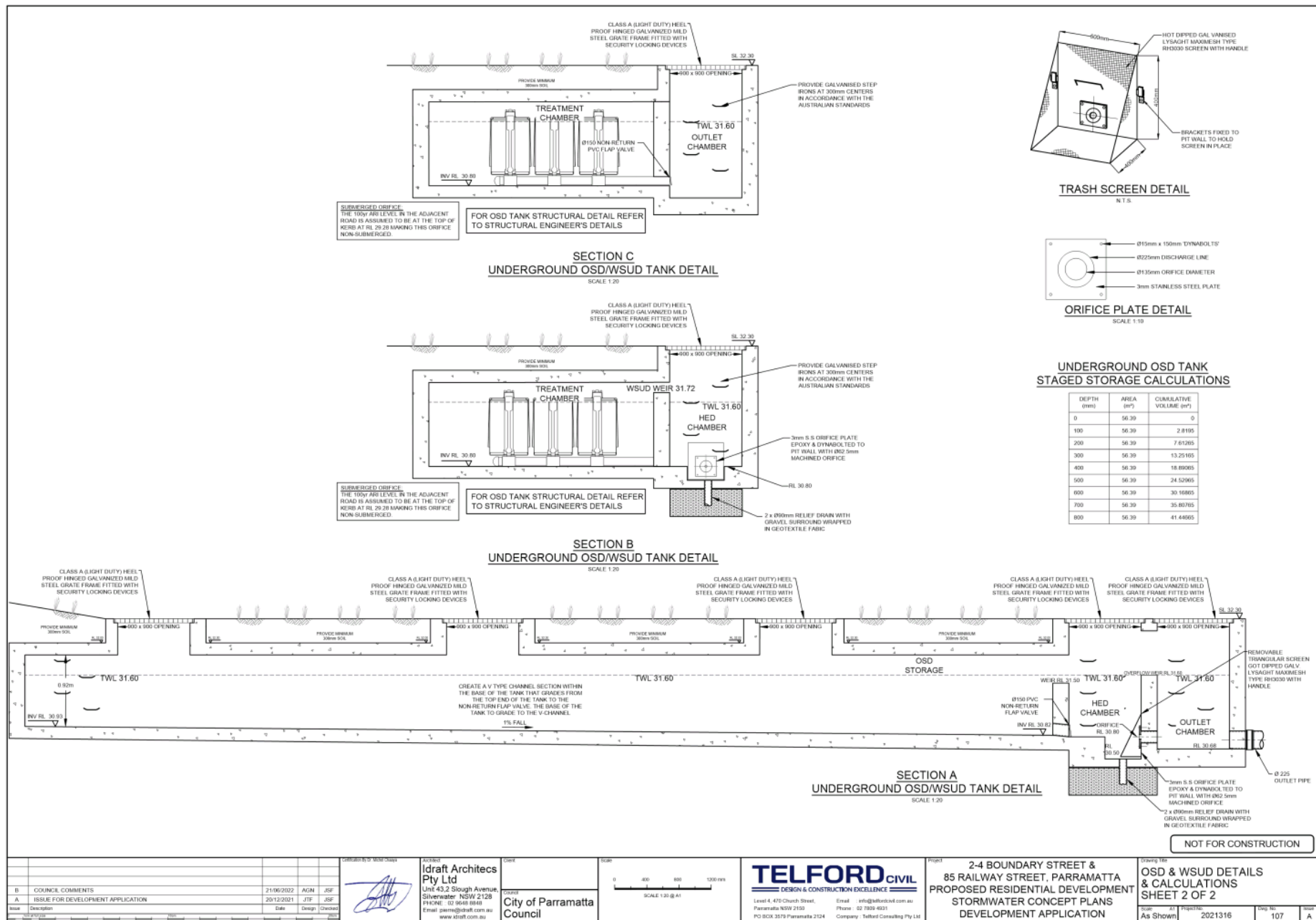
Level 4, 470 Church Street,
 Parramatta NSW 2150
 PHONE: 02 7809 4931
 Company: Telford Consulting Pty Ltd

Project: 2-4 BOUNDARY STREET & 85 RAILWAY STREET, PARRAMATTA
 PROPOSED RESIDENTIAL DEVELOPMENT
 STORMWATER CONCEPT PLANS
 DEVELOPMENT APPLICATION

Drawing Title: OSD & WSUD DETAILS & CALCULATIONS
 SHEET 1 OF 2

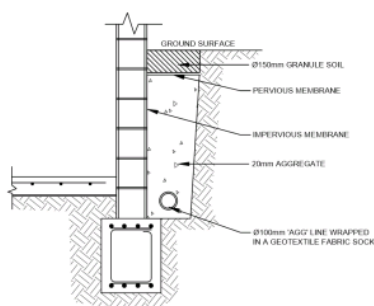
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 Page No: 106
 Sheet: A

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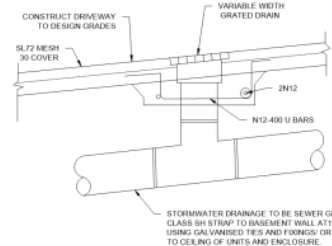


SEDIMENT & EROSION NOTES

1. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO NOMINATE THE LOCATIONS AND TYPES OF SEDIMENT AND EROSION CONTROL MEASURES TO BE ADOPTED. THESE MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CLEARING OR EARTHWORKS AND MAINTAINED UNTIL THE WORKS ARE COMPLETED AND NO LONGER POSE AN EROSION HAZARD, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
2. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO IDENTIFY AND MARK TREES WHICH ARE TO BE PRESERVED. NOTWITHSTANDING THE ABOVE, THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO MINIMISE DISTURBANCE TO EXISTING VEGETATION AND GROUND COVER OUTSIDE THE MINIMUM AREAS REQUIRED TO COMPLETE THE WORKS AND SHALL BE RESPONSIBLE FOR RECTIFICATION, AT ITS OWN COST, OF ANY DISTURBANCE BEYOND THOSE AREAS.
3. PROVIDE GULLY GRATE INLET SEDIMENT TRAPS AT ALL GULLY PITS.
4. PROVIDE SILT FENCING ALONG PROPERTY LINE AS DIRECTED BY SUPERINTENDENT.
5. ADDITIONAL CONTROL DEVICES TO BE PLACED WHERE DIRECTED BY THE PRINCIPLE.
6. ALTERNATIVE DESIGNS TO BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
7. WASH DOWNRUMBLE AREA TO BE CONSTRUCTED WITH PROVISIONS RESTRICTING ALL SILT AND TRAFFICKED DEBRIS FROM ENTERING THE STORMWATER SYSTEM.
8. NO WORK OR STOCKPILING OF MATERIALS TO BE PLACED OUTSIDE OF SITE WORK BOUNDARY.
9. APPROPRIATE EROSION AND SEDIMENT CONTROLS TO BE USED TO PROTECT STOCKPILES AND MAINTAINED THROUGHOUT CONSTRUCTION.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE DUE CARE OF NATURAL VEGETATION. NO CLEARING IS TO BE UNDERTAKEN WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT.
11. TO AVOID DISTURBANCE TO EXISTING TREES, EARTHWORKS WILL BE MODIFIED AS DIRECTED ON-SITE BY THE SUPERINTENDENT.
12. THE LOCATION OF EROSION AND SEDIMENTATION CONTROLS WILL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
13. ACCESS TRACKS THROUGH THE SITE WILL BE LIMITED TO THOSE DETERMINED BY THE SUPERINTENDENT AND THE CONTRACTOR PRIOR TO ANY WORK COMMENCING.
14. ALL SETTING OUT IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO WORKS COMMENCING ON SITE. THE SUPERINTENDENT'S SURVEYOR SHALL PEG ALL ALLOTMENT BOUNDARIES, PROVIDE COORDINATE INFORMATION TO THESE PEGS AND PLACE BENCH MARKS. THE CONTRACTOR SHALL SET OUT THE WORKS FROM AND MAINTAIN THESE PEGS.
15. PLANS ARE MINIMUM REQUIREMENTS AND ARE TO BE USED AS A GUIDE. ONLY EXACT MEASURES USED SHALL BE DETERMINED ON SITE IN CONJUNCTION WITH PROGRAM OF CONTRACTOR'S WORKS etc.

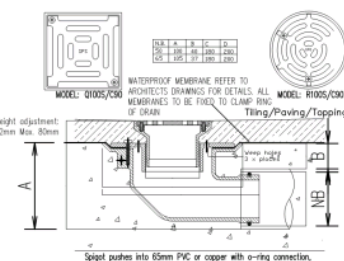
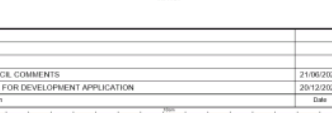


TYPICAL SUBSOIL DRAIN
N.T.S.

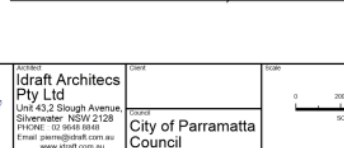


TYPICAL OceanGuard SURFACE PIT CONFIGURATION SECTION
N.T.S.

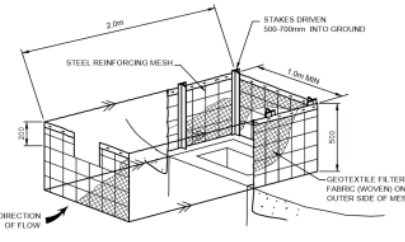
GRADED DRAIN DETAIL
N.T.S.



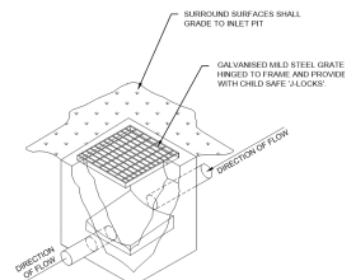
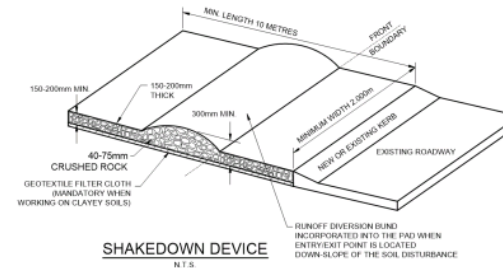
TYPICAL CAST IN FLOOR WASTE/RAINWATER OUTLET
N.T.S.



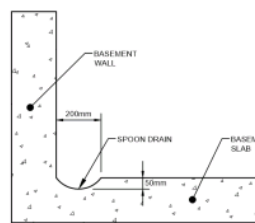
FIELD INLET SEDIMENT TRAP
N.T.S.



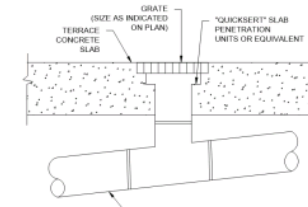
SHAKEDOWN DEVICE
N.T.S.



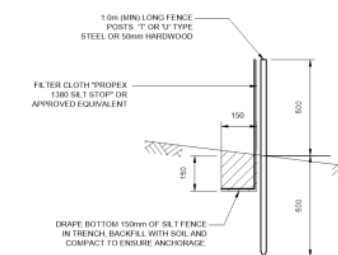
TYPICAL GRATED INLET PIT DETAIL
N.T.S.



SPOON DRAIN SECTION DETAIL
SCALE 1:10



RAINWATER OUTLET DETAIL
N.T.S.



SILT FENCE DETAIL
N.T.S.

SILT FENCE NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS.
2. POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.
4. FOR EXTRA STRENGTH TO SILT FENCE, WOVEN WIRE (14mm GAUGE, 150mm MESH SPACING) TO BE FASTENED SECURELY BETWEEN FILTER CLOTH AND POSTS BY WIRE TIES OR STAPLES.
5. INSPECTIONS SHALL BE PROVIDED ON A REGULAR BASIS, ESPECIALLY AFTER RAINFALL, AND EXCESSIVE SILT DEPOSITS REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.
6. SEDIMENT FENCES SHALL BE CONSTRUCTED WITH SEDIMENT TRAPS AND EMERGENCY SPILLWAYS AT SPACINGS NO GREATER THAN 40m ON FLAT TERRAIN DECREASING TO 20m SPACINGS ON STEEP TERRAIN.

NOT FOR CONSTRUCTION

Rev	Description	Date	Design	Checked
B	COUNCIL COMMENTS	21/06/2022	AGN	JRF
A	ISSUE FOR DEVELOPMENT APPLICATION	20/12/2021	JTF	JRF

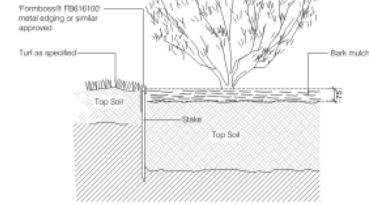
Prepared by: Idraft Architects Pty Ltd Unit 43.2 Slough Avenue, Silverwater NSW 2128 PHONE: (02) 9440 8468 Email: parram@idraft.com.au www.idraft.com.au	Client: City of Parramatta Council
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Scale: 0 200 400 600mm SCALE 1:10 @ A1

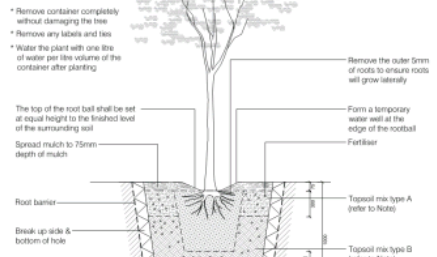
TELFORD CIVIL DESIGN & CONSTRUCTION EXCELLENCE Level 4, 470 Church Street, Parramatta NSW 2150 PO BOX 3878 Parramatta 2124 Email: info@telfordcivil.com.au Phone: 02 7899 4931 Company: Telford Consulting Pty Ltd
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Project: 2-4 BOUNDARY STREET & 85 RAILWAY STREET, PARRAMATTA PROPOSED RESIDENTIAL DEVELOPMENT STORMWATER CONCEPT PLANS DEVELOPMENT APPLICATION

Drawing Title: MISCELLANEOUS DETAILS SHEET
Scale: As Shown
Project No: 2021316
Page No: 108
Issue: A



TYPICAL DETAIL 02: metal edging scale: 1:10

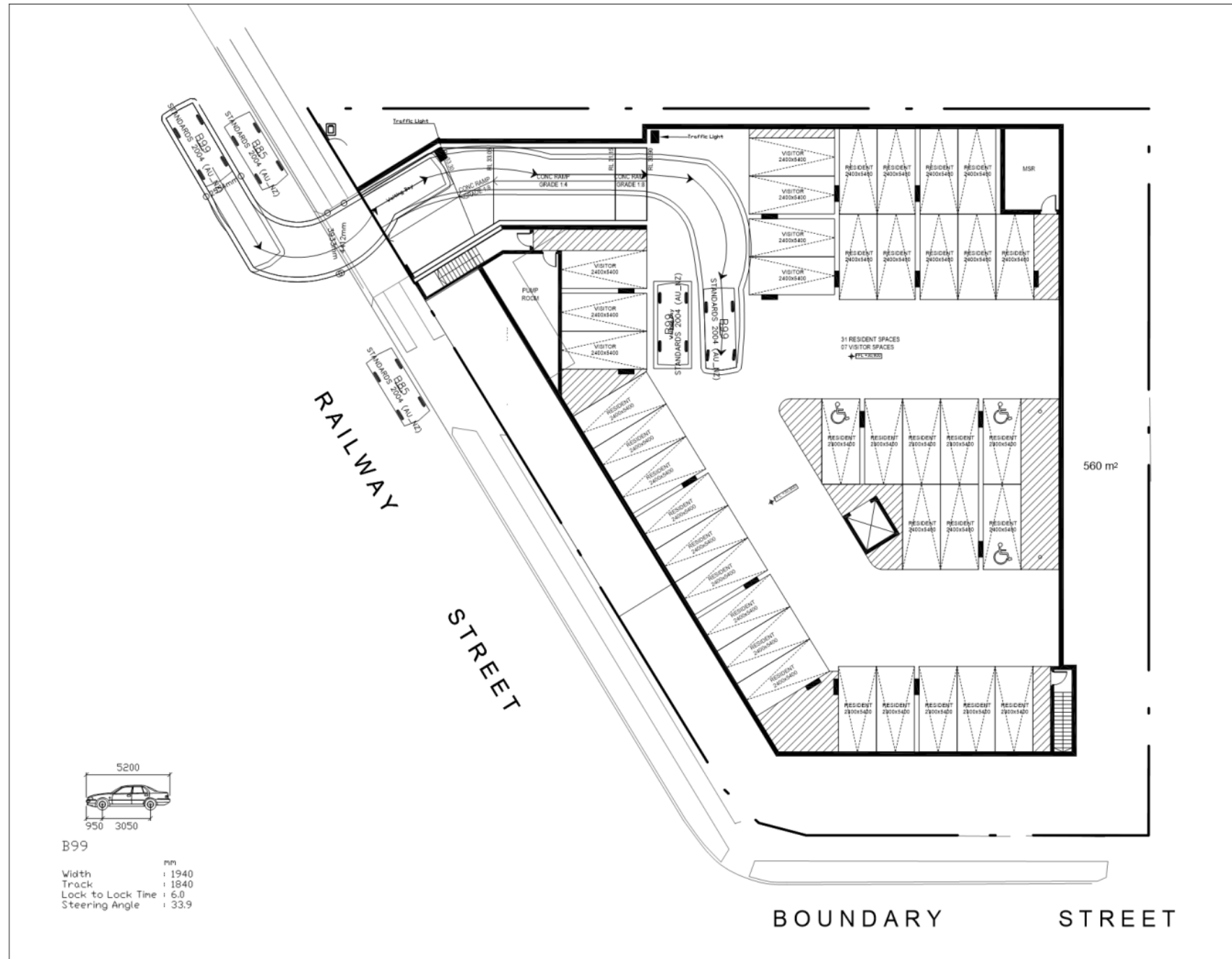


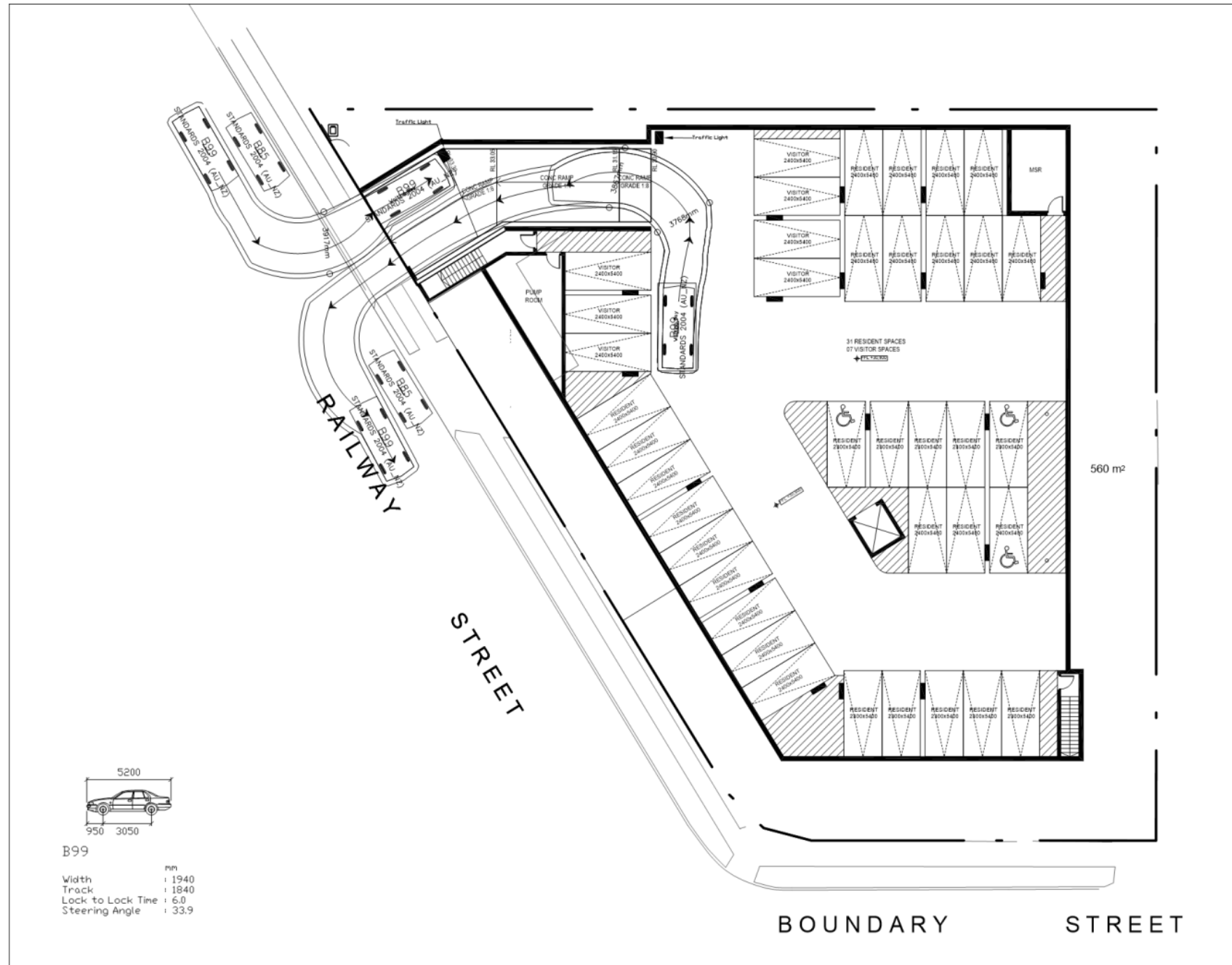
TYPICAL DETAIL 03: tree planting scale: 1:20

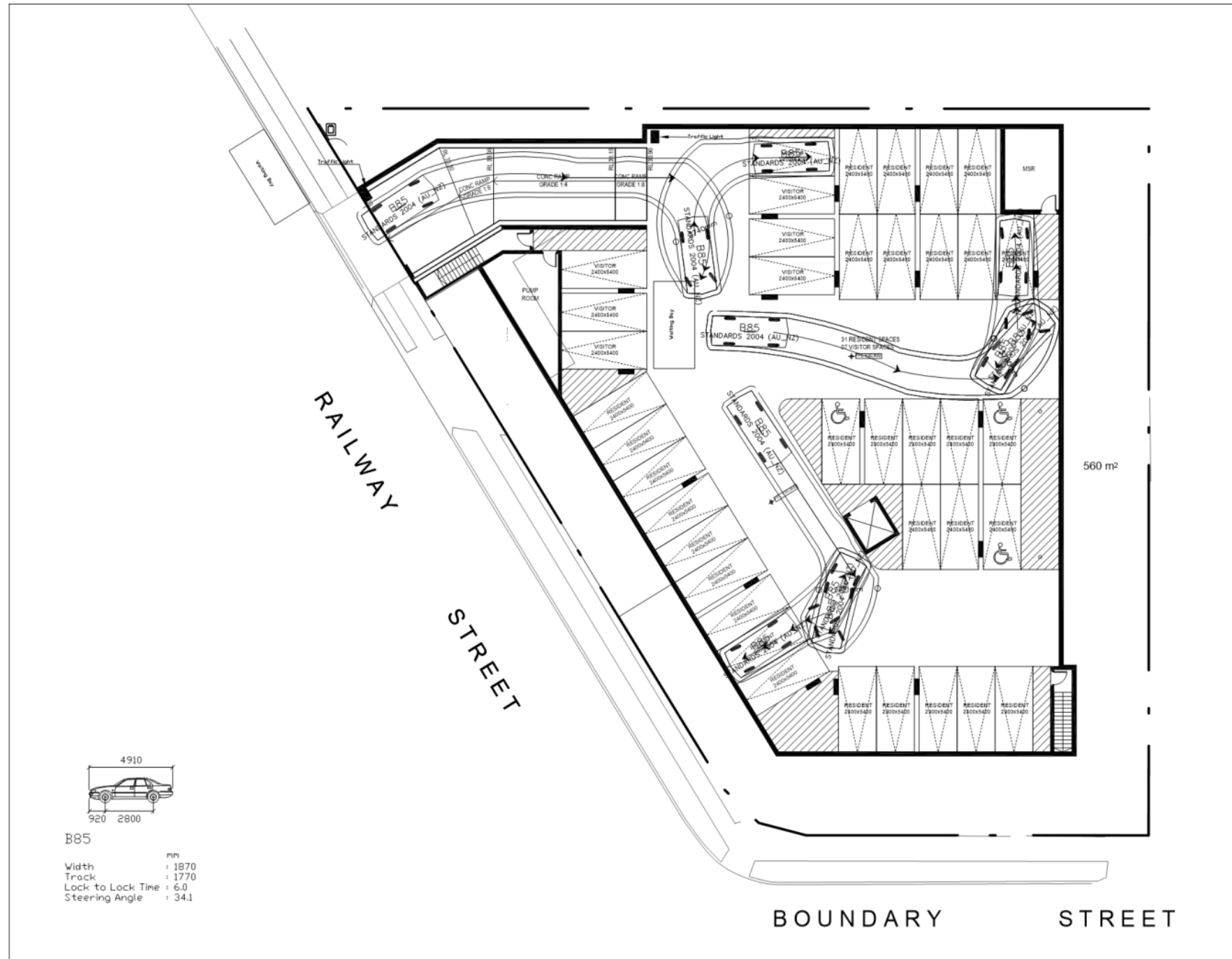
[illegible][illegible]

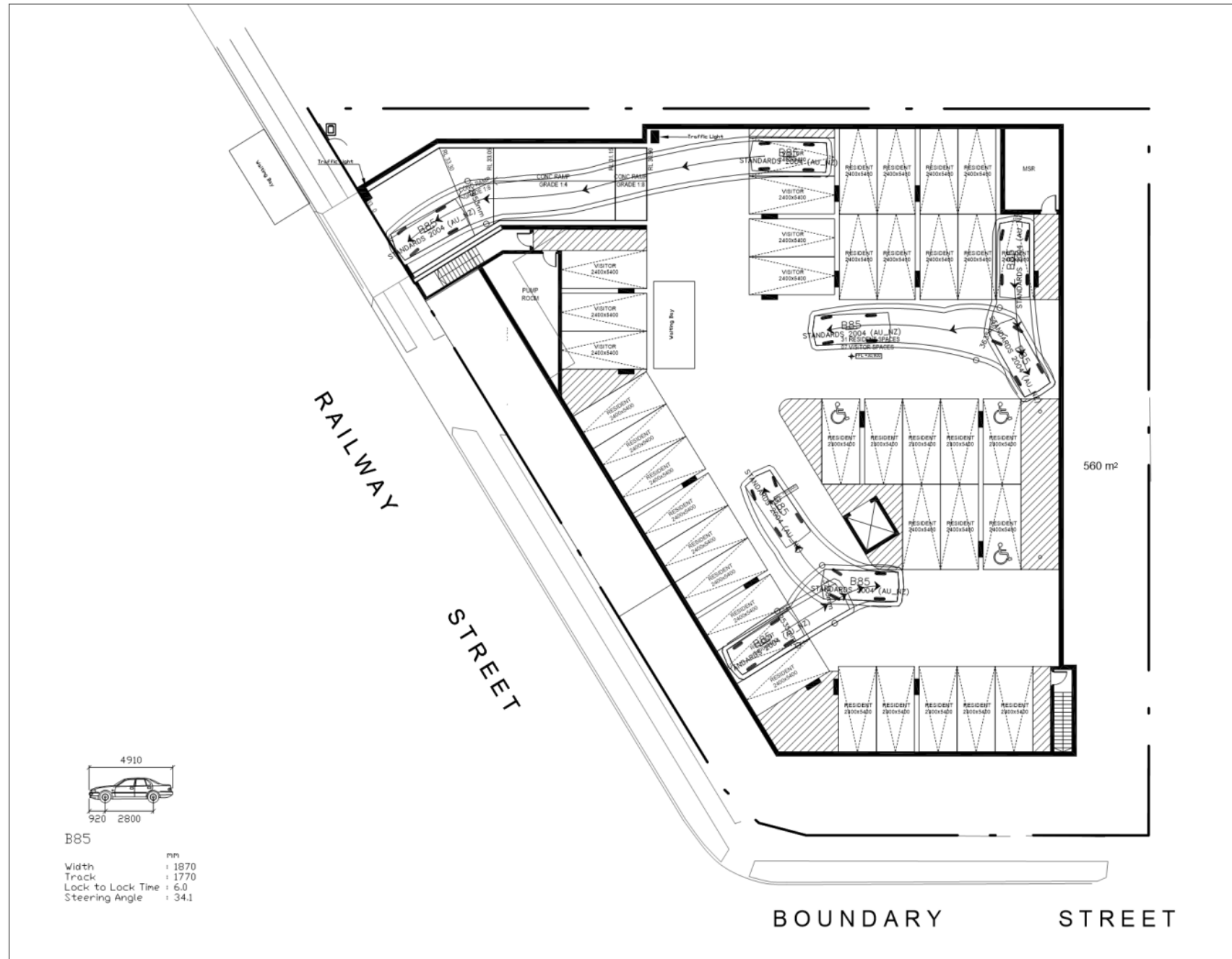
CODE	BOTANICAL NAME	COMMON NAME	POT SIZE	MATURE HEIGHT	NO.
ACCENT PLANTS					
Aga	<i>Senecio divaricatus</i>	Century Plant	200mm	1.5m	10
Cac	<i>Cordyline australis</i> 'Cabanetti'	Cordylines Cabanetti	200mm	1.2m	12
Cpl	<i>Cordyline lineata</i> 'Joy	Phm Joy Cordylines	100mm	1.2m	4
Phib	<i>Phormium tenax</i> 'Bicolor Baby	Bicolor Baby Phm	200mm	0.8m	8
Sld	<i>Shadea sagittata</i> dwarf	Dwarf Bird of Paradise	200mm	0.8m	13
TURF GRASS					
As noted	<i>Eleocharis acicularis</i>	Sea Water Eleocharis	nat		17/m2

A 3x15 grid of 45 small images showing various landscape design elements. The images include: trees, shrubs, flowers, garden beds, water features, and architectural elements. The images are arranged in three rows and fifteen columns, showcasing a wide variety of plants and garden features.











Statement of Environmental Effects

2-4 BOUNDARY STREET &
85 RAILWAY STREET,
PARRAMATTA

19 DECEMBER 2021



QUALITY ASSURANCE	
PROJECT:	Statement of Environmental Effects: Residential Flat Building
ADDRESS:	2-4 Boundary Street & 85 Railway Street, Parramatta
LOT/DP:	Lot 2 DP 298048, Lot 6 DP 16496 & Lot 1 DP 202700
COUNCIL:	City of Parramatta
AUTHOR:	Think Planners Pty Ltd

Document Management		
Prepared by:	Purpose of Issue:	Date:
Sean Riddell	Draft Issue	15 December 2021
Sean Riddell	Final Issue	16 December 2021
Reviewed by:	Purpose of Issue:	Date:
Jonathon Wood	DA Issue	19 December 2021

Integrated Development (under S4.46 of the EP&A Act). Does the development require approvals under any of the following legislation?

Coal Mines Subsidence Compensation Act 2017	No
Fisheries Management Act 1994	No
Heritage Act 1977	No
Mining Act 1992	No
National Parks and Wildlife Act 1974	No
Petroleum (Onshore) Act 1991	No
Protection of the Environment Operations Act 1997	No
Roads Act 1993	No
Rural Fires Act 1997	No
Water Management Act 2000	No

Concurrence	
SEPP 64- Advertising and Signage	No
SEPP Coastal Management 2018	No
SEPP (Infrastructure) 2007	No
SEPP (Major Development) 2005	No
SREP (Sydney Harbour Catchment) 2005	No

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EXECUTIVE SUMMARY

This Statement of Environmental Effects has been prepared in support of a Development Application for the demolition of existing structures, lot consolidation and the construction of a four (4) storey residential flat building (RFB) at 2-4 Boundary Street & 85 Railway Street, Parramatta.

Background

In 2014 a development application was approved for a 3 storey RFB on the development site. DA/573/2014 approved the following on the site; *Demolition, tree removal and construction of a 3 storey residential flat building containing 18 units over a basement car park.*

In late 2017 the building height and floor space ratio maps of the Parramatta Local Environmental Plan 2011 were amended. The amendment resulted in the following changes;

- Building height: Increase from 11m to 14m
- Floor space ratio: 0.8:1 to 1.2:1.

As a result of the changes to the building height and floor space ratio, a new development application has been prepared for the subject site, which provides an additional storey (4 storeys) and an additional 7 units (25 units total).

The proposal incorporates a total of 25 dwellings with basement parking level for 39 vehicles.

The key aspects of the proposal are as follows:

Residential Units:

A total of 25 residential dwellings with the following mix:

- 3 x 1-bedroom units;
- 19 x 2-bedroom units; and
- 3 x 3-bedroom units.

Parking:

The development proposal includes a total of 39 x car parking spaces within basement level, comprising of;

- 32 residential spaces; and
- 7 visitor spaces.

Situated in-between Parramatta City Centre (1.3km north east) and Merrylands City Centre (1.2km south west), the subject site is located on the intersection of Boundary Street and Railway Street, approximately 700m west of Auto Alley. Bus stops with regular services to Parramatta and Liverpool (802, 904 & 806) are located within a 400m radius of the subject site.

The proposed development is situated within a residential block that is bound by Railway Street to the west, Rosehill Street to the north, Boundary Street to the south and Denison Street to the east. The residential block is zoned R4 High Density Residential under the recently gazetted Parramatta Local Environmental Plan 2011, with *“Residential Flat Buildings”* permissible with consent within the R4 Zone.

The development site is an irregular shaped corner allotment comprising of three separate allotments with a total site area of 1,789.50m², with a dwelling currently located on each lot. The proposed four storey residential flat building has been designed to comply with key planning requirements, including building height, FSR, and communal open space.

Situated within an established residential block, the built form is characterised by low density residential dwellings of mixed age and architectural style. The locality has been earmarked for greater intensification of its built form by virtue of its R4 Zoning and over the next 5-10 it is expected that the subject block will undertake a transition from low density to high density.

The development seeks to utilise the land in accordance with the zoning and take advantage of its proximity to public transport and services. The subject site is going to play an important role in the renewal processes by setting the design standard and tone for the future character and built forms within the subject residential block. The amalgamation of the three land parcels will permit an orderly development of the site whilst significantly contributing towards increasing the housing stock and housing choice within Parramatta.

Having regard to the benefits of the proposal and taking into account the absence of adverse environmental, social or economic impacts, and that the proposal represents an appropriate use of well-located land; the application is submitted to Council for assessment.



SITE AND CONTEXT

LEGAL DESCRIPTION

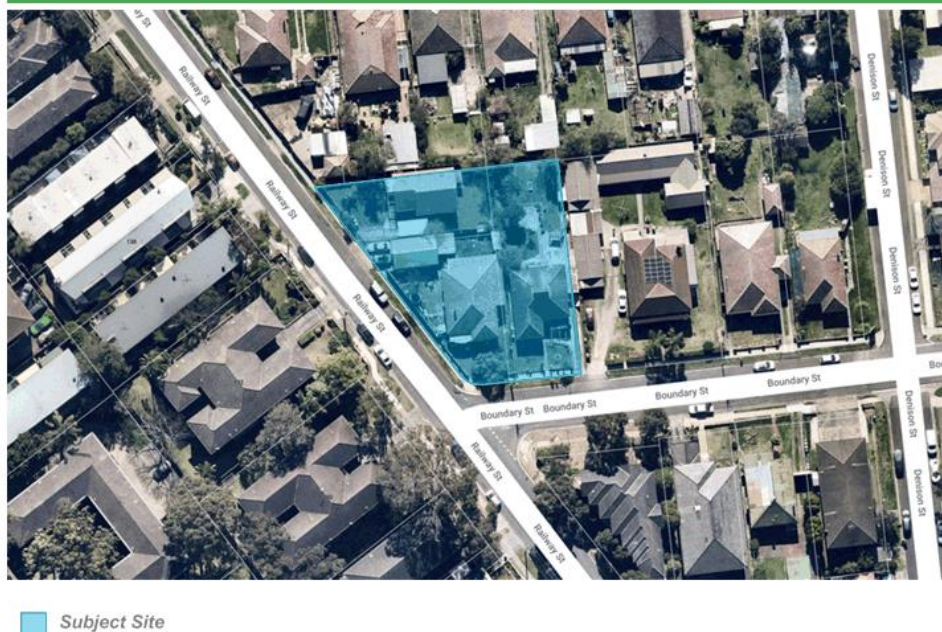
The subject site is legally described as Lot 2 DP 298048, Lot 6 DP 16496 & Lot 1 DP 202700, though is more commonly known as 2-4 Boundary Street & 85 Railway Street, Parramatta.

SUBJECT SITE

The subject site is a regular shaped corner land parcel located on the intersection of Boundary Street and Railway Street and is situated approximately 700m west of Auto Alley. Bus stops with regular services to Parramatta and Liverpool (802, 904 & 806) is located within a 450m radius of the subject site. The site comprises of three (3) separate allotments and once consolidated will have a total site area of 1,789.50m². The site has a cross-fall of 2m fall from the north eastern section to the site towards Railway Street.

An aerial photograph is provided below for context of the subject site.

Figure 1: Aerial Map Extract of the Subject Site (Source: Near Maps).



Residing in-between Parramatta City Centre (1.3km north east) and Merrylands City Centre (1.2km south west), the development site is located within an established residential area comprising predominantly of low density residential dwellings of mix ages and architectural styles. The subject site currently accommodates three single storey residential dwellings that are to be demolished as part of the proposal. The dwellings are in a reasonable condition; however they are significantly underutilising the sites full development potential given the R4 High Density Residential Zone permits higher density residential development such as residential flat buildings.

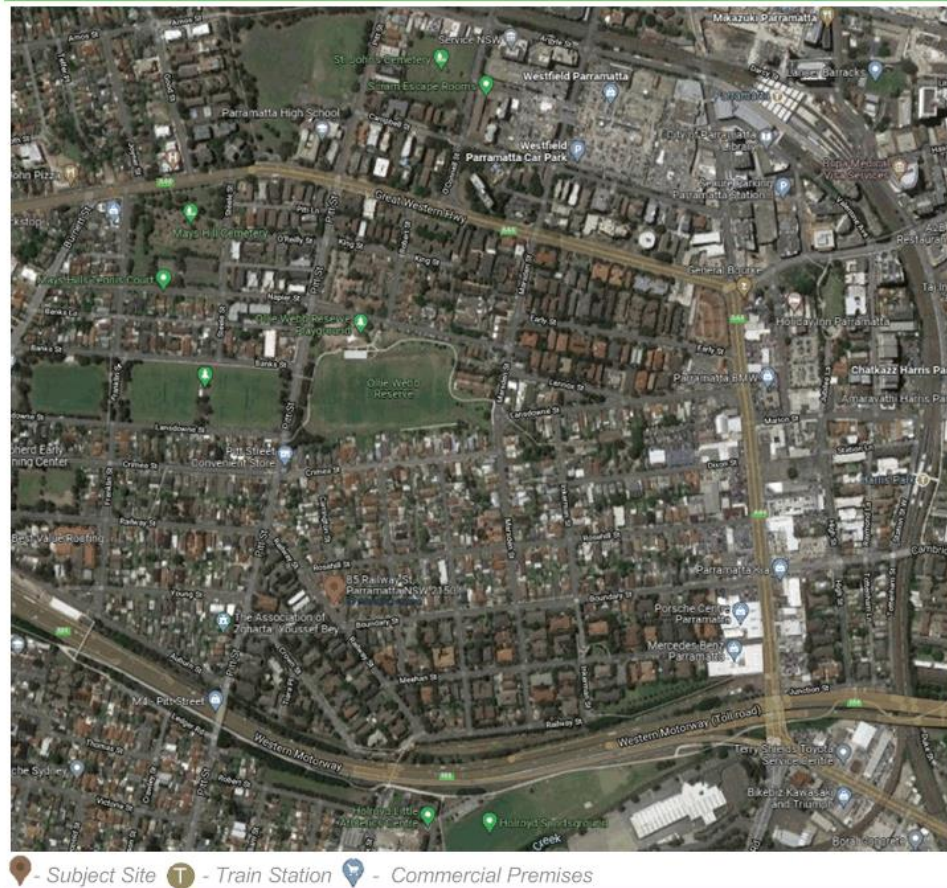
The subject site resides within an established residential block that bounds the Railway Street to the west, Rosehill Street to the north, Boundary Street to the south and Denison Street to the east.

Currently the predominant land use within the subject residential block is older style low density residential dwellings of mixed ages and architectural styles, with a mix of older style and recently constructed modern residential flat buildings concentrated along the western side of Railway Street. The subject area is zoned R4 High Density Residential and as such has been earmarked for renewal with Council supporting higher forms of land uses within the area. With the current demand for housing within close proximity to essential services and public transport, it is expected that the remaining stock of low density housing will be redeveloped for higher densities over the next 5-10 years.

The Sydney Metropolitan Strategy supports higher residential development in strategic locations to accommodate future population growth, and Parramatta City Council has zoned the subject site as R4 – High Density Residential, which permits higher density residential development. The subject site is ideal to accommodate future high density development as it is within close proximity to both Parramatta Town Centre and Merrylands Town Centre, public transportation and recreational opportunities. The proposal is also located near key arterial roads such as Pitt Street and Great Western Highway. An aerial photograph demonstrating the sites location in the broader locality is provided below in the following page.



Figure 2: Aerial Map Extract of the Subject Area (Source: Google Maps).



ZONING CONTROL

The subject site is zoned R4 High Density Residential with a height limit of 14m and maximum floor space ratio of 1.2:1 under the Parramatta Local Environmental Plan 2011. An extract of the mapping is provided later in this report.

With the current demand for housing near public transportation, services, employment hubs and recreational opportunities and considering the locality's R4 zoning which permits high density development, it is expected that the subject area will experience a transformation of its dwelling stock towards high density housing.

The development seeks to utilise the land in accordance with the zoning and take advantage of its proximity to Parramatta Town Centre, public transportation, schools, jobs and recreational opportunities.

Photographs are provided in the following pages that give context to the locality and also the relationship of the development site with adjoining developments.

Photograph 1: Shows the existing subject site as viewed from the intersection of Railway Street and Boundary Street.



Photograph 2: Shows the streetscape of Boundary street, viewing eastwards.



Photograph 3: Shows the streetscape of Railway Street, viewing northwards.



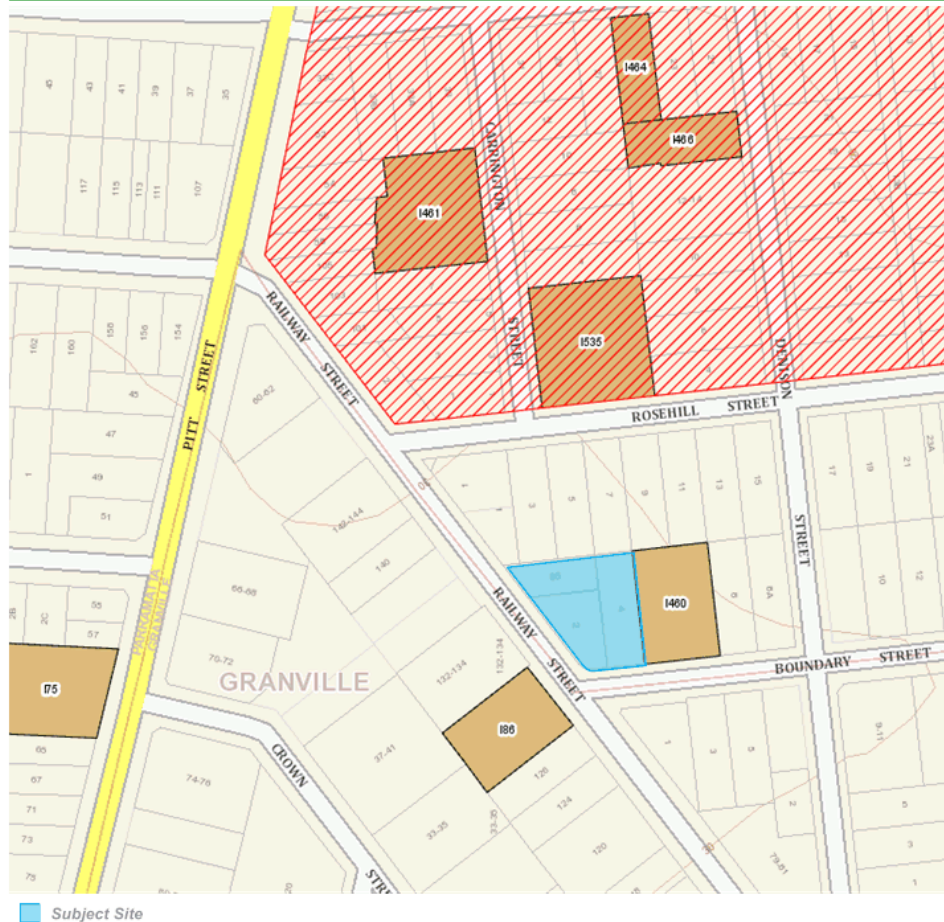
Photograph 4 Shows the streetscape of Railway street, viewing southwards.



HERITAGE

The site is not identified as a heritage item, however there is one heritage item (I460) located adjacent the subject site. This is illustrated by heritage extract map below.

Figure 4: Heritage Map Extract (Source: Parramatta LEP 2011).



Photographs are provided below, noting that the building is in a poor state of repair and the extent of outbuildings in the vicinity mean that the significance of the item is degraded.

Photograph 5 Shows the heritage building located adjacent to the development site.



The proposal has been designed to provide appropriate separation to the item and it is noted that a 3 storey RFB was approved on the development site (DA/573/2014) and council indicated that they had no objections to the approved application from a heritage perspective.

In particular the physical separation is substantial as the adjoining item is a double block with the home approximately 11.5m from the common boundary and therefore, approximately 16.2m from the closest part of the residential flat building. Therefore, the proposal is considered acceptable from a heritage perspective.

DESCRIPTION OF PROPOSAL

This Statement of Environmental Effects has been prepared in support of a Development Application for the demolition of existing structures, lot consolidation and the construction of a four (4) storey residential flat building (RFB) at 2-4 Boundary Street & 85 Railway Street, Parramatta.

The proposal incorporates a total of 25 dwellings with basement parking level for 39 vehicles.

The key aspects of the proposal are as follows:

Residential Units:

A total of 25 residential dwellings with the following mix:

- 3 x 1-bedroom units;
- 19 x 2-bedroom units; and
- 3 x 3-bedroom units.

Parking:

The development proposal includes a total of 39 x car parking spaces within basement level, comprising of;

- 32 residential spaces; and
- 7 visitor spaces.

A brief description of the various aspects of the development is provided below.

Level	Inclusions
Basement	<p>39 car parking spaces, comprising of 32 residential car parking spaces and 7 visitor car parking space. The proposal also includes 3 disabled car parking spaces.</p> <p>15 bicycle spaces.</p> <p>Lift core and 2 x stair wells.</p> <p>Vehicular driveway and ramp to Railway Street, located at the north western section of the site.</p>
Ground Floor	<p>The ground floor accommodates a pedestrian pathway located at the centre of the site via Boundary Street that provides direct access to lobby area. The lobby provides access to the ground floor units, stairwell and lift cores. A bin storage area is provided within a screened room. A COS area is provided at the rear of the building (453m²).</p>

	4 bicycle spaces.
	Each unit is provided with a kitchen, laundry, living area, dining area, and courtyard that are generally accessed from living areas.
	3 x 1 bedroom unit with courtyard (including 3 accessible units).
	4 x 2 bedroom units with courtyard.
	Access to the basement level via a driveway and ramp located in the north western section of the site.
Levels 1- 3	Each unit is provided with a kitchen, laundry, living area, dining area and balconies that are generally accessed from living areas.
	The levels are provided with landscape planters.
	5 x 2 bedroom unit with balcony (total 2 bedroom units 15).
	1 x 3 bedroom unit with balcony (total 3 bedroom units: 3).
	Lobby area with lift core and stair well.

The proposal also incorporates a number of ancillary elements, including detailed landscape embellishment works and relevant drainage elements as shown on the submitted plans.

The relevant architectural plans for the proposal have been prepared by IDA Design Group, while supporting reports have been prepared by relevant sub consultants. The proposal development incorporates contemporary architectural aesthetics that aims to not only provide a visual prominent site but to set the tone and scale for future high density development within the subject block.

Design consideration has been given to the scale, size and form of the proposal in relation to the unique characteristics of the site, adjoining residences and existing and future desired character of the area. Design consideration has also been given to residential amenity including aspects such as privacy and solar access for both future residents of the proposal and those of surrounding properties.

PLANNING CONTROLS

STATUTORY CONTROLS

The relevant Statutory Planning Controls include: -

- State Environmental Planning Policy (BASIX)- 2004
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy – (Vegetation in Non-Rural Areas) 2017
- State Environmental Planning Policy No. 65 – Apartment Design Guide Controls; and
- Parramatta Local Environmental Plan 2011.

POLICY CONTROLS

The applicable policy control documents are: -

- Parramatta Development Control Plan 2011



CONSIDERATION OF PLANNING CONTROLS

The following summarises the relevant planning controls in relation to the proposal and the compliance of each.

STATE ENVIRONMENTAL PLANNING POLICY (BASIX) 2004

The application has been assessed and is accompanied by a complying BASIX certificate demonstrating a commitment to thermal and water efficiency and aligning with the provisions of the SEPP.

STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

In accordance with clause 45, it is not anticipated that Council will refer the application to an electricity supply authority as works will not occur within 5m of an exposed overhead electricity power line.

In accordance with clause 86, the application is not required to be referred to Trains NSW as the proposal is not in the vicinity of rail infrastructure. Given the distance from Rail infrastructure and in accordance with clause 87, an acoustic and vibration report is not required to be prepared.

The development site is not located within proximity to a classified road and as a result it is not necessary to consider the provisions of Clause 102 of the SEPP that requires a consent authority to consider the impact of arterial roads on buildings used for residential purposes.

Clause 104 identifies a number of types of development that require concurrence from Roads and Maritime Services where development is identified as 'traffic generating development'. The current proposal is not identified as traffic generating development as the site does not trigger the threshold requirements. Therefore, concurrence from the RMS is not required.

STATE ENVIRONMENTAL PLANNING POLICY NO. 55 – REMEDIATION OF LAND

Clause 7 of SEPP 55 provides:

(1) A consent authority must not consent to the carrying out of any development on land unless:

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Given the historical use of the site for urban purposes, land contamination is not likely. Further investigation and reporting under SEPP 55 is not considered necessary given the residential use of the site, no indication of potentially contaminated materials on the site and the approved development application on the site.

Council can be satisfied that the provisions of Clause 7 of the SEPP is satisfied. If any contaminated material or suspected contaminated material is unearthed during the construction process then actions consistent with the legislative requirements and guideline document will be undertaken.

STATE ENVIRONMENTAL PLANNING POLICY – (VEGETATION IN NON-RURAL AREAS) 2017

State Environmental Planning Policy (Vegetation in Non-Rural Areas) was introduced in August 2017. This SEPP seeks to protect the biodiversity values of trees and other vegetation in non-rural areas of the state, and to preserve the amenity of non-rural areas of the State through the appropriate preservation of trees and other vegetation.

The development proposes appropriate landscape embellishment works within a residential context undertaken in accordance with the attached Landscape Plan.

STATE ENVIRONMENTAL PLANNING POLICY NO. 65 – DESIGN QUALITY OF RESIDENTIAL FLAT DEVELOPMENT

A description of compliance with the applicable development controls such as setbacks, building depth, separation, height, etc. is provided in the local planning controls discussion and tables below. It is noted a Design Verification Statement by Adriaan Winton has been prepared.

An assessment against the relevant objectives and design guidelines contained in parts 3 and 4 of the Architectural Design Guide can be found below.

Clause 6A of the amended SEPP states that development control plans cannot be inconsistent with the Apartment Design Guide for the following matters set out in parts 3 and 4 of the guide:

- (a) visual privacy,
- (b) solar and daylight access,
- (c) common circulation and spaces,
- (d) apartment size and layout,
- (e) ceiling heights,
- (f) private open space and balconies,

(g) natural ventilation,

(h) storage.

The SEPP states that if a development control plan contains provisions that specify requirements, standards or controls in relation to a matter to which clause 6A applies, those provisions are of no effect.

The table below provides a detailed discussion against the relevant provisions of the Apartment Design Guide, noting that a number of these provisions are embodied within the Parramatta Local Environmental Plan 2011 and supporting Parramatta Development Control Plan.

ADG Element	Design Criteria/Design Guideline	Proposed	Compliance
<i>Part 3 – Siting the Development</i>			
3A Site Analysis	Appendix 1 of the ADG	Provided	Yes
3B Orientation	Building to define the street, by facing it and incorporating direct access from the street	Entry lobbies channel visitors through the building entry. The entries are clearly defined through to ensure visitors are able to navigate the site.	Yes
	Where an adjoining building does not currently receive 2 hours of sunlight in midwinter, solar access should not be further reduced by > 20%	Not applicable	N/A
	4 hours of solar access should be retained to solar collectors on neighbouring buildings	Adjoining properties do not contain solar collectors	N/A
3C Public Domain Interface	Terraces, balconies should have direct street entry, where appropriate.	Direct street access to POS areas is considered appropriate for the site.	Yes
	Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	Mail boxes are to be appropriately located. Complies.	Yes

	Substations, pump rooms, garbage storage rooms and other service rooms should be located in the basement carpark or out of view	The communal bin room and other service rooms are screened from the public domain.	Yes
3D Communal and Public Open Space	<u>Design Criteria:</u>		
	Communal open space has a minimum area equal to 25% of the site 50% of the principal COS should receive 2 hours of sunlight between 9am and 3pm	454m ² or 25.3% of the site area is dedicated for communal open space area.	Yes
	<u>Design Guidelines:</u>		
	Minimum dimension of 3m	Complies	Yes
	Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies Where communal open space cannot be provided at ground level, it should be provided on a podium or roof	Proposal ensures that direct, equitable access in line with relevant Australian Standard is provided to communal open space areas with a lift core providing direct access from common circulation areas, entries and lobbies on the ground floor and also from every residential level.	
	Facilities are provided within communal open spaces and common spaces for a range of age groups, incorporating some of the following elements: <ul style="list-style-type: none"> • seating for individual or groups • barbecue areas • play equipment or play area • swimming pools, gyms, tennis courts or common rooms 	Communal open space provides seating area and barbeque areas.	Yes

	Communal open space and the public domain should be readily visible from habitable room and private open space areas while maintaining privacy	The proposed development has been designed with the orientation of balconies and windows to maximise passive surveillance to internal open spaces and to the public domain.	Yes
3E Deep Soil Zones	<u>Design Criteria:</u> A deep soil zone equivalent to 7% of the site area must be provided	409m ² or 22.8% provided	Yes
3F Visual Privacy	<u>Design Criteria:</u> Building Separation Up to 4 storeys (up to 12m) 12m between habitable rooms (6m) 6m between non habitable rooms (3m) 0m to Blank Walls Acceptable.	<p>The development is compliant with the principles of building separation to its northern and eastern boundaries. A room to a habitable window breaches the setback to the eastern boundary by 500mm on the ground floor. However, Fencing, landscaping and the orientation of the window will prevent visual privacy impacts.</p> <p>It is noted that balconies that encroach upon the 6m separation to the sites eastern boundary are limited to a few hundred mm and will not generate any discernible privacy impacts.</p> <p>It is noted that the proposal complies with side setbacks under the Parramatta DCP.</p>	Yes
3G Pedestrian Access and Entries	Building entries should be clearly identifiable and communal entries should be clearly distinguished from private areas	Entry lobbies channel visitors through the building entry. The entries are clearly defined through to ensure visitors are able to navigate the site.	Yes
3H Vehicle Access	Car park access should be integrated with the building's overall façade	Vehicle access point to the basement level is integrated with the proposed building's overall façade.	Yes

	Car park entry and access should be located on secondary streets or lanes where available	Vehicle access is to be provided from Railway Street, consistent with the approved DA.	Yes
	Adequate separation distance should be provided between vehicle entries and street intersections	The proposal has provided adequate separation distance between vehicle entries and street intersections. See attached Traffic Report for detail.	Yes
	Garbage collection, loading and servicing areas are screened	Garbage collection areas are screened.	Yes
	Clear sight lines should be provided at pedestrian and vehicle crossing	Clear sight lines are provided at pedestrian and vehicle crossings to ensure the safety of pedestrians.	Yes
3J Carparking	<p><u>Design Criteria:</u> Carparking for sites within 800m of a railway station or light rail stop can provide parking at the rate of:</p> <p>>20 units <u>Metropolitan Sub-Regional Centres:</u> 0.6 spaces per 1 bedroom unit. 0.9 spaces per 2 bedroom unit. 1.40 spaces per 3 bedroom unit. 1 space per 5 units (visitor parking)</p> <p><u>Design Guidelines:</u> Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas</p> <p>At-grade parking</p>	<p>Parramatta DCP car parking rates are to be utilised.</p> <p>Secure undercover bicycle parking spaces are provided within the basement level and have been located to be easily accessible for future residents.</p> <p>No at grade parking is proposed. All vehicle parking is provided within the basement level.</p>	<p>N/A</p> <p>Yes</p> <p>Yes</p>

Part 4 – Designing the Building			
4A Solar Access	<u>Design Criteria:</u>		
	Living rooms and private open space of at least 70% of units to receive 2 Hours Solar Access between 9am and 3pm Mid-Winter	76% of units achieve the required 2 hours of solar access at mid-winter noting all units achieve 2 hours.	Yes
	A maximum of 15% of apartments receive no direct sunlight between 9am and 3pm Mid-Winter	Less than 15% of units receive no solar access.	Yes
4B Natural Ventilation	<u>Design Criteria:</u>		
	60% of Units are cross ventilated in a building up to 9 storeys	80% of units are cross ventilated.	Yes
	Overall width of a cross over or cross through apartment is < 18m	Complies	Yes
	<u>Design Guidelines:</u>		
	The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths	Development has a mix of dual aspect apartments and corner apartments. See attached architectural plans for detail.	Yes
4C Ceiling Height	<u>Design Criteria:</u>		
	2.7m for habitable; and 2.4m for non-habitable.	The development provides a floor to ceiling height of 2.7m.	Yes
4D Unit Sizes	<u>Design Criteria:</u>		
	1 bed 2 bed 3 bed + 5m ² for each unit with more than 1 bathroom.	50m ² 70m ² 90m ²	All units comply with many units exceeding, see attached plans for detail.
	Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10%	Every habitable room is provided with a window.	Yes

<i>Design Guidelines:</i>			
Habitable Room Depths	Limited to 2.5m x Ceiling Height	Despite the noncompliance with objective 4D-2, figure 4D.3 indicates that an 8.1m depth (3 x ceiling height) is okay for open plan apartments.	Yes- Majority
Bedroom sizes	10m ²	Comply	Yes
Master	9m ²	Comply	Yes
Living rooms/dining areas have a minimum width of:			
3.6m	Studio/1 br	Comply	Yes
4m	2br/ 3br	Comply	Yes
Open Plan Layouts that include a living, dining room and kitchen.	8m to a window	Complies given unit depths and design layouts.	Yes- Majority
4E Private Open Space	<i>Design Criteria:</i>		
Balcony Sizes	8m ² & 2m depth	All units comply	Yes
2 bed/3bed	10m ² & 2m depth		
	12m ² & 2.5m depth		
Ground level/ podium apartments	15m ² & 3m depth	Not applicable, no residential units are provided on the ground floor.	N/A
4F Common Circulation and Spaces	<i>Design Criteria:</i>		
Common Circulation Units per Plate	8 Unit per Plate	Lift core is to serve a maximum of 7 units per plate per level.	Yes
Corridors > 12m	Are articulated	Complies.	

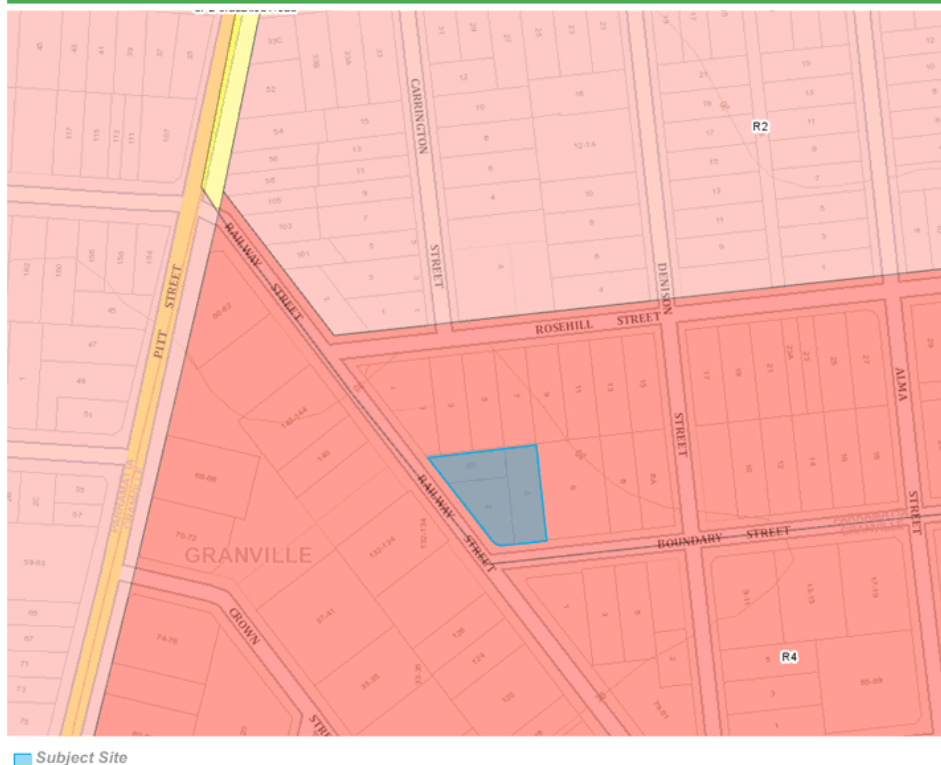
4G Storage	<u>Design Criteria:</u> 1 bed: 6m ³ 2 bed: 8m ³ 3 bed: 10m ³ Min 50% of required storage is within the apartment	All units comply. This is provided within the basement/ground floor and within the units themselves, and where appropriate a minimum of 50% of storage to be provided within each individual unit. The proposed development is considered to offer storage space that aligns with the provisions of the ADG.	Yes
4H Acoustic Privacy	<u>Design Guidelines:</u> Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses Windows and door openings are generally orientated away from noise source Noisy areas within buildings including building enters and corridors should be located next to or above each other and quieter areas next to or above quieter areas.	See acoustic report for further detail. Where appropriate windows and door openings are orientated away from noise sources. The application is designed to create different 'zones' with more active areas clustered together and more passive areas also clustered together to maximise acoustic privacy and also take advantage of the lot orientation.	Yes Yes Yes
4K Apartment Mix 7	<u>Design Guidelines:</u> A variety of apartment types is provided	Dwelling diversity provided with the development providing the following unit mix: - 3 x 1-bedroom units; - 19 x 2-bedroom units; and - 3 x 3 bedroom units.	Yes

4M Facades	<u>Design Guidelines:</u> Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale	The proposed facades are well articulated with a mixture of vertical and horizontal features including windows, projecting walls and balconies, framed elements and materials. Overall, the proposed facade is considered a quality design outcome that is compatible with other comparable residential flat buildings within the locality.	Yes
4O Landscape Design	<u>Design Guidelines:</u>	Consistent as per landscaping plan.	Yes
4Q Universal Design	<u>Design Guidelines:</u>		
20% of the total apartments	<u>Achieve Livable House Guidelines silver level universal design features</u>	Provided.	Yes
4U Energy Efficiency		The application has been provided with a BASIX certificate indicating energy efficiency for each residential unit provided.	Yes
4V Water Management and Conservation	<u>Design Guidelines:</u> <u>Reduce mains consumption and reduce the quantity of storm water runoff.</u>	The residential component of the proposal has been provided with a BASIX certificate indicating energy efficiency for each residential unit provided.	Yes
4W Waste Management	<u>Design Guidelines:</u> <u>Supply WMP</u> <u>Allocate storage area</u>	Provided Appropriate waste storage areas are provided.	Yes Yes
4X Building Maintenance	<u>Design Guidelines:</u> <u>To ensure long life and ease of maintenance for the development.</u>	The proposed material is considered durable which may be easily cleaned.	Yes

PARRAMATTA LOCAL ENVIRONMENTAL PLAN 2011

As demonstrated via zoning map extract, the subject site is zoned R4 High Density Residential with a height limit of 14m and maximum floor space ratio of 1.2:1 under the Parramatta Local Environmental Plan 2011.

Figure 5: Zoning Map Extract (Source: ePlanning Spatial Viewer).



'Residential Flat Buildings' are permissible with consent within the R4 zone with the LEP containing the following definitions:

residential flat building means a building containing 3 or more dwellings but does not include an attached dwelling or multi dwelling housing.

The proposal is consistent with the definitions and is also consistent with the specified zone objectives:

- To provide for the housing needs of the community within a high density residential environment.

- To provide a variety of housing types within a high density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To provide opportunity for high density residential development close to major transport nodes, services, and employment opportunities.
- To provide opportunities for people to carry out a reasonable range of activities from their homes if such activities will not adversely affect the amenity of the neighbourhood.

The development will contribute towards providing alternative residential accommodation opportunities. The site is well located and is situated within proximity to essential services, public transportation and recreational opportunities.

The table below provides detail on the development standards relevant to the current proposal as well as other relevant LEP provisions.

Parramatta Local Environmental Plan 2011 – Compliance Table			
Clause	Controls	Comment	Complies
Zoning	R4 High Density	A residential flat building is permissible with Council consent in the R4 High Density zone.	YES
Part 2 Permitted or Prohibited Development			
2.3	Zone Objectives and Land Use Table	The proposal is consistent with the zone objectives of the R4 High Density, in that the proposal will increase additional high density housing opportunities by providing a high quality residential flat building within close proximity to both Parramatta Town Centre and Merrylands Town Centre.	YES
2.6	Subdivision – Consent Requirements	Council consent is sought for the strata subdivision of the proposal.	YES
2.7	Demolition Requires Consent	Council consent is sought for the demolition of the existing structures on site.	YES

Part 4 Principal Development Standards		
4.3	Height of Buildings	A maximum building height of 14m is identified for the site under Parramatta Local Environmental Plan 2011. No part of the proposal exceeds 14m in height and as such is compliant with this control. YES
4.4	Floor Space Ratio	A maximum floor space ratio of 1.2:1 is identified for the site under Parramatta Local Environmental Plan 2011 Floor Space Ratio Map. It is noted that the development proposes an FSR of 1.2:1 and as such is compliant with this control. YES
Part 5 Miscellaneous Provisions		
5.10	Heritage Conservation	<p>The site is not identified as a heritage item, however there is one heritage item (I460) that is located adjacent the site. YES</p> <p>It is noted that the proposal provides sufficient separation between the proposed four storey RFB and the heritage item and as such the proposal will not visually dominate the item therefore ensuring that the heritage significant of the heritage item is maintained. It is noted that via Pre-DA, Council has indicated that they have no objections to the proposal from a heritage perspective.</p>
5.21	Flood Planning	The subject site is not identified as being flood prone. Not applicable. N/A
Part 6 Additional Local provisions		
6.1	Acid Sulfate Soils	The subject site is identified as being affected by Class 5 Acid Sulfate Soils under Parramatta Local Environmental Plan 2011 Acid Sulfate Soils Map, Notwithstanding the site is located within 500m of adjacent Class 1, 2, 3, 4 Acid Sulphate Soils and the proposal will not have any adverse impact on the site or on its surrounds. Not applicable. N/A

6.2	Earthworks	<p>This application seeks Council consent for the excavation of the site as per the attached plans. It is considered that the proposed excavation, particularly for the basement car parking area will have minimal adverse environmental or amenity impact. The proposal results in an appropriate outcome when considering the nature of the development, the unique characteristics of the site and compliance with relevant Council controls.</p> <p>The proposal will not adversely affect or disrupt drainage and flood patterns, flood storage or soil stability in the area.</p> <p>It is considered unlikely due to the location of the site as well as previous development that excavation will lead to the disturbance of relics.</p>	YES
6.4	Biodiversity Protection	The subject site is not identified as containing Biodiversity Land under Parramatta Local Environmental Plan 2011. Not applicable.	N/A
6.5	Water Protection	The subject site is not identified as containing Riparian Land and Waterways under Parramatta Local Environmental Plan 2011. Not applicable.	N/A
6.6	Development on Landslide Risk Land	The subject site is not identified as being Landslide Risk Land under Parramatta Local Environmental Plan 2011. Not applicable.	N/A
6.7	Foreshore Building Line	The subject site is not located within the Foreshore Building Line. Not applicable.	N/A

DRAFT PARRAMATTA LOCAL ENVIRONMENTAL PLAN 2011

It is noted that the Draft PLEP simply transfers the existing controls into the new consolidated LEP and there are no changes within that Draft LEP that alter the current LEP framework.

PARRAMATTA DEVELOPMENT CONTROL PLAN 2011

All relevant Council controls have been considered in the following compliance table.

Parramatta Development Control Plan 2011 – Compliance Table			
Clause	Controls	Comment	Complies
2. Site Planning			
2.1	Design in Context in the Parramatta City	<p>It is noted that residential flat buildings are permissible within a R4 High Density zone under Parramatta Local Environmental Plan 2011 and the proposal is compliant with the objectives and specific controls of this document. The subject area is in a state of transition and the proposed development aims to provide a strong interface to Boundary Street and Railway Street.</p> <p>The proposal will have minimal adverse environmental or amenity impacts and provides an appropriate outcome on site in an appropriate location. The proposal will significantly contribute to the provision of additional housing within the Parramatta LGA and is consistent with the establishment of Parramatta City.</p>	YES
2.3	Site Analysis	A detailed Site Analysis has been prepared and is attached as part of this application. The site analysis identifies the relevant considerations required by Council and acknowledges the unique opportunities and constraints of the site that have informed the design of the development proposal.	YES
2.4.1	Views and Vistas	The proposed development will not impact on significant views due to the nature of the proposal as well as its location. It is noted that the proposal is to be of a size and scale that is consistent with Council's controls and aims to set the tone for future developments. Furthermore, the proposed development is to be appropriately landscaped and is of a form and style that will positively contribute to the cohesiveness and visual appreciation of the streetscape.	YES

2.4.2.1	Site Considerations Water Management Flooding	<ul style="list-style-type: none"> – The subject site is not identified as being liable to flood. Not applicable. Notwithstanding it is considered that the proposed development will not adversely affect or impact upon drainage, stormwater flows or flooding patterns in the area. All stormwater is to be appropriately managed. A Stormwater Management Plan has been prepared and is attached as part of this application. See attached Stormwater Plan for detail. 	N/A
2.4.2.2	Site Considerations Water Management Protection of Waterways	<ul style="list-style-type: none"> – The subject site is not located within close proximity of a waterway. Not applicable. 	N/A
2.4.2.3	Site Considerations Water Management Protection of Groundwater	<ul style="list-style-type: none"> – The proposed development is to be for a residential flat building. It is therefore considered that the risk of site contamination occurring during construction and future use of the site is low. 	YES
2.4.3.1	Site Considerations – Soil Management Sedimentation	<ul style="list-style-type: none"> – This application seeks Council consent for the excavation of the site as per the attached plans. It is considered that the proposed excavation, particularly for the basement car parking area will have minimal adverse environmental or amenity impact. The proposal results in an appropriate outcome when considering the nature of the development, the unique characteristics of the site and compliance with relevant Council controls. An Erosion and Sediment Control Plan is attached as part of this application. 	YES
2.4.3.2	Soil Management- Acid Sulfate Soils	The subject site is identified as being affected by Class 5 Acid Sulfate Soils under Parramatta Local Environmental Plan 2011 Acid Sulfate Soils Map Sheet ASS_005, Notwithstanding the site is located within 500m of adjacent Class 1, 2, 3, 4 Acid Sulphate Soils and the proposal will not have any adverse impact on the site or on its surrounds. Not applicable.	N/A
2.4.3.3	Soil Management- Salinity	Due to the nature and location of the site it is not likely to be affected by Saline Soils. Not relevant.	YES
2.4.4	Land Contamination	The site was previously used for residential purposes. The land is not known to have been used for any purposes that may give rise to the likelihood of contamination. Nothing on site indicates a previous contaminating use.	YES

2.4.5	Air Quality	It is considered that the proposal will not significantly contribute to air pollution, odours or the release of atmospheric pollutants. Appropriate management of the site during the demolition and construction phases will limit the potential for air pollution.	YES
2.4.6	Development on Sloping Land	The proposal has been designed to minimise the amount of cut and fill required, whilst also providing a built form that is appropriate considering the context of the site and the surrounding area. It is considered that the proposal results in an appropriate outcome on site that will not adversely affect the environment or the existing residential amenity of adjoining properties.	YES
2.4.7	Biodiversity	The proposed development will not impact on any significant flora and fauna. It is noted that the proposal is for the erection of a residential flat building within an established residential area. It is noted that the site has previously been used for residential purposes and is predominantly cleared. The development proposes appropriate open space and landscaped areas undertaken in accordance with Council controls.	YES
2.4.7.2	Site Considerations – Biodiversity – Development on Land Abutting the E2 Environmental Protection Zone and W1 Natural Waterways Zone	The site does not abut E2 or W1 zoned land. Not applicable.	N/A
2.4.8	Public Domain	<p>It is considered that the proposal positively contributes to the public domain and proposes a development that is consistent with the objectives of its zone and will contribute towards shaping future development within the subject block whilst being consistent with the high density character within the wider locality.</p> <p>The proposal will incorporate appropriate finishes; fencing and landscaping that will positively contribute to public domain areas and visual appreciation of the development. See attached architectural and landscaping plans for detail.</p>	YES

The proposal incorporates built elements and landscaping that integrates with the public domain whilst clearly distinguishing between the public and private elements that are easily read by resident, visitor and passer by alike.

It is considered that the proposal will not adversely impact on views to or from the public domain; rather the proposal presents an active façade that will contribute to casual surveillance, increasing safety in the area.

3. Development Principles

3.1.1	Height: 14m	A maximum building height of 14m is identified for the site under Parramatta Local Environmental Plan 2011 Height of Buildings Map Sheet HOB_005. No part of the proposal exceeds 14m in height and as such is compliant with this control.	YES
3.1.2	Height Transition	Not applicable.	N/A
3.1.3	Preliminary Building Envelope Table – R4: FSR	A maximum floor space ratio of 1.2:1 is identified for the site under Parramatta Local Environmental Plan 2011 Floor Space Ratio Map Sheet FSR_005. It is noted that the development proposes an FSR of 1.2:1 and as such is compliant with this control.	YES
3.1.3	Preliminary Building Envelope – Preliminary Building Envelope Tables – Minimum Site Frontage: 20m	The subject site has frontages greater than 20m to both Boundary Street and Railway Street and as such complies with minimum site frontage control contained within the DCP. The frontage to Boundary Street is 21.68m and to Railway Street is 33.96m	Yes
3.1.3	Preliminary Building Envelope – Preliminary Building Envelope Tables – Primary Front Setback: 5-9m Secondary Front Setback: 3-5m	Under Parramatta Development Control Plan, the primary front setback for a residential flat building is between 5-7m and a secondary front setback between 3-5m. The site is to provide a primary front setback of 6m to the primary wall to both frontages in accordance with Council controls. The upper level balconies exceed the setback however this is an appropriate response as they provide articulation to the façade.	Yes

3.1.3	Preliminary Building Envelope – Preliminary Building Envelope Tables – Side Setbacks	Under Parramatta Development Control Plan, the minimum side setback for residential flat building is 4.5m. The site is to maintain side setbacks of >4.5m to its northern and western boundaries in accordance with Council controls. It is noted that small portions of the building walls exceed this requirement by up to 500mm. However, given the minor nature of the variation, and given that the portions of the building are provided with blank walls, the minor variation is considered acceptable.	Variation
3.1.3	Preliminary Building Envelope – Preliminary Building Envelope Tables – Rear Setback	Not relevant, site is a corner allotment and does not contain a rear setback.	N/A
3.1.3	Preliminary Building Envelope – Preliminary Building Envelope Tables – Deep Soil Zone	<p>Parramatta Development Control Plan required a minimum of 30% of the site to be dedicated for deep soil zone for residential flat buildings.</p> <p>The site is to provide a deep soil zone of 409m² or 22.8%. The provision is compliant with the ADG requirements and therefore, is considered appropriate.</p>	Yes- ADG
3.1.3	Preliminary Building Envelope – Preliminary Building Envelope Tables – Landscaped Area	<p>The Parramatta DCP requires a minimum of 40% of the site to be landscaped.</p> <p>545m² or 30.4% of the subject site is to be landscaped. This presents a minor variation and is considered acceptable given the allotment is a corner site with an irregular shape and large street frontage with two (2) defined entries which takes away from the ability to achieve the traditional larger tracts of landscaped area within front and side setback areas.</p> <p>In addition, it also means that the basement layout precludes good deep soil plantings across a large area of the site and therefore rather than providing for substantial planter boxes the proposal has been designed to provide more functional courtyard areas and common open space areas. The street level areas and primary rear portions of the development incorporate landscape plantings to ensure that the development is viewed within a landscape setting. The proposal also complies with the minimum deep soil zone required across the site. Based on the above the minor variation is considered acceptable given the context of the site.</p>	Variation

3.2.1	Building Building Massing	Elements Form and	– It is considered that the proposal results in an appropriate outcome on site that responds to the unique characteristics of the site and aim to set the tone and shape for future development within the subject residential block. The proposal is compliant with Councils FSR and Height controls. The proposal does not result in any adverse environmental or amenity impacts on site or on adjoining properties. It is considered that the proposal responds well to the individual context of its site and surrounds and positively contributes to the visual appreciation and cohesiveness of the streetscape, providing a built form that is both compliant with Council controls and is visually pleasing. The proposal is to develop the site in accordance with planning provisions and the future envisaged character of the area to accommodate high density residential housing, considering its centralised location to both Parramatta Town Centre and Merrylands Town Centre and other facilities.	YES
3.2.2	Building Building Facades Articulation	Elements Facades and	– The proposal incorporates physical articulation of the built form and a mixed palette of building materials and finishes. The range of materials significantly contributes to the articulation of the building and reducing the overall bulk and mass of the building. Clear entry points are proposed, that are easily read by resident, visitor and passer by alike.	YES
3.2.3	Building Design	Elements – Roof	The proposal incorporates a contemporary, predominantly flat roof design that incorporates a slight pitch and fall, providing articulation and not dominating the streetscape. See attached plans.	YES
3.2.4	Building Energy Efficient Design	Elements –	The proposed development incorporates design elements to increase energy efficiency and reduce the consumption of natural resources including passive solar design and natural cross-ventilation. A BASIX report accompanies the DA.	YES
3.2.5	Building Streetscape	Elements –	The subject area is in a stage of transition due to the site zoned R4 High Density Residential. The proposed development aims to set the tone and scale for future developments within the subject residential block.	YES

			<p>The proposal will have minimal adverse environmental or amenity impacts and provides an appropriate outcome on site in an appropriate location. Further the proposed development is to be appropriately landscaped and is of a form and style that will positively contribute to the cohesiveness and visual appreciation of the streetscape.</p> <p>All ancillary features including mailboxes and waste facilities are to be appropriately located and integrated into the development.</p> <p>The proposal is of an appropriate height, bulk and scale and maintains appropriate setbacks in accordance with Council controls.</p> <p>It is considered that the proposal positively contributes to the streetscape of both Boundary Street and Railway Street and proposes a development that will set the tone for future developments.</p> <p>Overall, it is considered that the proposal results in an appropriate outcome on site and within the context of the area and will contribute to the orderly development of the Parramatta LGA.</p>	
3.2.6	Building Fences	Elements –	Proposed fencing is to be consistent with that existing within Parramatta Local Government Area of similar residential flat buildings. The proposed fencing is compliant with Council controls. See attached plans for detail.	YES
3.3.1	Environmental Landscaping	Amenity –	<p>Proposed landscaping is appropriate on site and is consistent with established landscaping in the area. The proposed landscaping will positively contribute to the cohesiveness and visual appreciation of the area and provides relief from the built form, softening the impact of the development.</p> <p>Development proposes the removal a number of existing trees on-site, with appropriate replacement trees proposed. See landscaping plans for detail.</p> <p>The proposed development incorporates open space and landscaped areas that are consistent with and achieve the objectives of Council controls as well as the Residential Flat Design Code and will permit stormwater penetration, minimising run off from the site.</p>	YES

		Landscaping is to be undertaken and a landscape concept will be submitted. See landscaping plans for detail.	
3.3.2	Environmental Amenity – Private and Communal Open Space	The development provides private and communal open space in accordance with the ADG, and therefore, is deemed appropriate.	Yes-ADG
3.3.3	Environmental Amenity – Visual and Acoustic Privacy	<p>The proposal contains design elements that seek to reduce potential visual, privacy and acoustic impacts and promote a high standard of residential amenity.</p> <p>This includes the siting/internal layout of dwellings, location/size of windows, location/size of balconies, proposed building materials as well as the incorporation of other elements including setbacks means that privacy impacts are mitigated. The small areas of encroachment by balconies will not generate any significant privacy impacts having regard to the lot orientation and likely future development forms on the adjoining allotments.</p> <p>It is considered that the proposed development produces an appropriate outcome on site that will provide a high level of residential amenity for future residents and will not adversely impact upon residential amenity currently enjoyed by adjoining properties.</p>	YES
3.3.4	Environmental Amenity – Acoustic Amenity	<p>The application is designed to create different 'zones' with more active areas clustered together and more passive areas also clustered together to maximise acoustic privacy and also take advantage of the lot orientation.</p> <p>The proposed development is located within an established residential area and is not located within close proximity of any significant noise generating sources.</p>	YES
3.3.5	Environmental Amenity – Solar Access and Cross Ventilation	The proposal has been designed to reduce the potential for overshadowing of neighbouring properties as well as open space areas of the proposal. It is considered that appropriate solar access is to be provided on site and for neighbouring properties and this is supported by the attached Plans. See attached shadow diagrams for detail.	YES

		<p>The development complies with the ADG requirements for solar access and cross ventilation.</p> <p>The proposal incorporates appropriate design features including window size and location that will permit adequate solar penetration as well as cross ventilation of the proposed dwellings. The development proposes floor to ceiling heights that are consistent with Council controls. See attached plans.</p>	
3.3.6.1	Environmental Amenity – Water Sensitive Urban Design – Stormwater Drainage	A Stormwater Management Plan has been prepared and is attached as part of this application.	YES
3.3.7	Environmental Amenity – Waste Management	A Waste Management Plan is attached as part of this application. Notwithstanding it is noted that waste is to be appropriately managed during the demolition and construction stages of the development. Further, appropriate waste facilities will be provided for future residents of the proposal.	YES
3.4.1	Social Amenity – Culture and Public Art	Not applicable.	N/A
3.4.2	Social Amenity – Access for People with Disabilities	<p>Appropriate access is provided to, from and within the site for those with disability. A chair lift will be provided to ensure that people with a disability have the ability to access the building, especially via the basement.</p> <p>It is noted that the two accessible units are both located on the ground floor.</p>	YES
3.4.4	Social Amenity – Safety and Security	<p>The proposed development incorporates an active façade that will permit casual surveillance of both Boundary Street and Railway Street as well as common open space areas of the proposal.</p> <p>The proposal incorporates open space and landscaped areas that will contribute to activity and natural surveillance of the area.</p> <p>The proposal incorporates design elements including clearly defined and controlled access points as well as clearly defined public and private spaces in order to minimise opportunity for criminal activity.</p>	YES

		<p>The proposal incorporates built elements and landscaping that clearly distinguishes between the public and private domain. Clear entry points are proposed, that are easily read by resident, visitor and passer by alike. It is considered that the proposal does not impact on amenity or the streetscape of the area but is in context with development and street presentation of surrounding development.</p> <p>The proposed development is appropriate and provides measures, built elements, landscaping and design features that are consistent with CPTED principles.</p>	
3.4.5	Social Amenity – Housing Diversity and Choice	<p>The DCP provides the following suggestions in regard to mix of apartments –</p> <p>3 bedroom 10% - 20% 2 bedroom 60% - 75% 1 bedroom 10% - 20%</p> <p>The proposal provides the following mix of housing choices –</p> <p>3 bedroom: 3 (12%) 2 bedroom: 19 (76%) 1 bedroom: 3 (12%)</p> <p>The proposal is consistent with Council's housing diversity design requirements.</p> <p>It is noted that for residential flat buildings with more than 20 residential dwellings are required to provide 10% of the overall units as adaptable (2.5). It is noted that three (3) adaptable dwellings are provided as part of the development. Complies.</p> <p>It is highlighted that appropriate access is provided to, from and within the site for those with disability. See attached plans.</p>	YES
3.5.1	Heritage – General	See previous discussion in this statement.	YES
3.5.2	Heritage – Archaeology	Not applicable.	N/A
3.5.3	Heritage – Aboriginal Cultural Heritage	Not applicable.	N/A
3.6.1	Movement and Circulation – Sustainable Transport	Not applicable.	N/A

3.6.2	Movement and Circulation – Parking and Vehicular Access	The development proposes the construction of a four (4) storey residential flat building comprising:	YES
	1 space per one-bedroom unit (3)	3 x 1 bedroom units; 19 x 2 bedroom units; and 3 x 3 bedroom units.	
	1.25 spaces per two bedrooms units (24) 1.5 spaces per three bedrooms units (5)	The development is required to provide a minimum of 38 car parking spaces.	
	0.25 space per dwelling for visitor parking (6)	The development proposes the provision of 39 car parking spaces within the basement level, including three (3) accessible car parking spaces and seven (7) visitor car parking spaces and as such complies with Council controls.	
	Total: 38		
		See traffic report for further detail. The car parking area will be serviced via a driveway/ramp that will be accessible from Railway Street.	
		It is considered that the vehicular access and exit points are clearly defined and provide for the safe and efficient movement of vehicular traffic on site and entering and exiting the site. The proposed parking area and ancillary driveway will not contribute to the creation of traffic hazards.	
		The proposed basement car parking arrangement is to be appropriately integrated into the proposal and is consistent with existing, surrounding development. It is considered that the proposal provides an appropriate outcome on site that provides adequate parking arrangements as well as ensuring the safe and efficient movement of vehicular and pedestrian traffic.	
		The Parramatta Development Control Plan 2011, outline the requirements of Bicycle parking as the following:	
		0.4 space per one-bedroom unit (1)	
		0.7 spaces per two bedrooms units (13)	
		1.2 spaces per three bedrooms units (4)	
		Total = 18	
		The development provides 19 bicycle spaces.	
		The proposed car parking area is considered appropriate and will satisfactorily service the traffic and parking needs of the proposal.	

		Access ways and car parking spaces are to be appropriately dimensioned in accordance with Council controls and will permit the safe movement and parking of vehicles on site.	
3.6.3	Movement and Circulation – Accessibility and Connectivity	<p>The proposal provides for the safe and efficient movement of pedestrian and vehicular traffic within the site and both entering and exiting the site. Vehicle and pedestrian routes are clearly indicated and accessible.</p> <p>Public and private areas of the proposal are clearly defined and provide a clear distinction between the public and private domain elements of the proposal.</p>	YES
3.7.1	Residential Subdivision – General	No further subdivision of the site is proposed. Not applicable.	N/A
3.7.2	Residential Subdivision – Site Consolidation and Development on Isolated Sites	The proposal is will not create any isolated sites.	YES
Part 5 Other Provisions			
5.4	Preservation of Trees or Vegetation	<p>The subject site does not contain any significant trees or vegetation. This application seeks Council consent for the removal of a few trees on site as identified in the attached plans. The proposed landscaping will positively contribute to the cohesiveness and visual appreciation of the area and provides relief from the built form, softening the impact of the development.</p> <p>It is highlighted that no significant vegetation is to be impacted as part of the proposal.</p> <p>The proposed development incorporates open space and landscaped areas that are consistent with and achieve the objectives of Council controls as well as the Residential Flat Design Code and will permit stormwater penetration, minimising run off from the site.</p> <p>Landscaping is to be undertaken and a landscape concept will be submitted. See landscaping plans for detail.</p>	YES

CONCLUSION

Consideration has been given to the potential environmental and amenity impacts that are relevant to the proposed development and this report addresses these impacts.

Having regard to the benefits of the proposal and taking into account the absence of adverse environmental, social, or economic impacts, the application is submitted to Council for assessment and granting of development consent.

Following a review of the relevant planning controls, it is concluded that the proposed development is consistent with the objectives, planning strategies and detailed controls of these planning documents. Think Planners Pty Ltd recommends the approval of the application, subject to necessary, relevant, and appropriate conditions of consent.



Waste Management

Demolition and Construction

As a condition of consent, the applicable sections of this table must be completed and submitted to the Principal Certifying Authority.

Completing this table will assist you in identifying the type of waste that will be generated and in advising the Principal Certifying Authority how you intend to reuse, recycle or dispose of waste.

The information provided on the form (and on your plans) will be assessed against the objectives of Council's DCP.

If the space is insufficient in the table below please provide attachments.

Outline of Proposal

Site Address:

2-4 BOUNDARY STREET & 85 RAILWAY STREET, PARRAMATTA
DP202700, DP16496, Lots 1, 2, 6

Applicant's Details:

ALI IBSHARA
0408 765 765

Buildings and other structures currently on the site:

2X SINGLE STOREY FIBRO HOUSE WITH DETACHED GARAGE &
SINGLE STOREY BRICK HOUSE WITH METAL CARPORT

Brief Description of Proposal:

DEMOLITION + CONSTRUCTION OF A RESIDENTIAL FLAT BUILDING
CONTAINING 25 UNITS OVER BASEMENT PARKING

**The details provided on this form are the intentions for managing
waste relating to this project.**

Date: 16/12/2021

On-going Management

Describe how you intend to ensure on-going management of waste on-site (For example, lease conditions, caretaker / manager on-site.)

Waste cupboard located under sink to store daily rubbish within dwelling.

General and recyclable waste materials will be sorted into labelled bins in Garbage Bay.

Garbage bay located on grade, hose cock provided for cleaning, slab drained to storm water outlet.

Bins will be moved to kerb for collection by caretaker.

Waste collection by Council services.

Bins will be moved from kerb back to Garbage Bay after collection by caretaker.

Planning for Less Waste

SECTION ONE - DEMOLITION

This is the stage with the greatest potential for waste minimization, particularly in Sydney where there are high levels of development, relatively high tipping charges and where alternative quarry materials are located on the outskirts.

Perhaps the first thing that applicants should consider is whether it is possible to re-use existing buildings, or parts thereof, for the proposed use.

With careful on- site sorting and storage and by staging work programs it is possible to re- use many materials, whether onsite or offsite.

In other words, to move from the attitude of “trashing the building” to “total recycling on site”. This could require a number of colour-coded or clearly labeled bins on- site (rather than one size fits all).

The following details should be shown on your plans.

- Location of on- site storage space for materials (for re- use) and containers for recycling and disposal. (Note the displacement of waste containers is not permitted on footpaths, nature strips or roadways.)

- Containers are to locate so as not to disrupt site works, or have a detrimental effect on sediment, erosion controls and tree protection areas.
- Containers to be maintained in a satisfactory condition while present in the site.

- Vehicle access to the site and to storage and container areas.

- Timing of the removal of containers is only to be carried out during permitted construction hours.
- Containers and all waste are to be removed prior to final inspection and occupation.

- A separate container is to be provided for the disposal of put recyclable wastes such as lunch room and food scraps.
- The provision of tip fee or recycling processor's receipts will be required by the Council upon completion of work.

The following table should be completed by applicants proposing any demolition work.

Planning for Less Waste

Materials On-Site		DESTINATION		
		REUSE AND RECYCLING		
Type of Material	Estimated Volume (m ³) area (m ²)	ON-SITE Specify proposed reuse or on-site recycling methods	OFF-SITE Specify contractor and recycling outlet	DISPOSAL Specify contractor and landfill site
Excavation Material	300m ³	To be kept and re-use as fill and topsoil in landscaping	Benedict Reclamations 146 Newbridge Road, Moorebank	
Green Waste	150m ³	Re-use for framework. Chip suitable for use in landscaping	Benedict Reclamations 146 Newbridge Road, Moorebank	
Bricks	15m ²			
Concrete	15m ³	Crushed and used as granular fill in drainage excavations	Send to crushing and recycling centre. KLF Recyclers – 16 Grand Ave, Camelia (02)9898 9178	
Asbestos Cement Roof & Wall Cladding	10m ³			Asbestos Fibro Disposal Envirogaord – Erskine Park, 9834 3411

Planning for Less Waste

Materials On-Site		DESTINATION		
		REUSE AND RECYCLING		
Type of Material	Estimated Volume (m ³) area (m ²)	ON-SITE Specify proposed reuse or on-site recycling methods	OFF-SITE Specify contractor and recycling outlet	DISPOSAL Specify contractor and landfill site
Timber- Please Specify (roof and wall framing)	20m ³	Re-use for framework. Chip suitable for use in landscaping	To stockpile at waste transfer station by water contractor. KLF Recyclers - 16 Grand Ave, Camellia (02) 9898 9178	
Plasterboard	15m ³		To landscape supply centre South Windsor Resource Recovery Centre, 723 - 727 George St, Windsor	
Metals- Cladding, roofing	10m ³		To metal recycling centre. KLF Recyclers - 16 Grand Ave, Camellia (02) 9898 9178	
Tiles/ Roof	10m ²	Crushed and used as granular fill in drainage excavations	Send to crushing and recycling centre. KLF Recyclers – 16 Grand Ave, Camelia (02)9898 9178	
Other**- Fixtures & Fittings	N/A			
Plastic	N/A			

SECTION TWO - CONSTRUCTION STAGE

Section 2 - Potential for Waste Minimisation during Construction Stage.

You should consider the following measures that may also save resources and minimise waste at the construction stage.

- Purchasing policy.

Considering measures such as: ordering the right quantities of materials prefabrication of materials where possible.

- Re-using formwork

- Minimising site disturbance, limiting unnecessary excavation.

- Careful source separation of off-cuts to facilitate re-use, resale or efficient recycling

- Coordination/ sequencing of various trades

Planning for Less Waste

Materials On-Site		DESTINATION		
		REUSE AND RECYCLING		
Type of Material	Estimated Volume (m ³) Area (m ²)	ON-SITE Specify proposed re-use or on- site recycling methods	OFF-SITE Specify contractor and recycling outlet	DISPOSAL Specify contractor and landfill site
Excavation Material	N/A	Covered in Section 1 as part of demolition		
Green Waste	N/A	Covered in Section 1 as part of demolition		
Bricks	5m ²		Send to crushing and recycling centre. KLF Recyclers - 16 Grand Ave, Camellia (02) 9898 9178	
Concrete	5m ²		Send to crushing and recycling centre. KLF Recyclers - 16 Grand Ave, Camellia (02) 9898 9178	

Planning for Less Waste

Materials On-Site		DESTINATION		
		REUSE AND RECYCLING		
Type of Material	Estimated Volume (m ³) area (m ²)	ON-SITE Specify proposed reuse or on- site recycling methods	OFF-SITE Specify contractor and recycling outlet	DISPOSAL Specify contractor and recycling outlet
Timber- Please Specify	3m ²	Reuse for framework. Chip suitable for use in landscaping	To stockpile at waste transfer station by waste contractor KLF Recyclers - 16 Grand Ave, Camelia, 98989178	
Plasterboard	1m ²		To landscape supply centre. South Windsor Resource Recovery Centre 723-727 George St, Windsor.	
Metals- Please specify	1m ²		To metal recycling centre KLF Recyclers - 16 Grand Ave, Camelia, 98989178	
Tiles	5m ²	Crush and use as granular fill in drainage excavations	KLF Recyclers - 16 Grand Ave, Camelia, 98989178	
Other- Please Specify	5m ²			

Planning for Less Waste

TYPE OF WASTE TO BE GENERATED	EXPECTED VOLUME PER WEEK	PROPOSED ON-SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Please specify. For example: paper, food, waste, etc	Liters or m ³ See Appendix 3 for estimates	For example: <ul style="list-style-type: none"> •Waste storage and recycling area •Garbage Chute •On-site composting •Compaction equipment 	<ul style="list-style-type: none"> • Recycling • Disposal • Specify Contractor
General Recyclables (Bottles, Cans, Paper)	40L/Unit/Week 40x5 = 1000L	Stored in 5x240L Recycling bins stored in Garbage Bay	Council recycling service (Fortnightly).
General Waste (Food scraps, Rubbish etc)	80L/Unit/Week 80x5 = 2000L	Stored in 10x240L General Waste bins stored in Garbage Bay <i>*Garbage Bay to have hose cock. Floor waste to be connected to storm water outlet</i>	Council waste collection service (Weekly)

Details of on-site waste management facilities should be provided on the plan drawings accompanying your application.

BASIX[®]Certificate

Building Sustainability Index www.basix.nsw.gov.au

Multi Dwelling

Certificate number: 1264524M_02

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

This certificate is a revision of certificate number 1264524M lodged with the consent authority or certifier on 20 December 2021 with application DA/61/2022.

It is the responsibility of the applicant to verify with the consent authority that the original, or any revised certificate, complies with the requirements of Schedule 1 Clause 2A, 4A or 6A of the Environmental Planning and Assessment Regulation 2000

Secretary

Date of issue: Tuesday, 20 September 2022

To be valid, this certificate must be lodged within 3 months of the date of issue.



Planning,
Industry &
Environment

Project summary

Project name	Development @ 2-4 BOUNDARY ST & 85 R_02
Street address	2-4 BOUNDARY Street Parramatta 2150
Local Government Area	Parramatta City Council
Plan type and plan number	deposited 202700
Lot no.	1
Section no.	-
No. of residential flat buildings	1
No. of units in residential flat buildings	25
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Project score

Water	✓ 41	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 45	Target 45

Certificate Prepared by

Name / Company Name: EPS

ABN (if applicable): 16645179013

Description of project

Project address

Project name	Development @ 2-4 BOUNDARY ST & 85 R_02
Street address	2-4 BOUNDARY Street Parramatta 2150
Local Government Area	Parramatta City Council
Plan type and plan number	deposited 202700
Lot no.	1
Section no.	-

Project type

No. of residential flat buildings	1
No. of units in residential flat buildings	25
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m ²)	1793.6
Roof area (m ²)	476
Non-residential floor area (m ²)	0.0
Residential car spaces	38
Non-residential car spaces	0

Common area landscape

Common area lawn (m ²)	0.0
Common area garden (m ²)	0.0
Area of indigenous or low water use species (m ²)	0.0

Assessor details

Assessor number	10194
Certificate number	0006179573
Climate zone	56
Ceiling fan in at least one bedroom	No
Ceiling fan in at least one living room or other conditioned area	No

Project score

Water	✓ 41	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 45	Target 45

Description of project

The tables below describe the dwellings and common areas within the project

Residential flat buildings - Building1, 25 dwellings, 3 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
101	2	81.0	0.0	0.0	0.0
106	2	78.0	0.0	0.0	0.0
204	2	81.0	0.0	0.0	0.0
302	3	104.0	0.0	0.0	0.0
G03	1	50.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
102	2	77.0	0.0	0.0	0.0
107	2	70.0	0.0	0.0	0.0
205	2	80.0	0.0	0.0	0.0
303	3	99.0	0.0	0.0	0.0
G04	2	81.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
103	1	50.0	0.0	0.0	0.0
201	2	81.0	0.0	0.0	0.0
206	2	78.0	0.0	0.0	0.0
304	2	97.0	4.0	0.0	0.0
G05	2	80.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
104	2	81.0	0.0	0.0	0.0
202	2	77.0	0.0	0.0	0.0
207	2	70.0	4.0	0.0	0.0
G01	2	81.0	0.0	31.0	0.0
G06	1	67.0	0.0	75.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
105	2	80.0	0.0	0.0	0.0
203	1	50.0	0.0	0.0	0.0
301	3	101.0	4.0	0.0	0.0
G02	2	77.0	0.0	0.0	0.0
G07	2	70.0	0.0	38.0	0.0

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of unit building - Building1

Common area	Floor area (m²)
Basement Car park area	1052.0
Pump room	15.0
Hallway/lobby_Level-2	44.0

Common area	Floor area (m²)
Lift car (No.1)	-
Ground floor lobby	44.0
Hallway/lobby_Level-3	25.0

Common area	Floor area (m²)
Garbage Bay	15.0
Hallway/lobby_Level-1	44.0

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for multi-dwelling houses

3. Commitments for single dwelling houses

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but ≤ 6 L/min)	4 star	4 star	4 star	no	-	4 star	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	gas instantaneous 6 star	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
104, 105, 106, 107, 204, 205, 206, 207, 304	1-phase airconditioning 3 star (average zone) (zoned)	1-phase airconditioning 3 star (average zone) (zoned)	1-phase airconditioning 3 star (average zone) (zoned)	1-phase airconditioning 3 star (average zone) (zoned)	2 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no
All other dwellings	1-phase airconditioning 3 star (average zone) (zoned)	1-phase airconditioning 3 star (average zone) (zoned)	1-phase airconditioning 3 star (average zone) (zoned)	1-phase airconditioning 3 star (average zone) (zoned)	2 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	2 star	no	4 star	3 star	4 star	no	no

(iii) Thermal Comfort

- (a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.
- (b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.

Show on
DA plansShow on CC/CDC
plans & specsCertifier
check

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
102	42.0	26.0
104	41.0	29.0
202	40.0	26.0
204	38.0	29.0
207	40.0	24.0
301	35.0	20.0
302	36.0	22.0
303	39.0	24.0

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
G01	42.0	24.0
G02	43.0	25.0
G03	42.0	20.0
G05	40.0	25.0
G06	35.0	24.0
G07	42.0	28.0
103, 203	41.0	20.0
105, 205	40.0	22.0
106, 206	39.0	29.0
107, G04	41.0	24.0
All other dwellings	40.0	20.0

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Basement Car park area	ventilation exhaust only	carbon monoxide monitor + VSD fan	compact fluorescent	daylight sensor and motion sensor	No
Lift car (No.1)	-	-	compact fluorescent	connected to lift call button	No
Garbage Bay	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Pump room	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Ground floor lobby	no mechanical ventilation	-	compact fluorescent	daylight sensor and motion sensor	No
Hallway/lobby_Level-1	no mechanical ventilation	-	compact fluorescent	daylight sensor and motion sensor	No
Hallway/lobby_Level-2	no mechanical ventilation	-	compact fluorescent	daylight sensor and motion sensor	No
Hallway/lobby_Level-3	no mechanical ventilation	-	compact fluorescent	daylight sensor and motion sensor	No

Central energy systems	Type	Specification
Lift (No. 1)	permanent magnet synchronous motor (PMSM) and regenerative drive	Number of levels (including basement): 5

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

1. Commitments identified with a "✓" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✓" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

Clause 4.6 Variation: Building Height

DA/61/2022 Residential Apartment Building

2-4 Boundary Street and 85 Railway Street, Parramatta



Prepared by: Think Planners Pty Ltd

Document Date: 16 September 2022

LGA: City of Parramatta

DA/61/2022

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Background to Building Height

Clause 4.3 of the Parramatta LEP 2011 stipulates a maximum building height of 14m for the subject site and broader locality- as indicated on the height of building map extract below.



The development application plans that accompany this Clause 4.6 departure illustrate that a portion of both buildings exceeds the mapped 14m height control.

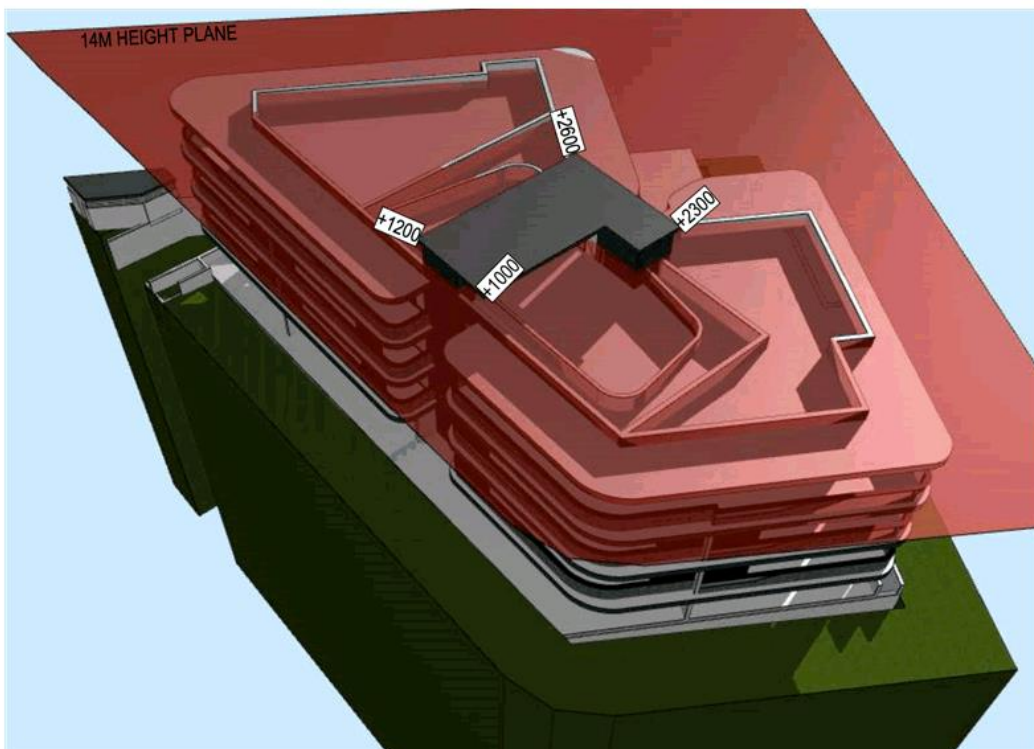
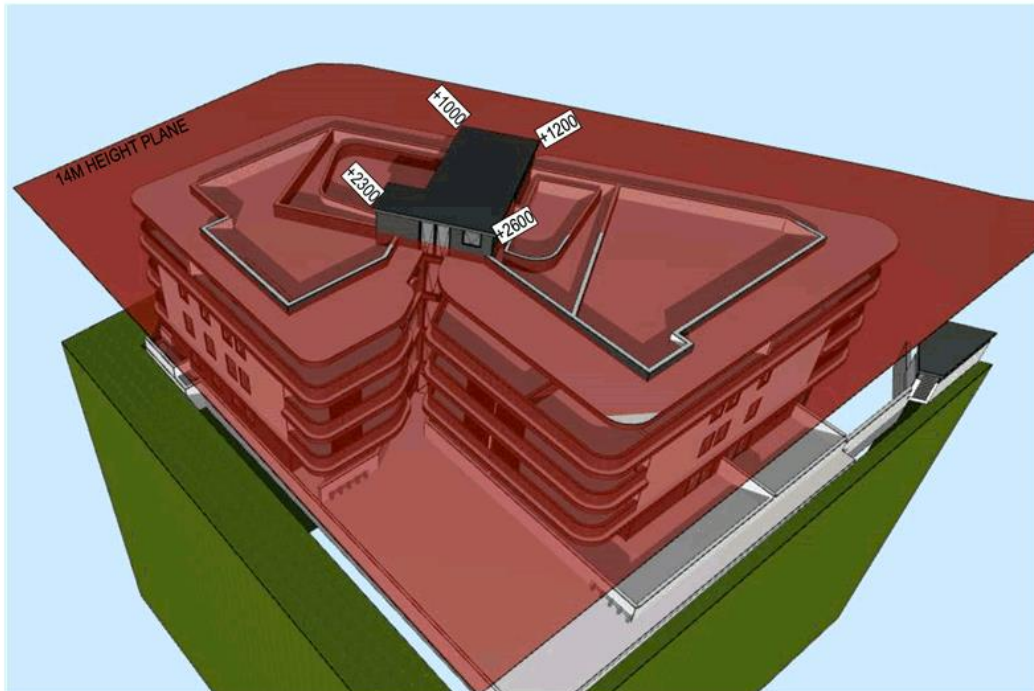
The extent of departure to both blocks is associated with the lift over-runs, the shade structures for the rooftop COS areas and the associated amenities including toilet.

The lift over-run exceedance arises from the need to provide lift access to all levels of the building and to the rooftop communal open space- in addition to the roof element that is designed to provide shade and is a preferred outcome. The elements over the height limit are recessed centrally to the building such that they are not 'read' in the streetscape other than the central lift component that serves as an integrated design feature of the proposal to break the building into two (2) distinct building volumes.

A 3d extract of the extent of departure is provided below that is drawn from the Architectural Drawing labelled 3D Height Plane, Drawing 4013. This clearly shows the breach arises from the central amenities area, lift-over run and firestairs along with the shade element over the rooftop amenities.

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Extract of Height Plane



September 2022

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Relevant Case Law

There are a number of recent Land and Environment Court cases including *Four 2 Five v Ashfield* and *Micaul Holdings Pty Ltd v Randwick City Council* and *Moskovich v Waverley Council*, as well as *Zhang v Council of the City of Ryde*.

In addition a recent judgement in *Initial Action Pty Ltd v Woollahra Municipal Council (2018) NSWLEC 118* confirmed that it is not necessary for a non-compliant scheme to be a better or neutral outcome and that an absence of impact is a way of demonstrating consistency with the objectives of a development standard. Therefore this must be considered when evaluating the merit of the building height departure.

Further a decision in *Al Maha Pty Ltd v Huajun Investments Pty Ltd [2018] NSWCA 245* has adopted further consideration of this matter, requiring that a consent authority must be satisfied that:

- The written request addresses the relevant matters at Clause 4.6 (3) and demonstrates compliance is unreasonable or unnecessary and that there are sufficient environmental planning grounds; and
- The consent authority must consider that there are planning grounds to warrant the departure in their own mind and there is an obligation to give reasons in arriving at a decision.

Accordingly, the key tests or requirements arising from the above judgements is that:

- The consent authority be satisfied the proposed development will be in the public interest because it is "consistent with" the objectives of the development standard and zone is not a requirement to "achieve" those objectives. It is a requirement that the development be compatible with the objectives, rather than having to 'achieve' the objectives.
- Establishing that 'compliance with the standard is unreasonable or unnecessary in the circumstances of the case' does not always require the applicant to show that the relevant objectives of the standard are achieved by the proposal (Wehbe "test" 1). Other methods are available as per the previous 5 tests applying to SEPP 1, set out in *Wehbe v Pittwater*.
- There are planning grounds to warrant the departure, and these planning grounds are clearly articulated as reasons in arriving at a decision.

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- The proposal is required to be in 'the public interest'.

In relation to the current proposal the keys are:

- Demonstrating that the development remains consistent with the objectives of the maximum building height control and on that basis that compliance is unreasonable or unnecessary;
- Demonstrating consistency with the R4 zoning;
- Establishing compliance is unreasonable and unnecessary;
- Demonstrating there are sufficient environmental planning grounds to justify varying the standard; and
- Satisfying the relevant provisions of Clause 4.6.

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The Variation & Design Response

Clause 4.3 of Paramatta Local Environmental Plan 2011 stipulates a maximum building height of 14m for the subject site.

The extent of departure is nominated below noting this takes the highest extent of departure for the various elements.

- Lift Over-run: 2.3m or 16.4%
- Fire Stair: 1m-1.2m or 7.1%- 8.5%
- Roof Over WC: 2.6m or 18.5%

The areas of departure result in a preferred planning outcome as compared to strict compliance noting:

- The roof element could be removed but would remove shade;
- The lift over-run and fire stairs could be reduced but it eliminates the ability to access the rooftop for all persons. This could be replaced with only an open stair access provided with a platform lift) which would eliminate this departure however this would lead to an inferior access arrangement to the rooftop common open space than that currently proposed. It would erode ease of access to the space noting the rooftop communal open space is a preferred planning outcome to enable high quality communal open space areas that receive excellent solar access and a series of functional and useable spaces for residents. The provision of lift access to this area is fundamental to ensuring suitable access to the space by all residents.
- The provision of a toilet at this upper level maximises amenity for the use of the communal open space that is facilitated by the height breach.

Therefore environmental planning grounds exist for the variation to the height standard that facilitates a better planning outcome.

It is also noted that the extent of departure is minor in the context of the broader development and they are limited when considering the surface area of the roof.

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Address of Clause 4.6 Provisions

A detailed discussion against the relevant provisions of Clause 4.6 are provided below.

Clause 4.6 provides that development consent may be granted for development even though the development would contravene a development standard. This is provided that the relevant provisions of the clause are addressed, in particular subclause 3-5 which provide:

3. *Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating.*
 - a. *that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*
 - b. *that there are sufficient environmental planning grounds to justify contravening the development standard.*
4. *Development consent must not be granted for development that contravenes a development standard unless:*
 - a. *the consent authority is satisfied that:*
 - i. *the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and*
 - ii. *the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and*
 - b. *the concurrence of the Director-General has been obtained.*
5. *In deciding whether to grant concurrence, the Director-General must consider:*
 - a. *whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and*
 - b. *the public benefit of maintaining the development standard, and*
 - c. *any other matters required to be taken into consideration by the Director-General before granting concurrence.*

Each of these provisions are addressed individually below.

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Clause 4.6(3)- Compliance Unreasonable and Unnecessary

In accordance with the provisions of this clause it is considered that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case as:

- The underlying objectives of the control are achieved.

In addition, it is noted that the 14m numerical requirement has been regularly applied as a 4 storey maximum height control. This sets the desired future character for development in the R4 zone in the immediate locality subject to the 14m height limit, and this development is a 4 storey built form (in terms of the number of residential levels) consistent with the desired future character.

Underlying Objectives are Satisfied

In *Wehbe v Pittwater* it was set out that compliance can be considered unreasonable or unnecessary where:

- (i) The objectives of the standard are achieved notwithstanding non-compliance with the standard*

It is considered that this approach can be followed in this instance.

The objectives of the Height development standard are stated as:

- (a) to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,*
- (b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development,*
- (c) to require the height of future buildings to have regard to heritage sites and their settings,*
- (d) to ensure the preservation of historic views,*
- (e) to reinforce and respect the existing character and scale of low density residential areas,*
- (f) to maintain satisfactory sky exposure and daylight to existing buildings within commercial centres, to the sides and rear of tower forms and to key areas of the public domain, including parks, streets and lanes.*

The proposal, despite the numerical non-compliance identified, remains consistent with the objectives based on the following:

- Objective (a) is explanatory in what is sought to be achieved by the numerical standard and whilst there is a height transition to the north to 11m the area of the breach is centrally located with strict compliance achieved at the desired interface and the intensity of the development is suitable when noting compliance with the FSR standard.
- Objective (b) is satisfied as it relates to the departure because the location and design of these upper levels are located centrally in an area where there is no unreasonably

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visual impact, disruption of views or loss of privacy. The extent of shadow cast by the non-compliant part of the building falls largely on the street given the lot orientation and does not unreasonably impact on solar access to adjoining properties or the public domain.

- Objective (c) is satisfied noting that the adjoining heritage site is not impacted adversely by the height breach noting the location of the breach is located away from the heritage item and there is no adverse impact in terms of the setting of that item given that heritage building is located on Boundary Street;
- Objective (d) is not relevant as there are no historic views in this area;
- Objective (e) is not relevant as the site, nor are adjoining sites, situated within a low density residential area;
- Objective (f) is not relevant as it relates to the commercial reference. However the proposal maintains suitable sky exposure and daylight to the public domain including the streets and associated public domain areas.
- The additional overshadowing that results from the height non-compliance is limited owing to the lot orientation and the minor extent of the height breach and the sites relationship to the adjoining allotments.
- The proposal provides an appropriate building form that is consistent with the desired future character of the locality and is reflective of the objectives for the zone and locality generally.

As outlined above the proposal remains consistent with the underlying objectives of the control and as such compliance is considered unnecessary or unreasonable.

Sufficient Environmental Planning Grounds & Design Response

The below points demonstrate suitable environmental planning grounds exist to justify contravening the height development standard and further demonstrates that the height departure does not give rise to any environmental impacts, and therefore the proposal is an appropriate design response for the subject site:

- At the outset the variation is minor, to the extent that the non-compliance will be largely imperceptible as viewed from the public domain or surrounding properties given the location of the breach is recessed centrally within the building.
- The maximum height of all parts of the building, other than the rooftop amenities, lift overrun, and fire stair are below the 14m height limit. The extent of the minor non-compliance could be reduced by the removal of these areas; however, this would be a poorer design outcome through removal of shade elements to the communal rooftop area, the removal of a WC at the rooftop COS level, and reduced accessibility

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if the lift did not continue to the rooftop. Accordingly the minor departure enables a better design outcome, consistent with the following Objects of the Environmental Planning and Assessment Act 1979:

(g) to promote good design and amenity of the built environment,

It is noted that the rooftop communal open space areas are high quality and well-designed spaces with good solar access and the provision of lift access increases the useability and functionality of the space for residents.

Therefore, the current proposal is a preferred outcome from an environmental planning perspective and demonstrates that there is merit in varying the height control to achieve a better design response on the site which demonstrates sufficient environmental planning grounds to support the departure.

Clause 4.6(4) Zone Objectives & The Public Interest

In accordance with the provisions of Clause 4.6(4) Council can be satisfied that this written request has adequately addressed the matters required to be demonstrated by Clause 4.6(3) for the reasons set out previously.

As addressed the proposed development is in the public interest as it remains consistent with the objectives of the building height control. In addition, the proposal is consistent with the objectives of the R4 zone, being:

- *To provide for the housing needs of the community within a high density residential environment.*
- *To provide a variety of housing types within a high density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To provide opportunity for high density residential development close to major transport nodes, services and employment opportunities.*
- *To provide opportunities for people to carry out a reasonable range of activities from their homes if such activities will not adversely affect the amenity of the neighbourhood.*

Consistency with the objectives is evident as –

- The proposal contributes to the creation of housing supply that will serve the communities demand for apartments.
- The proposal contributes to a variety of housing types in a high density environment.
- The third objective is not relevant
- The fourth objective is satisfied because the proposal provides high density development close to major transport nodes, services and employment opportunities within Parramatta.

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- The fifth objective is not relevant.

On the basis of the above points the development is clearly in the public interest because it is consistent with the objectives of the building height standard, and the objectives of the R4 zone and the numerical departure from the building height control facilitates a better design outcome on the site.

Clause 4.6(5)

As addressed, it is understood the concurrence of the Director-General may be assumed in this circumstance, however the following points are made in relation to this clause:

- a) The contravention of the building height control does not raise any matter of significance for State or regional environmental planning given the nature of the development proposal; and
- b) There is no public benefit in maintaining the development standard as it relates to the current proposal. The departure from the building height control is acceptable in the circumstances given the underlying objectives are achieved and it will not set an undesirable precedent for future development within the locality based on the observed building forms in the locality and the nature and height of approved developments in the locality.

Conclusion

Strict compliance with the prescriptive building height requirement is unreasonable and unnecessary in the context of the proposal and its unique circumstances. The proposed development meets the underlying intent of the control and is a compatible form of development that does not result in unreasonable environmental amenity impacts.

The design response aligns with the intent of the control and provides for an appropriate transition to the adjoining properties.

The objection is well founded and considering the absence of adverse environmental, social or economic impacts, it is requested that Council support the development proposal.

Strict compliance with the prescriptive building height control is unreasonable and unnecessary in the context of the proposal and its particular circumstances. The proposed development meets the underlying intent of the control and is a compatible form of development that does not result in unreasonable environmental amenity impacts.



DESIGN VERIFICATION STATEMENT

**For 2-4 Boundary Street and 85 Railway
Street Parramatta NSW 2124**

December - 2021



Introduction:

This Design Verification Statement accompanies a Development Application for the demolition of existing dwellings and the construction of a 4 storey Residential flat building and associated basement car parking

The development consists of 25 units contained within one multi storied building.

The development content is as follows.

1 Bed	3 Units
2 Bed	19 Units
3 Bed	3 Units

39 Car parking spaces

This statement verifies that Adriaan Winton directed the design of the project and that the proposed development adheres to the design principles set out in Part 2 of State Environmental Policy No 65- "Design Quality of Residential Flat Development" and certifies that the proposed building satisfies those principals.

Principle 1: Context and neighbourhood character

SEPP 65: Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well-designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change

Comment: The proposed development is zoned R4 under Parramatta Local Environmental Plan 2011(PLEP 2011).

Residential Flat Buildings are permissible with consent within the R4 Zone.



Principle 2: Built form and scale

SEPP 65: *Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings.*

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

Comment: The scale of development in the precinct is proposed to be of buildings of variable height primarily low rise in height. The proposed site is in a precinct that is planned for revitalization. The site is located within 1.2 km from Merrylands railway station and 1.5 km from Parramatta transit interchange and is in close proximity to regular bus services to those transit hubs

The proposed development responds and conforms to the height and building form Proposed for the precinct and would allow for future developments on adjoining sites to achieve their full potential.

The building may be termed a "Big House" type, and relates to the existing built form in the area due to its roof design, recessed bays, fenestration, materials, texture and colour. The building addresses the street with a major façade which is aligned with the form of the street. The built form of the development relates to other built forms allowed in the DCP for the precinct. The overall affect is to create a building that presents a very effective and architectural building within the streetscape.

Principle 3: Density

SEPP 65: *Good design has a density appropriate to its site and its context, in terms of floor space yields (or numbers of units or residents). Appropriate densities are sustainable and are consistent with the existing density in an area or, in precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.*

Comment: The precinct with in the area controlled by Parramatta Local Environmental Plan 2011 and the Parramatta Development Control Plan 2011

The density of the development complies with the allowable density in the planning codes for the area. Given the location of the development in relation to the Cabramatta town centre, retail facilities and community facilities and the rising demand for housing in the area, the proposed density is appropriate and consistent with the requirements as outlined *Parramatta Development Control Plan 2011*



Principle 4: Sustainability

SEPP 65: *Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater*

Comment: The proposed development is consistent in the application of through flow ventilation and solar access to the units. Of the 25 units in the development 19 units have the required solar access and 18 units through flow ventilation. There are no units which have a sole southerly aspect; the units which have a southerly aspect have primary living space facing west or east. The orientation of the building on the site and the design of the units all contribute substantially to the solar passive design and energy efficiency of the development.

The proposed development has been NatHERS and Basix assessed and scores well in all required categories of water, thermal comfort and energy. Energy efficiency is aided by the use of water/energy efficient fittings, appliances and lighting.

Principle 5: Landscape

SEPP 65: *Good design recognizes that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.*

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, coordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks. Good landscape design optimizes usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management

Comment: The proposed development forms part of the Residential precinct,

The proposed development upon the site provides many areas of landscaping and deep soil promoting healthy growth of large trees.

The proposed development provides 545sqm (30%) deep soil and total of landscaping and communal open space of 454 sqm (25.5%). The landscaped open space which will promote healthy growth of large trees. The landscaping provided will contribute to the enjoyment of these areas.



Principle 6: Amenity

SEPP 65: *Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well-being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.*

Comment: Apartments is a mixture of 1, 2 and 3 bedroom apartments. Cross ventilation is achieved for 18 of the apartments (72%).

19 of apartments have the required solar access (76%). Where apartments are exposed to direct western summer sun sliding louver/shading panels have been provided.

Privacy is ensured by the side setbacks to the side boundaries. The building complies with the setbacks as recommended in the SEPP 65 design code and the requirements outline in DCP. Where there are perceived direct observation potentials the design of the building tries to ensure the windows in conflict have the required offset.

Each dwelling has its own external private open space which is more than adequate.

Bathrooms/Ensuite are accessed from the hallways leading to the bedrooms. Kitchens are accessed from the primary living area.

Visual and acoustic privacy is acceptable and able bodied access is through entry lobbies at the ground floor.

Disabled access is gained to the ground floor via a pedestrian path (which complies with ASNZ 1428.1-2001) from the street. There are the required number of apartments which are adaptable these are located on levels 1 and 2 all units within the development are accessible via the lifts. The car spaces are located in the basement car parking with easy access to the lift.

Principle 7: Safety

SEPP 65: *Good design optimizes safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximize passive surveillance of public and communal areas promote safety.*

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well-lit and visible areas that are easily maintained and appropriate to the location and purpose

Comment: Public and communal spaces are overlooked on all sides by balconies, terraces and windows from primary living rooms of the project. The building addresses the public domain with glazed doors and balconies.

The communal spaces will be adequately lit and are void of areas that may be subjectable to criminal activities. The building will have safe and secure access to the carpark. The lift to the building will be a security lift providing access to the residential levels.



Principle 8: Housing Diversity and Social Interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well-designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

Comment: The proposed residential use is appropriate to the location of this site, as it is located within close proximity to bus routes that service the Parramatta transport interchange and community facilities such as local clubs, baby health centre and community centre.

The proposed development has an appropriate mix of 1 and 2 bedrooms apartments of varied size, as a result it provides a social mix which is well suited and appropriate to the area.

Principle 9: Aesthetics

SEPP 65: *Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of a well-designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.*

Comment: The form and composition of this design relate to proposed developments in the precinct in terms of its roof type, modulation of facade, fenestration, materials, texture and colour.

The use of detail and texture and the high degree of articulation in the façade composition has the result of creating an interesting and high quality building which sits well in the precinct and compliments the existing streetscape



Conclusion

This proposed development provides a complimentary and interesting addition to the Boundary Street and Railway streetscape and the Boundary street precinct and surrounding area in its built form, height, scale and density comply with DCP controls is consistent with what is allowable for the precinct.

Its landscape design includes substantial deep soil planting of large trees and low scale planting. The development is well suited to its site and its location.

The proposed development will provide a positive contribution to the environment, population and social interaction of the existing precinct

Adriaan Winton

Architect Registration Number 5347



Nominated Architect Adriaan Winton NSW Architects Registration Board 5347

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Arboricultural Impact Assessment

On: Tree Specimens
Location: 2-4 Boundary St & 85
Railway St, Parramatta NSW 2140

TREEHAVEN ENVIRONSCAPES.
128 Showground Road Castle Hill. NSW 2154
smcl2666@bigpond.net.au

For: Mr. Ali Ibshara
On. 6/12/2021

TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85
Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 1 of 23

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DISCLAIMER

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Whilst every attempt is made to be accurate and factual with regard to references used in this document no liability is assumed for the work done by others.

Please note that trees are living organisms which are subject to natural growth, change and also to 'Acts of God' such as storms and lightning strikes. This report contains empirical data gathered on the day for the purpose of tree assessment in terms of their health and long term viability. Given the transitory nature of living things such data only gives a 'snapshot' of the organism on the day and cannot be applied to future events, 'Acts of God', mechanical, pathogen attack or chemical damage to the organism after that time.

The information supplied herein is given in good faith and to the best available scientific and industry standards which apply to the Author's level of education and experience.

1 INTRODUCTION

- 1.1** The properties at 2 to 4 Boundary Street and 85 Railway Street Parramatta NSW 2140, henceforth referred to as the Site, is being considered for development by Mr. Ali Ibshara who is proposing to demolish the existing houses and build a 6 storey structure with 51 units and underground carparking structure on the property. This will entail the removal of all tree from the Site.
- 1.2** The property is within the jurisdiction of Parramatta City Council (PCC) which has in place a Tree Protection Order¹ (TPO) which prohibits the pruning, removal, ringbarking, topping, lopping, injury or wilful destruction of trees over 5m without Council's written consent. For the removal or major pruning of trees covered by the TPO, PCC requires an arborist report whose purpose is to examine and appraise them prior to, and post any development of the site. Consequently SKA Homes have engaged Mr. Stephen McLoughlin of Treehaven Environscapes, to visit the site examine 10 tree specimens, designated **T1** to **T10** inclusive, which have a potential to be affected by the development and prepare this report.
- 1.3** This report contains empirical data collected regarding the tree specimens supported by digital photos, a Discussion regarding the relevance of the specimens and presents Conclusions and Recommendations as to the future treatment of the trees. Tables and plans relating to this report are included as Appendix 1 & 2 at the end of the document. This document pays heed to PCC's TPO and utilizes the Australian Standards 4790-2009 *Trees on development sites* and 4373-2007 *Pruning of Amenity Trees* as a set of guiding principles.

¹ DCP 2011 Part 5.4 Preservation of Trees or Vegetation

SITE DESCRIPTION

- 2.1 The land on which the trees are sited is on a rhomboidal shaped block with a Northerly facing slope on a slight gradient and is in the Toongabbie creek catchment.
- 2.2 There are 3 single story brick clad house on the site with a outbuildings to the East and North of the existing dwellings.
- 2.3 Tree specimens designated **T1** is growing in the neighbouring property to the North West of the Site (See Fig 1). Trees **T2**, **T3**, **T4**, **T5**, **T6**, **T7**, **T8**, **T9**, & **T10** are located on the Site.
- 2.4 There are no street trees on the nature strip to the West and South of the Site (See Figs 2 & 3).



Fig. 1. Aerial photo of the site from Google Maps showing position of the trees scheduled to be removed, in red Circles and those to be retained in green circles.

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Fig. 2. Photo of nature strip to the West of the Site.



Fig. 3. Photo of nature strip to the South of the Site

3. METHODOLOGY.

3.1 The tree specimens were visually assessed using non-destructive means by employing the Visual Tree Assessment (VTA) as developed by Matteck and Broeler (2006).

The information gathered was used to

- i) Calculate Tree protection Zones (TPZ) and Structural Root Zones (SRZ) with reference to the Australian Standard (AS) 4970-2009 and
- ii) Provide a qualitative assessment of the tree utilizing Jeremy Barrell's Safe Usable Life Expectancy (SULE) of which a table outlining the different categories appears in Appendix 3 of this document.

3.2 No invasive procedures, such as coring or drilling, were used in the examination of the specimen.

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3.3 Structural Root Zone (SRZ) calculations provided in section 3.3.5 of Australian Standard 4970 -2010 are given as

$$SRZ = (D \times 50)^{0.42} \times 0.64$$

Where D is the diameter of the tree as measured just above the root buttress and the result is the radius of a circle enclosing the tree. This is referred to as the tree's Diameter at Ground Level (DGH) in the table in Appendix 1.

Also section 3.2 Tree Protection Zones (TPZ) is given as,

$$TPZ = DBH \times 12$$

Where DBH is the diameter of the trunk of the trunk measured at 1.4m from the ground.

In the case of trees which have multiple stems at 1.4m from the ground, DBH was determined by using the following formula as advised in AS4970-2009

$$\text{Total DBH} = \sqrt{(DBH1)^2 + (DBH2)^2 + (DBH3)^2}$$

3.4 The position of the trees has been determined by survey plans as forwarded from IDA Plans

3.5 Australian Standard 4970-2009 advises that a Major Encroachment is greater than 10% of the TPZ and a Minor Encroachment is less than 10% of the TPZ.

4. DESCRIPTION OF THE TREES (See Appendix 1).

4.1 Trees **T1** and **T10** are both *Olea africana* or 'African Olive' which is an exotic species native to Southern Africa (see Figs. 4 & 9). The trees were in reasonable health and vigour at the time of inspection

Impacts of the development:

In relation to these specimens I note the following;

- Tree **T1** will be subjected to a Major Encroachment into its TPZ and SRZ by the proposed ramp into the underground car park (See Appendix 3c).
- Tree **T2** will be engulfed by the new dwelling (See Appendix 2c).

4.2 Tree **T2** is a *Shinus molle* or 'Pepper Tree' which is an exotic specimen endemic to Peru. The tree is located near the Northern border of the property and was in poor health and vigour at the time of my inspection (See Fig. 5).

Impact of the development:

This specimen won't be affected by the new building footprint but is scheduled to be removed and replaced in the new landscaping for the Site (See Appendix 2c).

- 4.3 Tree T3 is a *Cinnamomum camphora* or 'Camphor Laurel' which is an exotic specimen endemic to China. The tree is located to the North-east of the property and the species is listed as exempt in the DCP (See Fig. 7).

Impact of the development:

This specimen won't be affected by the new building footprint but is scheduled to be removed and replaced in the new landscaping for the Site (See Appendix 2c).

- 4.4 Tree T4 is a *Prunus cerasifera* or 'Plum' which is an exotic fruiting specimen. The tree is located to the North of the property (See Fig. 7). The tree is a fruiting specimen less than 5m in height and is not subject to the TPO.

Impact of the development:

This specimen will be entirely engulfed by the deep excavation for the underground car park and will need to be removed for the development to proceed as planned (See Appendix 2c).

- 4.5 Tree T6 is a *Lagerstroemia indica* or simply 'Crepe Myrtle' which is an exotic specimen endemic to India. The tree is located near the Western portion of the Site. The specimen was in good health and vigour at the time of my inspection (See Fig. 8).

Impact of the Development:

This specimen will be subjected to a Major Encroachment from the deep excavation for the car park and will need to be removed for the development to proceed as planned (See Appendix 2c).

- 4.6 Tree T7 is a *Brunfelsia latifolia* or 'Yesterday Today and Tomorrow' which is an exotic specimen endemic to Brazil. The tree has been planted in the front yard to the South-West of the property (See Fig. 10). The tree is less than 5m in height and not subject to the TPO.

Impact of the development:

This specimen is less than 5m in height and can be removed (See Appendix 2c).

- 4.7 Tree T8 is a *Callistemon viminalis* or 'Weeping Bottlebrush' which is a native specimen common to North Eastern NSW. The tree is located to the South-West corner of the property (See Fig. 6). The tree is less than 5m in height and not subject to the TPO.

Impact of the development:

This specimen is less than 5m in height and can be removed (See Appendix 2d).

- 4.7 Tree T9 is a *Hibiscus syriacus* or 'Rose of Sharon' which is an exotic specimen endemic to the Middle east. The tree is located to the South-West corner of the property (See Fig. 6).

The tree is less than 5m in height and not subject to the TPO.

Impact of the development:

This specimen is less than 5m in height and can be removed (See Appendix 2d).

5. DISCUSSION

5.1 It is noted that there are no endemic nor heritage listed trees growing on or near the Site. All the trees investigated in this report are planted specimens

5.2 In summary the plans for the Site indicate the following:

- **T1** will be subjected to a Major Encroachment from the ramp
- **T2** is a will be subjected to a Minor Encroachment from the new building footprint but was in poor condition at the time of my inspection.
- Trees **T3** won't be affected by the deep excavation but is a weed species and is highly desirable to remove it and replace it with a more appropriate specimen.
- Tree **T4** is a fruit tree which will be engulfed by the deep excavation for the carpark.
- Tree **T5** is a native nut producing specimen which will be engulfed by the deep excavation for the car park and will need to be removed for the Site to be developed as planned.
- Tree **T6** is a medium sized exotic tree which will need to be removed
- Tree **T7** is a small exotic specimen which can be removed.
- Tree **T8** is a small native specimen which can be removed.
- Tree **T9** is a small exotic specimen which will be engulfed by the deep excavation for the carpark.
- Tree **T10** is an exotic weed species and will be engulfed by the deep excavation for the car park.

5.3 PCC has a tree offset programme where

"When trees are removed, they should be replaced on the site with another tree however sometimes circumstances don't allow this to

happen. In these cases, a financial contribution will be required to be paid to support public tree planting"².

6. CONCLUSIONS & RECOMENDATIONS

- 6.1.** It is recommended that the Applicants appoint a Project Arborist (PA) as recommended in AS4970-2009 to supervise and document tree protection methods and work activities with the TPZs of the subject trees.
- 6.2** For the development to proceed as planned it is recommended that trees **T2, T3, T4, T5, T6 T7, T8, T9 & T10** be removed as indicated in Appendix 2b. Tree **T1** is growing on the neighbouring property and is to be retained.
- 6.3** Removal of trees constitutes a loss of amenity for the area and, in accord with PCC TMC, it is recommended that any tree scheduled for removal be replaced with suitable endemic specimens placed in a more accommodating space on the Site.
- 6.4** With regard to tree protection please note the following damage often occurs to vegetation on building sites;
- The use of excavators which can cause damage directly by slewing around and coming into contact with tree trunks and limbs and indirectly by crushing and compacting soil around the trees within their root zone. Care should be taken to minimise damage when these vehicles are in close proximity to the remaining vegetation by establishing exclusion zones based on the TPZs and SRZs of the trees as calculated in the tree table in Appendix 1.
 - Damage to roots and root zone around plants due to changes in soil levels either by compaction of soil around remaining vegetation where heavy vehicles drive over the top of roots, or by soils level being raised with site fill. This limits and prevents respiration by tree roots leading to declining tree health. Also the stock piling of soil material for later use or removal, or long term where the use of site fill has been earmarked to back fill low areas and behind retaining walls. Care should be taken to prevent the build up of soil around trees and shrubs as it can suffocate tree roots and encourage the growth of fungal pathogens such as *Phytophthora* which can induce collar rot and lead to death of the plant. Care should therefore be taken to carefully plan out soil levels in advance and as much as possible, retain existing soil gradients.
 - Chemical damage to plants can occur with use of cement, paints, stains, glues and solvents and from oil and petrol spills. This can occur by the deliberate dumping of excess materials when finishing a job or inadvertently dumping such waste in a careless manner. Damage can occur to plants when such

² Parramatta City Council Development Control Plan 2011 Tree offsets.

chemicals, many of which can penetrate deep into soil, are taken up by plant roots or when paints or stains are accidentally sprayed or splashed on plant leaves and branches. Inert materials such as excess mortar can be safely placed in a bin or with regular rubbish removal whereas reactive substances such as paints and solvents should be disposed of in an environmentally safe manner.

- Severing of plant roots is most likely to occur during excavation and it is important that these are not ripped from the ground whereby further damage can be incurred to root systems closer to the plant. It is generally accepted among consulting arborists that tree roots encountered during excavation up to 50mm may be safely cut with shears or secateurs and that tree roots <50mm be examined by a consulting arborist prior to severing in order to assess their importance to the tree and likely impact of removal. This needs to be done on a case by case basis as tree's tolerance to such root pruning varies from species to species with a marked difference between native specimens and exotics. Avoid cutting any roots within the stated SRZ s of trees as this practice can result in the destabilization of the tree and lead to trunk failure.

7. THE AUTHOR'S QUALIFICATIONS AND EXPERIENCE.

Stephen McLoughlin obtained a Horticultural Certificate (1982) with Arboriculture as the third year elective whilst an employee of 10 years service with Baulkham Hills Shire Council (BHSC) now The Hills Council. Most of this time employed in the Council's Parks and Gardens and street tree plantings and, later, managing the Council's Nursery. This was augmented with a Bush Regeneration Certificate (1987) where he studied native plant communities, the means necessary to protect and restore them and the identification and eradication of weed species. Additional to this he obtained a Bachelor of Environmental Science Degree (1997) involving the study of natural environments, Ecology, data collection, analysis and documentation, report writing as well studies in relevant Common Law, current Environmental and Heritage Legislation. Since obtaining his degree Stephen writes reports on a regular basis covering Environmental, Heritage and Horticultural / Arboricultural subjects.

Further to this he upgraded his qualifications to that of Arborist Qualification 5 (AQF5) having completed the Associate Diploma of Horticulture / Arboriculture, a standard of qualification which is currently expected by many Local Government and statutory bodies.

Stephen also has a current NSW Structural Landscaper's Licence and has been involved in regular landscape construction works as both Principle and Sub Contractor on many Public, Private and Commercial ventures since commencing his contracting business in 1989. He has many garden and estate maintenance contracts, and Bush Regeneration projects involving large scale properties with many trees under his care, including the providing of advice and practical solutions to the issues of Bush Fire Asset Protection Zones.

Consequently, Stephen has well grounded experience in both Public and Private tree plantings, the care and maintenance of them as well as hands on experience of what occurs on construction sites and the results of mechanical disturbance to trees on such sites.

The Author is also an accredited Root Barrier Australia ® installer and has been involved with many excavations involving tree roots.

In 2014 Stephen completed his Diploma of Environmental Management at the Ryde campus of North Sydney TAFE involving studies with regard to Bushfire Management, Global Information Systems (GIS), Mapping, Managing Native Fauna (for which he obtained a distinction) and River Restorations.

Also he has recently completed the Quantified Tree Risk Assessment Course (QTRA)

Yours sincerely

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Websites accessed

Department of Primary Industries

<https://weeds.dpi.nsw.gov.au/Weeds/Cotoneaster>

APPENDIX 1a. Schedule of trees identified on the site listing condition and physical dimensions of trees on the Site.

Specimen name	Est. Height	Diameter DBH* DGH**	Crown	Comments	SULE ***	TPZ	SRZ
T1 <i>Olea africana</i> Common name 'African Olive' Age class 50 years See Fig. 4	10m	50cm 60cm at the base	N 3m E 3m S 4m W 3m	An exotic species common to Southern Africa. The tree is growing in the neighbouring property to the North West of the Site. At the time of inspection it was noted that the tree was in good health and condition and there were no significant pathogens noted or defects noted. The species is listed as an exempt species in the DCP.	B3	6m	2.67m
T2 <i>Schinus molle</i> Common name 'Pepper Tree' Age class 50 years See Fig. 5	8m	90cm 110cm at the base	N 5m E 5m S 4m W 5m	An exotic species endemic to Peru. The tree is growing in the property to the Northern portion of the Site. At the time of inspection it was noted that the tree was in poor health with several dead limbs in the canopy.	A4	10.08m	2.43m
T3 <i>Cinnamomum camphora</i> Common name 'Camphor Laurel' Age class 50 years See Fig. 7	4m	N/A	N/A	An exotic species endemic to China. The tree is growing in the rear yard in the Northern eastern portion of the Site. At the time of inspection it was noted that the tree was in good health with no significant pathogens or defects noted. The species is listed as exempt from protection in the DCP.	A2	N/A	N/A
T4 <i>Prunus cerasifera</i> Common name 'Plum Tree' Age class 50 years See Fig. 7	3m	N/A	N/A	An endemic species common to East coast NSW. The tree is growing in the Northern portion of the Site. At the time of inspection it was noted that the tree was in good health condition and there were no significant pathogens noted or defects noted. The specimen is a fruit tree less than 5m in height and is exempt from protection in the DCP.	A5	N/A	N/A
T5 <i>Macadamia tetraphylla</i> Common name 'Macadamia Nut Tree' Age class 50 years See Fig. 6	4m	N/A	N/A	A native nut producing species common to Northern NSW and Queensland. The tree is growing in the property to the North of the dwelling at No. 2. At the time of inspection it was noted that the tree was in good health and condition. The specimen is a fruit tree less than 5m in height and is exempt from protection in the DCP.	A5	N/A	N/A

T6 <i>Lagerstroemia Indica</i> Common name 'Crepe Myrtle' Age class 50 years See Fig. 8	7m	1 x 20cm 1 x 28cm 45cm at the base	N 2m E 2m S 3m W 2m	An exotic species Endemic to India. The tree is growing in the property in the Western portion of the Site. At the time of inspection it was noted that the tree was in good health with no significant pathogens or defects noted. The tree has co dominant stems from ground level and assumes a shrublike habit.	A2	3m	2.3m
T7 <i>Brunfelsia latifolia</i> Common name 'Yesterday Today and Tomorrow' Age class 50 years See Fig. 10	2m	135cm 140cm at the base	N 6m E 7m S 5m W 7m	A native species common to Northern NSW and Queensland. The tree is growing in the South West corner of the Site. At the time of inspection it was noted that the tree was in good health and condition however the tree has formative damage to its main stem where several stems branch out from 'V' shaped unions with some included bark in the junctions.	A5	N/A	N/A
T8 <i>Callistemon viminalis</i> Common name 'Weeping Bottlebrush' Age class 50 years See Fig. 10	3m	Multiple 80cm at the base	N 2m E 2m S 2m W 2m	A native species common to Northern NSW and Queensland. The tree is growing in the South West corner of the Site. At the time of inspection it was noted that the tree was in good health and condition. The specimen is less than 5m in height and not subject to the TPO	A5	N/A	N/A
T9 <i>Hybiscus syriacus</i> Common name 'Rose of Sharon' Age class 40 years See Fig. 10	3m	35cm 50cm at the base	N 4m E 4m S 4m W 4m	An exotic species endemic to the Middle East. The tree is growing in the rear yard of the neighbouring property to the South of the Site. At the time of inspection it was noted that the tree was in good health with no significant pathogens or defects noted.	A5	N/A	N/A
T10 <i>Olea africana</i> Common name 'African Oliver' Age class 40 years See Fig. 9	4m	<10cm at the base	N 2m E 2m S 2m W 2m	An exotic species common to Southern Africa. The tree is growing in the Site between the dwellings. The species is listed as an exempt species in the DCP	B3	N/A	N/A

Table describing trees growing on the development site. Tree numbers correspond with numbers on site plan appendix. 2.

*DBH Diameter at Breast Height. **DGH Diameter at Ground Height. ***SULE ratings are included as Appendix 3 of this report.

APPENDIX 1b. Figures 2 to 13. Photos of trees on the Site.



Fig. 4. Photo of T1 an *Olea africana*



Fig. 5. Photo of T2 a *Schinus molle*



Fig. 6. Photo of T5 a *Macadamia tetraphylla*



Fig. 7. Photo of T3 & T4 a *Cinnamomum camphora* and a *Prunus cerasifera*

TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85 Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 16 of 23



Fig. 8. Photo of T5 a *Lagerstroemia indica*

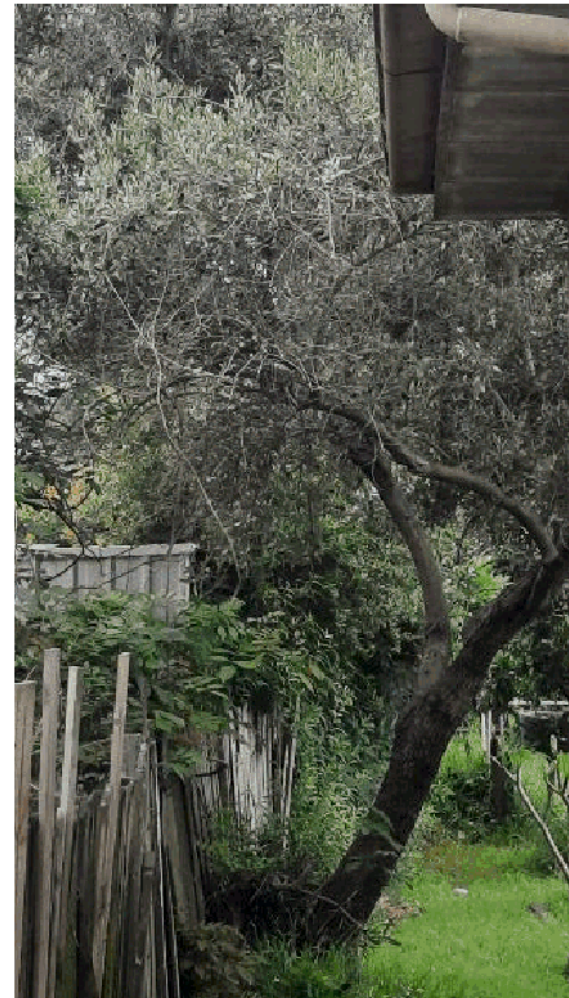
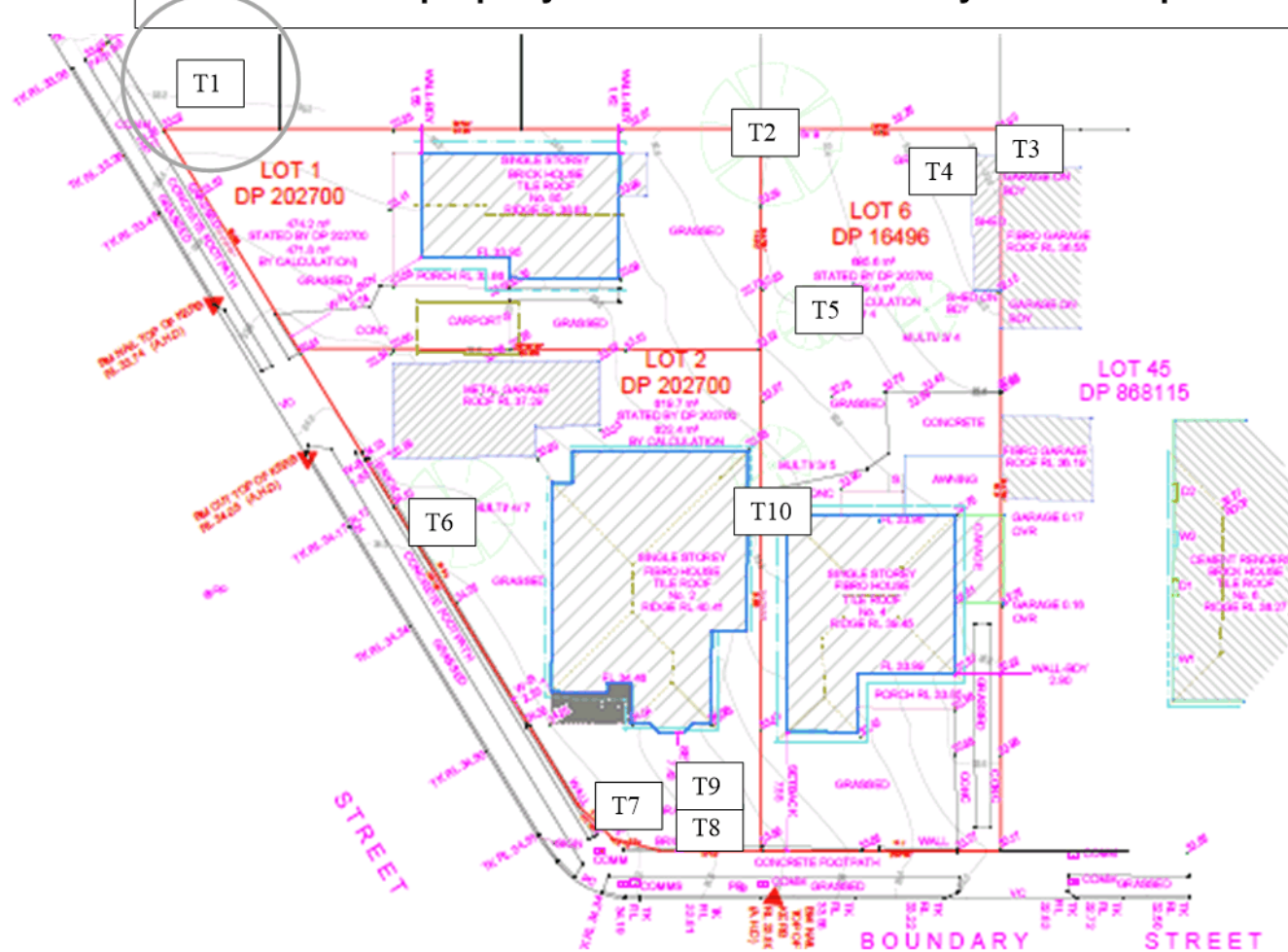


Fig. 9. Photo of T10 a *Olea africana*



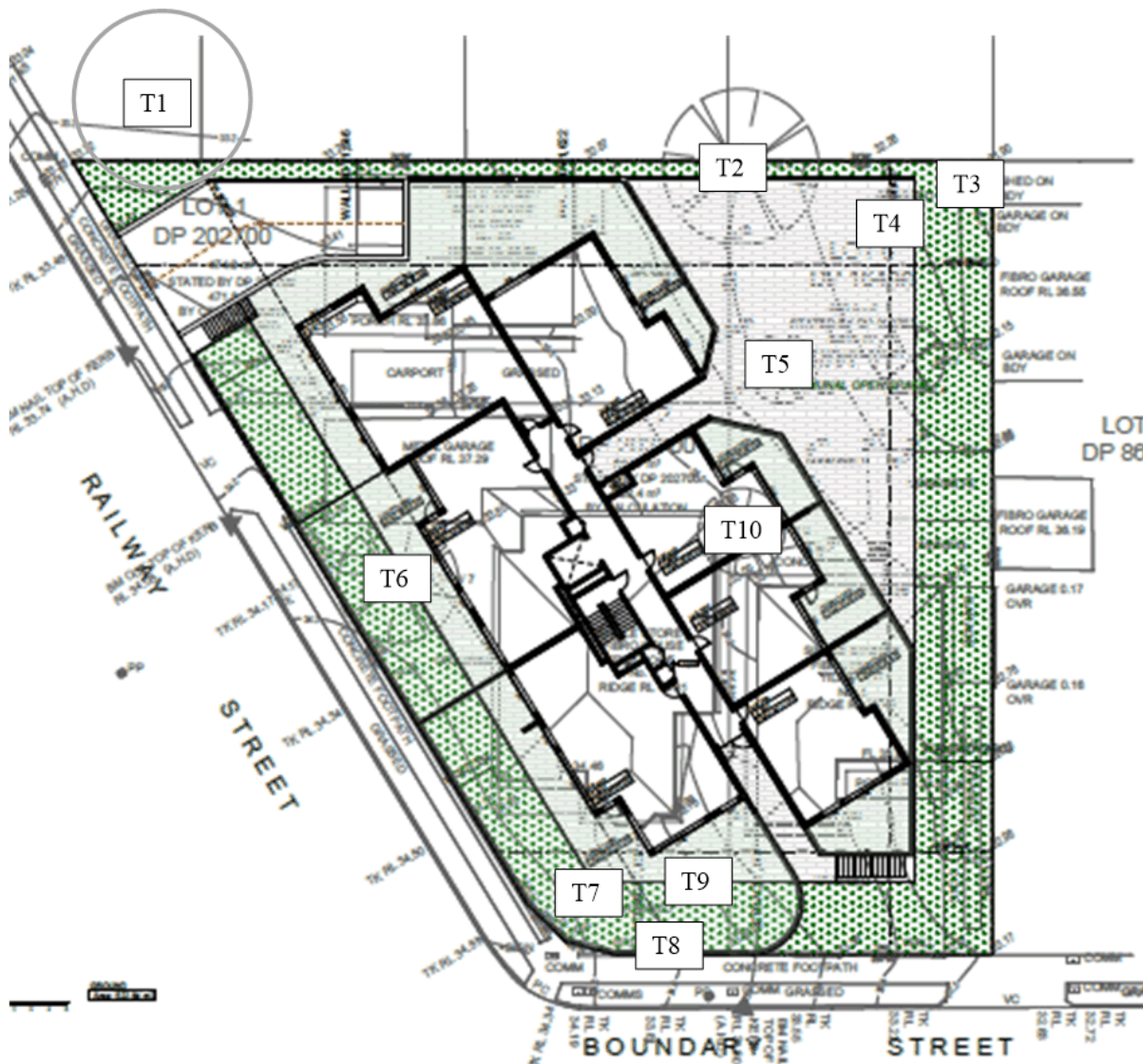
Fig. 10. Photo of trees T7, T8 & T9 a *Brunfelsia latifolia*

APPENDIX 2a. Excerpt from Site survey showing the location of trees on and near the property which will be affected by the development.



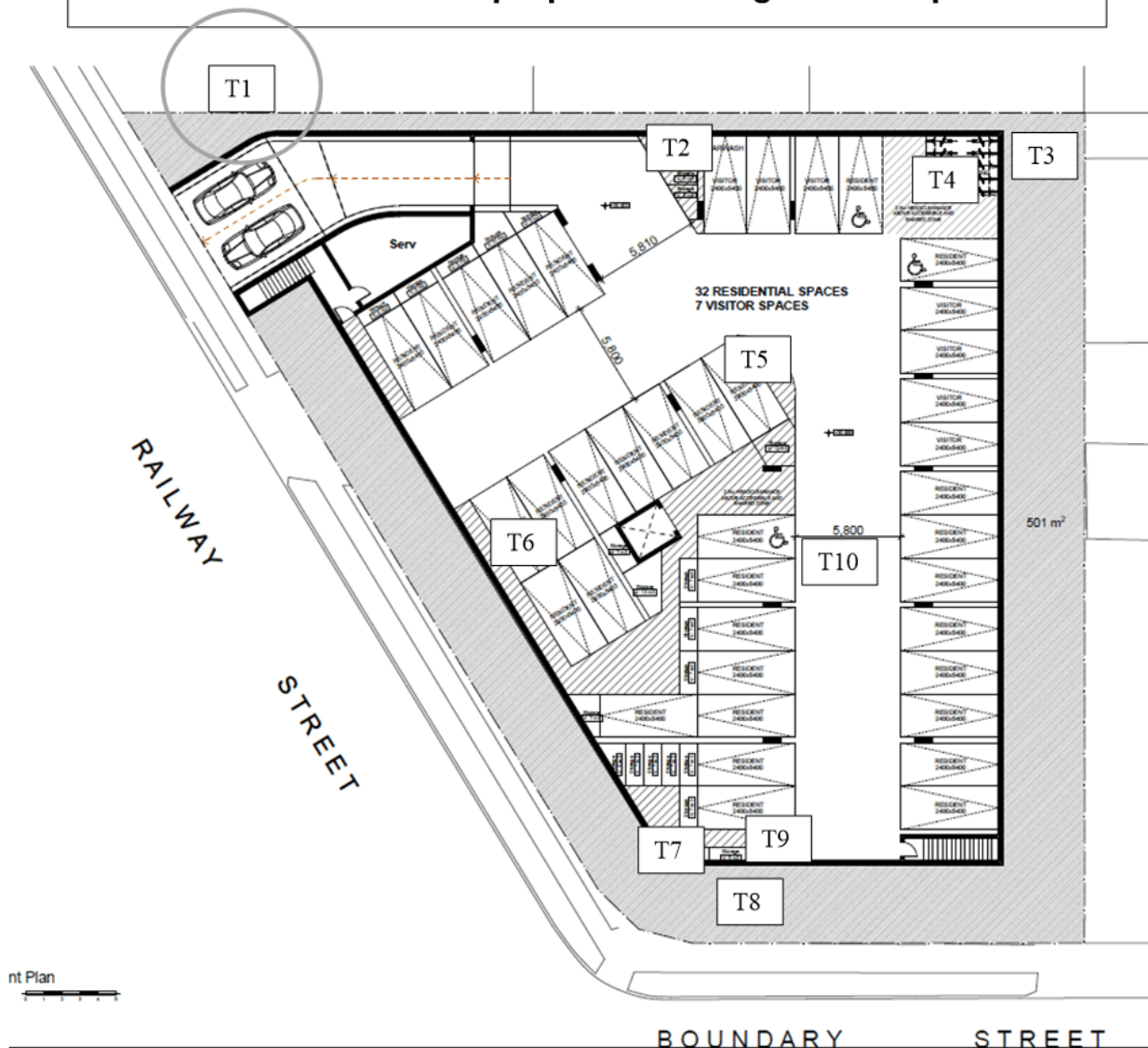
TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85 Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 19 of 23

APPENDIX 2b. Excerpt from Site plans showing the location of trees in relation to the new building footprint.



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 Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 20 of 23

APPENDIX 2c. Excerpt from Site plans showing the location of trees in relation to the proposed underground carpark.



APPENDIX 3. TABLE 2. SULE CATAGORIES AND SUB-CATEGORIES.

	1	2	3	4	5
	Long SULE: Appeared to be retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Medium SULE: Appeared to be retainable at the time of assessment for 15 to 40 years with and acceptable degree of risk assuming reasonable maintenance.	Short SULE: Appeared to be retainable at the time of assessment for 5 to 15 years with and acceptable degree of risk assuming reasonable maintenance.	Remove: Trees which should be removed within the next 5 years.	Small young or regularly clipped: Trees that can be reliably transplanted or replaced.
A	Structurally sound trees located in positions that can accommodate future growth	Trees that may only live for 15 and 40 more years.	Trees that may only live for between 5 and 15 more years	Dead, Dying suppressed or declining trees through disease or inhospitable conditions.	Small trees less than 5 m in height.
B	Trees that could be made suitable for retention in the long term by remedial care.	Trees that may live for than 40 years, but would need to be removed for safety or nuisance reasons	Trees that may live for than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent loss of adjacent trees.	Young trees less than 15 years old but over 5m in height.
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts	Trees that may live for more than 40 years but should be removed to prevent interference with more suitable individuals or to	Trees that may live for more than 15years but should be removed to prevent interference with more suitable individuals or to	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control their growth

	to secure their long term retention.	provide space for new plantings	provide space for new plantings		
D		Trees that could be made suitable for retention in the medium term by remedial care	Trees that require substantial remedial care and are only suitable for retention in the short term.	Damaged trees that are clearly not safe to retain.	
E				Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new plantings.	
F				Trees that may cause damage to existing structures within 5 years.	
G				Trees that will become dangerous after removal of other surrounding trees	

Table 2 Ref Barrell, Jeremy (1996). Predevelopment tree assessment. Proceedings of the International Conference on Trees and Building Sites (Chicago)

Addendum to Arboricultural Impact Assessment

On: Tree Specimens

**Location: 2-4 Boundary St & 85
Railway St, Parramatta NSW 2140**

TREEHAVEN ENVIRONSCAPES.
128 Showground Road Castle Hill. NSW 2154
smcl2666@bigpond.net.au

For: Mr. Ali Ibshara
On. 20/6/2022

TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85
Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 1 of 15

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DISCLAIMER

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Whilst every attempt is made to be accurate and factual with regard to references used in this document no liability is assumed for the work done by others.

Please note that trees are living organisms which are subject to natural growth, change and also to 'Acts of God' such as storms and lightning strikes. This report contains empirical data gathered on the day for the purpose of tree assessment in terms of their health and long term viability. Given the transitory nature of living things such data only gives a 'snapshot' of the organism on the day and cannot be applied to future events, 'Acts of God', mechanical, pathogen attack or chemical damage to the organism after that time.

The information supplied herein is given in good faith and to the best available scientific and industry standards which apply to the Author's level of education and experience.

1 INTRODUCTION

1.1 The following document is an addendum to an Arboricultural Impact Statement for the properties at 2 to 4 Boundary Street and 85 Railway Street Parramatta NSW 2140 which was submitted on 6/12/2021 and is intended to be read in conjunction with that previous report.

1.2 The report has been prepared in response to item 21 of Councils request for further information for DA/61/2022 as follows

“An amended Arboricultural Impact Assessment (AIA) and Tree Protection Plan (TPP) and Tree Protection Specification prepared by an AQF Level 5 arborist must be submitted to Council if consent from the owners of tree 1 - *Olea Africana* (African Olive) to remove the tree is not provided to Council for consideration, prior to the determination of the development application”. (Source Parramatta City Council correspondence on 30/5/2022)

Consequently IDA designs, on behalf of Mr. Ibshara, have engaged Mr. Stephen McLoughlin of Treehaven Environments prepare an amended Arboricultural Impact Statement in relation to tree protection measures for tree T1

SITE DESCRIPTION

2.1 No work has begun on the Site as yet and so the Site description in my initial report remains consistent with current site conditions.

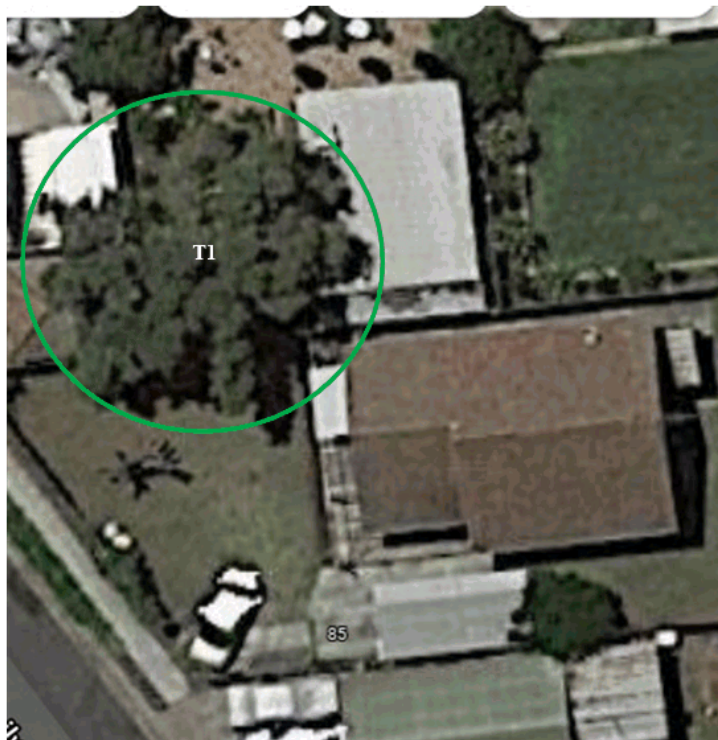


Fig. 1. Aerial photo of the site from Google Maps showing position of the subject tree **T1** in green circle.
TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85
Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 3 of 15

3. METHODOLOGY.

3.1 The tree specimens were visually assessed using non-destructive means by employing the Visual Tree Assessment (VTA) as developed by Matteck and Broeler (2006).

The information gathered was used to

- i) Calculate Tree protection Zones (TPZ) and Structural Root Zones (SRZ) with reference to the Australian Standard (AS) 4970-2009 and
- ii) Provide a qualitative assessment of the tree utilizing Jeremy Barrell's Safe Usable Life Expectancy (SULE) of which a table outlining the different categories appears in Appendix 3 of this document.

3.2 No invasive procedures, such as coring or drilling, were used in the examination of the specimen.

3.3 Also in section 3.2 Tree Protection Zones (TPZ) is given as,

$$TPZ = DBH \times 12$$

Where DBH is the diameter of the trunk of the trunk measured at 1.4m from the ground.

3.4 The position of the tree has been determined by survey plans as forwarded from IDA Plans

3.5 Australian Standard 4970-2009 advises that a Major Encroachment is greater than 10% of the TPZ and a Minor Encroachment is less than 10% of the TPZ.

4. DESCRIPTION OF THE TREES (See Appendix 1).

4.1 Tree **T1** is an *Olea africana* or 'African Olive' which is an exotic species native to Southern Africa (see Fig. 2). The tree was in reasonable health and vigour at the time of inspection

Impacts of the development:

In relation to these specimens I note the following;

- Tree **T1** will be subjected to a Nil Encroachment into its TPZ and SRZ by the proposed ramp into the underground car park (See Appendix 2b).

5. DISCUSSION

- 5.1 It is noted that tree **T1** will be subjected to a Nil Encroachment from the deep excavation for the access ramp (See Appendix 2a & 2b). No changes to soil elevations are proposed within the TPZ of the subject tree.

6. CONCLUSIONS & RECOMENDATIONS

- 6.1. It is recommended that the Applicants appoint a Project Arborist (PA) as recommended in AS4970-2009 to supervise and document tree protection methods and work activities with the TPZ of the subject tree for the duration of the development period.
- 6.2 Tree protection measures for tree **T1** are to be in accordance with AS4970-2009 in that fencing comprising of 1.8m high x 2.4m wide steel mesh panels, which can be in the form of demolition fencing panels, shall be installed as depicted in Appendix 3a. Also signage is to be attached to the fence as depicted in Appendix 3b. Also a photo image of installed tree protection measures is included in Appendix 3c.
- 6.3 With regard to tree protection please note the following damage often occurs to vegetation on building sites;
- The use of excavators which can cause damage directly by slewing around and coming into contact with tree trunks and limbs and indirectly by crushing and compacting soil around the trees within their root zone. Care should be taken to minimise damage when these vehicles are in close proximity to the remaining vegetation by establishing exclusion zones based on the TPZs and SRZs of the trees as calculated in the tree table in Appendix 1.
 - Damage to roots and root zone around plants due to changes in soil levels either by compaction of soil around remaining vegetation where heavy vehicles drive over the top of roots, or by soils level being raised with site fill. This limits and prevents respiration by tree roots leading to declining tree health. Also the stock piling of soil material for later use or removal, or long term where the use of site fill has been earmarked to back fill low areas and behind retaining walls. Care should be taken to prevent the build up of soil around trees and shrubs as it can suffocate tree roots and encourage the growth of fungal pathogens such as *Phytophthora* which can induce collar rot and lead to death of the plant. Care should therefore be taken to carefully plan out soil levels in advance and as much as possible, retain existing soil gradients.
 - Chemical damage to plants can occur with use of cement, paints, stains, glues and solvents and from oil and petrol spills. This can occur by the deliberate dumping of excess materials when finishing a job or inadvertently dumping such waste in a careless manner. Damage can occur to plants when such chemicals, many of which can penetrate deep into soil, are

taken up by plant roots or when paints or stains are accidentally sprayed or splashed on plant leaves and branches. Inert materials such as excess mortar can be safely placed in a bin or with regular rubbish removal whereas reactive substances such as paints and solvents should be disposed of in an environmentally safe manner.

- Severing of plant roots is most likely to occur during excavation and it is important that these are not ripped from the ground whereby further damage can be incurred to root systems closer to the plant. It is generally accepted among consulting arborists that tree roots encountered during excavation up to 50mm may be safely cut with shears or secateurs and that tree roots <50mm be examined by a consulting arborist prior to severing in order to assess their importance to the tree and likely impact of removal. This needs to be done on a case by case basis as tree's tolerance to such root pruning varies from species to species with a marked difference between native specimens and exotics. Avoid cutting any roots within the stated SRZ s of trees as this practice can result in the destabilization of the tree and lead to trunk failure.

Yours sincerely

S. McLOUGHLIN BSc.(Environ), Dip. Hort / Arb AQF5, Hort. Cert,
Dip. Conservation and Land Management
Conservation & Land Management. Cert. III
Australian Arborist Member # 2158
Australian Association of Bush Regenerators Member
QTRA assessor
Muddy Boots Biodiversity Assessment Method Course

7. THE AUTHOR'S QUALIFICATIONS AND EXPERIENCE.

Stephen McLoughlin obtained a Horticultural Certificate (1982) with Arboriculture as the third year elective whilst an employee of 10 years service with Baulkham Hills Shire Council (BHSC) now The Hills Council. Most of this time employed in the Council's Parks and Gardens and street tree plantings and, later, managing the Council's Nursery. This was augmented with a Bush Regeneration Certificate (1987) where he studied native plant communities, the means necessary to protect and restore them and the identification and eradication of weed species. Additional to this he obtained a Bachelor of Environmental Science Degree (1997) involving the study of natural environments, Ecology, data collection, analysis and documentation, report writing as well studies in relevant Common Law, current Environmental and Heritage Legislation. Since obtaining his degree Stephen writes reports on a regular basis covering Environmental, Heritage and Horticultural / Arboricultural subjects.

Further to this he upgraded his qualifications to that of Arborist Qualification 5 (AQF5) having completed the Associate Diploma of Horticulture / Arboriculture, a standard of qualification which is currently expected by many Local Government and statutory bodies.

Stephen also has a current NSW Structural Landscaper's Licence and has been involved in regular landscape construction works as both Principle and Sub Contractor on many Public, Private and Commercial ventures since commencing his contracting business in 1989. He has many garden and estate maintenance contracts, and Bush Regeneration projects involving large scale properties with many trees under his care, including the providing of advice and practical solutions to the issues of Bush Fire Asset Protection Zones.

Consequently, Stephen has well grounded experience in both Public and Private tree plantings, the care and maintenance of them as well as hands on experience of what occurs on construction sites and the results of mechanical disturbance to trees on such sites.

The Author is also an accredited Root Barrier Australia ® installer and has been involved with many excavations involving tree roots.

In 2014 Stephen completed his Diploma of Environmental Management at the Ryde campus of North Sydney TAFE involving studies with regard to Bushfire Management, Global Information Systems (GIS), Mapping, Managing Native Fauna (for which he obtained a distinction) and River Restorations.

Also he has completed the Quantified Tree Risk Assessment Course (QTRA) and the Muddy Boots Biodiversity Assessment Method Course

Yours sincerely

S. McLOUGHLIN BSc.(Environ), Dip. Hort / Arb AQF5, Hort. Cert,
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Australian Arborist Member # 2158
Australian Association of Bush Regenerators Member
QTRA assessor
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TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85
Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 7 of 15

REFERENCES

Australian Standard 4373 1996 *Pruning of amenity trees*.

Australian Standard 4790 2009 *Trees on development sites*.

Barrell, J. 1996. '*Predevelopment tree assessment*'

Google Maps. Aerial view of site (fig 1).

Matteck C and Breloer H. 2006 'The Body Language of Trees'

Parramatta City Council DCP 2011 Part 5.4 *Preservation of Trees or Vegetation*

APPENDIX 1a. Schedule of trees identified on the site listing condition and physical dimensions of trees on the Site.

Specimen name	Est. Height	Diameter DBH* DGH**	Crown	Comments	SULE ***	TPZ	SRZ
T1 <i>Olea africana</i> Common name 'African Olive' Age class 50 years See Fig. 4	10m	50cm 60cm at the base	N 3m E 3m S 4m W 3m	An exotic species common to Southern Africa. The tree is growing in the neighbouring property to the North West of the Site. At the time of inspection it was noted that the tree was in good health and condition and there were no significant pathogens noted or defects noted. The species is listed as an exempt species in the DCP	B3	6m	2.67m

Table describing trees growing on the development site. Tree numbers correspond with numbers on site plan appendix. 2.

*DBH Diameter at Breast Height. **DGH Diameter at Ground Height. ***SULE ratings are included as Appendix 3 of this report.

APPENDIX 1b. Figures 2 to 13. Photos of trees on the Site.



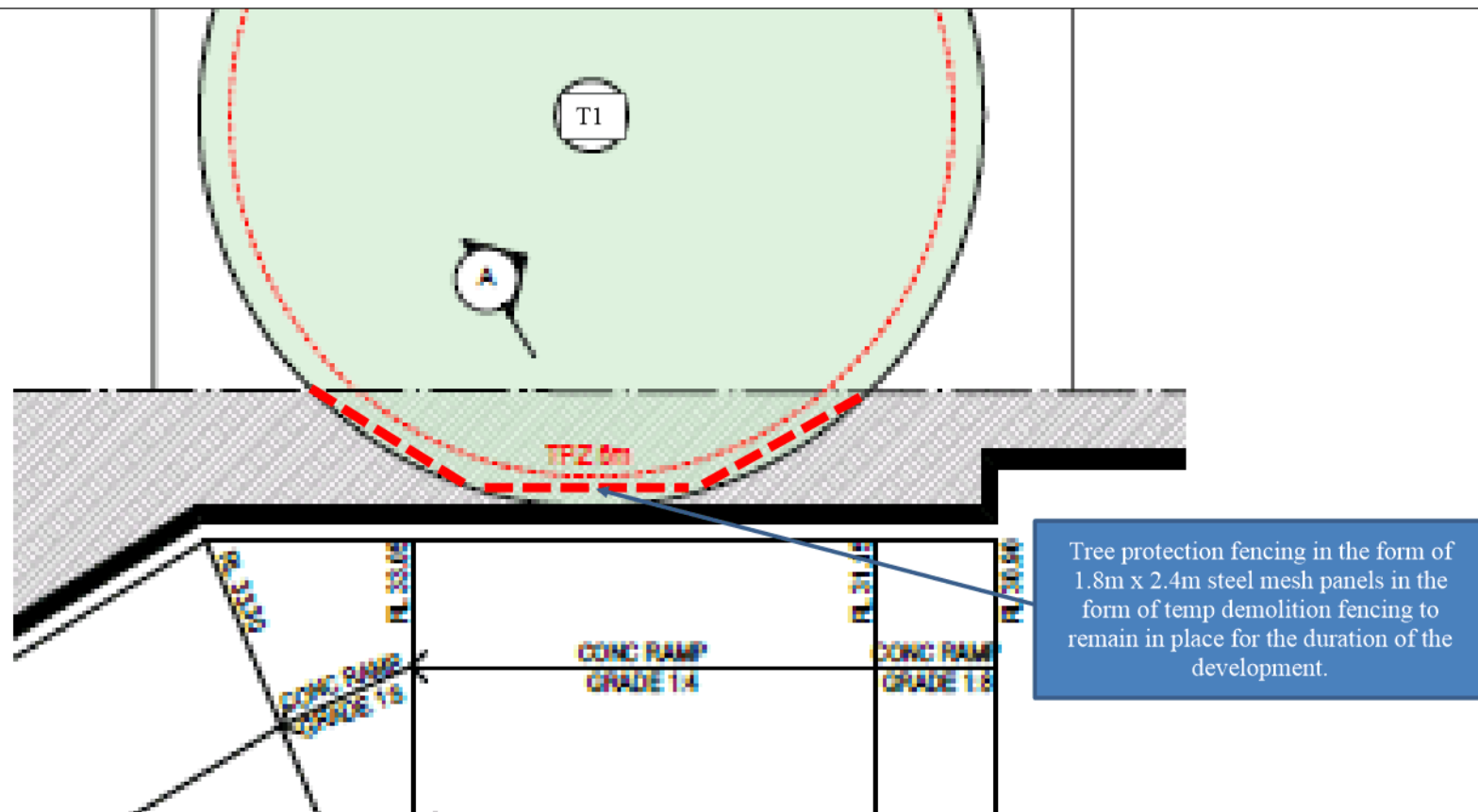
Fig. 4. Photo of T1 an *Olea africana*

APPENDIX 2a. Excerpt from Site survey showing the location of tree T1 in the neighbouring property which will be subjected to a Nil encroachment from the development.

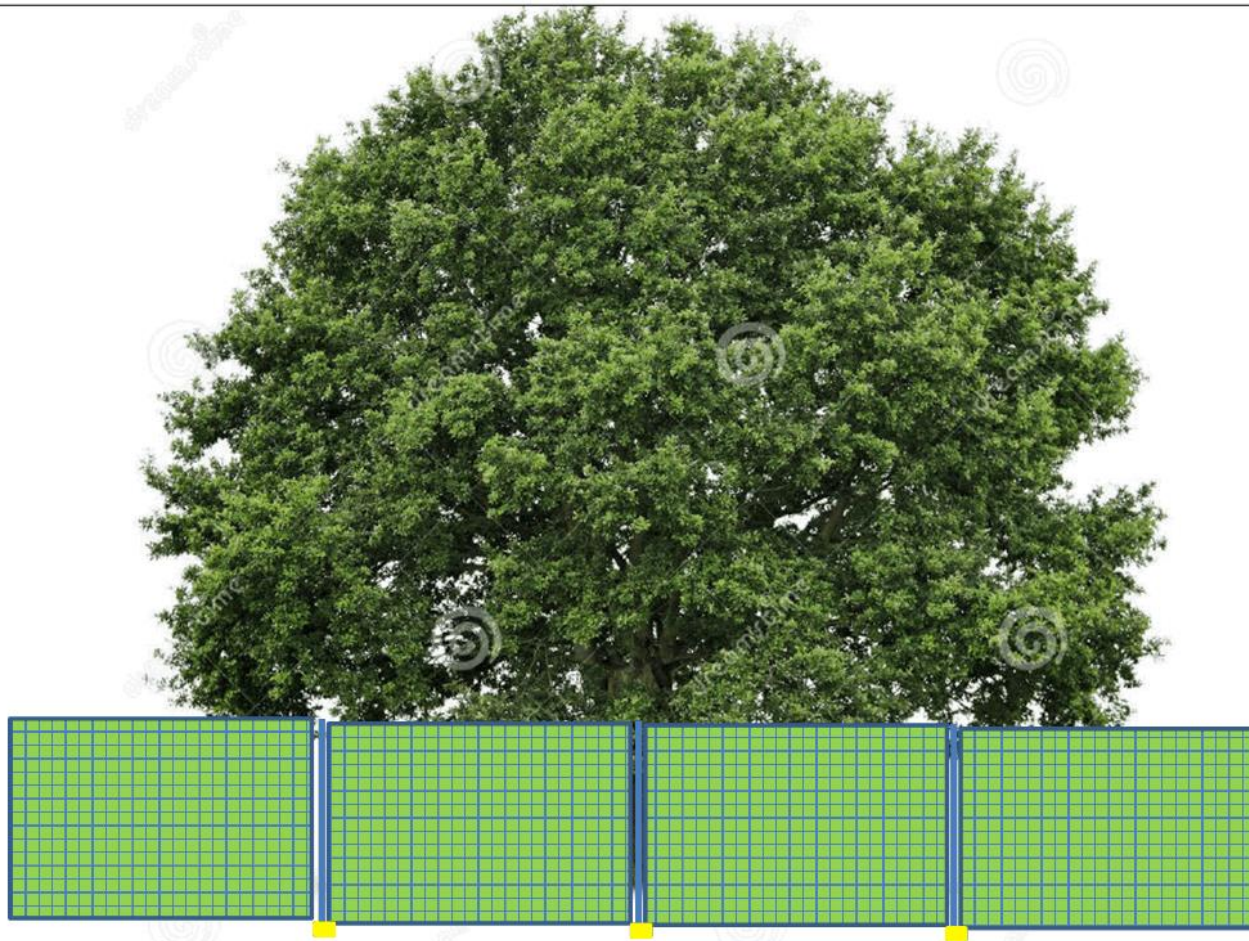


TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85 Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 11 of 15

APPENDIX 2b. Excerpt from Site plans showing the TPZ of T1 in relation to the deep excavation for the concrete ramp into the subterranean carpark. Diagram shows there is nil encroachment into the TPZ. The location of tree protection fencing is represented by a red dashed line.



APPENDIX 3a. Diagram depicting tree protection fencing in accord with AS4970-2009.



TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85 Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara
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APPENDIX 3b. DIGRAM SHOWING TREE PROTECTION SIGNAGE.

TREE PROTECTION ZONE



NO ACCESS

Builder's contact details:

Project Arborist contact details:

APPENDIX 3c. PHOTO SHOWING TYPICAL TREE PROTECTION FENCING AND SIGNAGE.



TREEHAVEN ENVIRONSCAPES – Tree report at 2 – 4 Boundary Street & 85 Railway Street Parramatta NSW 2140 For Mr. Ali Ibshara Page 15 of 15



CARPARK AND DRIVEWAY CERTIFICATION OF A PROPOSED RESIDENTIAL DEVELOPMENT

***2-4 Boundary Street and 85 Railway Street in
Parramatta***

Prepared for: Infinity Idea Pty Ltd

N216716A (Version 1b)

June 2022

Motion Traffic Engineers Pty Ltd
Telephone: 940 33588
sydney@motiontraffic.com.au ACN60020158



1. INTRODUCTION

Motion Traffic Engineers was commissioned by Infinity Idea Pty Ltd to prepare a car park certification of a proposed residential development at 2-4 Boundary Street and 85 Railway Street in Parramatta.

Car parking is provided on basement level with vehicle access and egress via a two-way driveway/ramp that runs off Railway Street.

Traffic light and waiting bay system is provided on top and bottom of the ramp to manage car movements on the ramp. The ramp does not comply as a two-way ramp as set in Australian Standards.

Reference is made to AS2890.1 (2004), AS2890.6 (2009) and Council's Development Control Plan for compliance.

2. DRIVEWAY/RAMP

The details of the proposed driveway/ramp from Railway Street into the ramp to basement level from the perspective of the inbound movement for description purposes are as follows:

- The driveway is 6.5 metres wide at the property line between kerbs and narrows to 5.2 metres
 - 300mm kerb is provided on both sides of the driveway
- Gradients along the centreline of the ramp from ground to basement level one is as follows:
 - 5 percent for 5.2 metres
 - 12.5 percent for 2.2 metres
 - 25 percent for 7.7 metres
 - 12.5 percent for 2 metres

A convex safety mirror is required at the bottom of the ramp

3. CAR SPACES

The details of the car parking area are as follows:

- The car parking aisle is 5.8 metres wide at minimum
- The disabled car space is 2.4 metres wide and 5.4 long
 - A shared zone with the same dimensions has been provided



- Bollard with compliant setback is provided
- The general 90-degree and tandem car spaces are 2.4 metres wide minimum with a length of 5.4 metres
- Compliant column setback is provided
- Car space adjacent to wall has extra 300 mm clearance
- Blind aisle extension is provided
- Waiting bay is provided and has dimensions of 2.4 metres wide and 5.4 metres long

4. SWEPT PATHS

A swept turning path analysis is performed using 4.9 metres long B85 car and 5.2 metres B99 vehicle to confirm that vehicle movements are adequate.

The following Swept Paths have been performed:

- B99 car passing each other on ramp using traffic light and waiting bay system
- B85 car reverse inbound and forward outbound for visitor space 1
- B85 car forward inbound and reverse outbound for car space adjacent to blind aisle extension and near where parking aisle is the shortest.

All Swept paths show adequate manoeuvrability.

The swept paths are provided in the Appendix A of this report.

5. SIGHT DISTANCE

The car driver's vehicle sight distance requirement to enter the external road is stated in Figure 3.2 of AS2890.1.

The sight distance varies according to the speed of the external road. Railway Street has a default speed limit of 50km/hr.

The minimum vehicle sight distance required is 45 metres. Site measurements showed that the minimum sight distance looking left and right is met.

The pedestrian sight distance as set out in Figure 3.3 of AS2890.1 is met as well.



6. CONCLUSIONS AND RECOMMENDATIONS

The car parking area and driveway is overall compliant with Australian Standards and Council's DCP.



APPENDIX A

Swept Paths



GEOTECHNICAL INVESTIGATION & ACID SULFATE SOILS (ASS) ASSESSMENT

FOR

INFINITY IDEA PTY LIMITED

2 – 4 Boundary & 85 Railway Streets, Parramatta, New South Wales

Report No: 21/3410

Project No: 31552/5832D-G

December 2021

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DOCUMENT CONTROL

REPORT TITLE: Geotechnical Investigation & Acid Sulfate Soils (ASS) Assessment

REPORT No: 21/3410

Revision	Details	Date	Amended By
0	Original	2/12/2021	

Following advice from the Building Commissioner, the advice, recommendations and design parameters provided in this report are only valid and to be relied upon if geotechnical inspections of footings and support/shoring systems are conducted by STS Geotechnics during construction.

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DRAWING NO. 14/1690 – BOREHOLE AND PENETROMETER LOCATIONS

NOTES RELATING TO GEOTECHNICAL REPORTS

APPENDIX A – BOREHOLE LOGS AND EXPLANATION SHEETS

APPENDIX B – LABORATORY TEST RESULTS



1. INTRODUCTION

This report presents the results of a geotechnical investigation and Acid Sulfate Soils (ASS) Assessment carried out by STS Geotechnics Pty Limited (STS) for the proposed construction of a new residential development at 2 – 4 Boundary and 85 Railway Streets, Parramatta, New South Wales.

The following document was provided by the client to assist in the preparation of this report:

- Architectural Drawings, prepared by IDA Design Group, Project No. 28806, Dwg Nos 0003, 0005, 0008, 0009, 1002, 1003, 1004, 1005, 1006, 2001 & 2002.
- Geotechnical Investigation, prepared by SMEC Testing Services Pty Ltd (SMEC), Project No 19831/4572C, Report No 14/1690 dated August 2014.

Based on the above drawings, STS understands the proposed development is to consist of the construction of a four -storey residential building. Carparking is provided in a basement that will require excavating about 3 metres below the existing ground surface. Reference to the Parramatta Council LEP indicates that the site is located within a Class 5 Acid Sulfate Soils area and, therefore, an assessment will be required.

After completion of the fieldwork, a report will be prepared giving information on the following:

- Subsurface conditions,
- Site Classification to AS2870,
- Foundation design parameters,
- Safe batter slopes,
- Temporary and permanent support of the excavation,
- Soil aggressiveness to steel and concrete – AS2870 & AS2159, and
- Acid Sulfate Soils Assessment and the need for an Acid Sulfate Soils Management Plan.

The investigation was carried out in accordance with STS proposal (Ref. P21-516A) dated 10 November 2021.

Our scope of work did not include a contamination assessment.

2. NATURE OF THE INVESTIGATION

2.1. Fieldwork

The fieldwork was carried out by SMEC Testing Services and consisted of drilling four boreholes numbered BH1 to BH4, inclusive, at the locations shown on Drawing No. 14/1690. Restricted site access dictated some of the borehole locations. **Because there**



was no access for the drilling rig, BH3 and BH4 were drilled using a hand auger. Boreholes were drilled using a Christie drilling rig owned and operated by STS. The boreholes were advanced using solid flight augers. To determine soil strengths Dynamic cone penetrometer (DCPs) tests were carried out at each borehole location. To measure groundwater levels PVC standpipe piezometers were installed in BH1 and BH2.

All fieldwork was undertaken by one of SMEC's experienced senior technical officers who also logged the subsurface conditions encountered.

Representative samples were collected from the boreholes for subsequent laboratory testing.

The subsurface conditions encountered are given on the borehole logs in Appendix A. A description of the terms used is also given in Appendix A. Notes relating to geotechnical reports are also attached.

2.2. Laboratory Testing

To assess the soils for their aggressiveness, soil samples were tested to determine the following:

- pH,
- Sulfate content (SO₄),
- Electrical Conductivity (EC),
- Chloride (Cl).

The detailed test reports are given in Appendix B.

3. GEOLOGY AND SITE CONDITIONS

The Penrith geological series sheet at a scale of 1:100,000 shows that the site is underlain by Triassic Age Ashfield Shale. Rocks within this formation comprise mainly shale and laminite.

The site is located at the north-eastern corner of the intersection of Boundary Street and Railway Street, Parramatta. The site is irregular in shape and has a combined area of approximately 1800m². At the time of the fieldwork, there were single storey residential buildings present on the site. Site vegetation comprised grass and trees.

The ground surface falls approximately 2.0 metres to the northeast

4. SUBSURFACE CONDITIONS

The following comments made below are based on the assumption that the conditions encountered in the boreholes are representative of the subsurface conditions at this site. When assessing the subsurface conditions across a site from a limited number of boreholes, there is the possibility that variations may occur between test locations. The data derived



from the site investigation programme are extrapolated across the site to form a geological model and an engineering opinion is rendered about overall subsurface conditions and their likely behaviour regarding the proposed development. The actual condition at the site may differ from those inferred, since no subsurface exploration programme, no matter how comprehensive, can reveal all subsurface details and anomalies, particularly on a site such as this where there has been previous development.

The subsurface conditions generally comprise topsoil overlying fill, silty clays and weathered sandstone. Topsoil and fill are present from the surface to depths of 0.2 to 0.3 metres and could not be penetrated in BH3 and BH4. In BH1 and BH2, firm to stiff and very stiff silty clays underlie the topsoil and fill to depths of 2.7 and 2.9 metres. Weathered shale underlies the residual soils to depth of auger refusal, 3.5 and 4.4 metres.

No groundwater was observed in the boreholes during the fieldwork. Four days later the piezometers remained dry.

5. DISCUSSION

5.1. Site Classification to AS2870

The classification has been prepared in accordance with the guidelines set out in the "Residential Slabs and Footings" Code, AS2870 - 2011.

Because of the presence of existing dwellings and trees, abnormal moisture conditions (AMC) prevail at the site. (Refer to Section 1.3.3 of AS2870).

Because of the AMC and the presence of greater than 400mm of fill, the site is classified as a *Problem Site (P)*. Provided the recommendations given below are adopted, the site may be reclassified as *Highly Reactive (H1)*.

5.2. Excavation Conditions

Based on subsurface conditions observed in the boreholes, it is expected that the proposed excavation will encounter topsoil, fill, silty clays and weathered shale. We anticipate that excavators without assistance should be able to remove the soils and weathered rock, however there is potential for higher strength pockets of shale and ironstone to exist across the site. Should these be encountered, some ripping may be required.

The soils and weathered rock can be temporarily battered at an angle of no greater than 1 to 1. Where this not possible, it will be necessary to provide temporary support. Support will probably need to be drilled and fixed in the rock below the base of the excavation. Concrete soldier piers with shotcrete infill are probably the most cost-effective method of support.



When considering the design of the supports, it will be necessary to allow for the loading adjacent structures close to the boundaries, any ground surface slope and groundwater present. Where the structures are within the zone of influence of the excavation, it will be necessary to adopt K_0 conditions when designing the temporary support. Anchors or props can be used to provide the required support. If anchors extend into adjoining property, it will be necessary to obtain the permission of the property owners. The fixed anchor length is that part of the anchor beyond a line drawn upwards at 45 degrees from the base of the excavation. When props or anchors are used for support, a rectangular earth pressure distribution should be adopted on the active side of the support. The permanent excavation support should be designed assuming K_0 conditions.

The following parameters are suggested for the design of the retaining wall system where there is a level ground surface:

Active Earth Pressure Coefficient (K_a)	= 0.4
Passive Earth Pressure Coefficient (K_p)	= 4.5 (shale below the depth of auger refusal)
At Rest Pressure Coefficient (K_0)	= 0.55
Total (Bulk) Density	= 20 kN/m ³

Some minor seepage may be experienced in the basement excavation during construction, particularly after periods of increased rainfall. A sump and pump should be adjusted to handle any minor flows. In the longer-term drainage should be provided to direct any seepage to a sump to be pumped out.

5.3. Foundation Design

STS does not recommend founding any structural loads within the topsoil or fill materials.

Pad and/or strip footings founded in natural materials may be proportioned using an allowable bearing pressure of 100 kPa. The minimum depth of founding must comply with the requirements of AS2870.

Pad and/or strip footings founded in weathered shale at the proposed depth of excavation, 3.0 metres may be proportioned using an allowable bearing pressure of 700 kPa.

Should a higher bearing capacity be required piers should be extended to the underlying stronger shale bedrock. Piers founded in weathered shale below the depth of auger refusal may be proportioned using an allowable bearing pressure of 1000 kPa. An allowable adhesion of 100 kPa may be adopted for the portion of the shaft below this depth. Where piers are founded in shale the adhesion in the overlying soils must be ignored.



To ensure the bearing values given can be achieved, care should be taken to ensure the base of the excavations are free of all loose material prior to concreting. To this end, it is recommended that all excavations be concreted as soon as possible, preferably immediately after excavating, cleaning, inspecting and approval. Pier excavations should not be left open overnight. The possibility of groundwater inflow needs to be considered when drilling the piers and pouring concrete.

During foundation construction, should the subsurface conditions vary to those inferred in this report, a suitably experienced geotechnical engineer should review the design and recommendations given above to determine if any alterations are required.

5.4. Soil Aggressiveness

The aggressiveness or erosion potential of an environment in building materials, particularly concrete and steel is dependent on the levels of soil pH and the types of salts present, generally sulfates and chlorides. To determine the degree of aggressiveness, the test values obtained are compared to Tables 6.4.2 (C) and 6.5.2 (C) in AS2159 – 2009 Piling – Design and Installation. The test results are summarised in Table 5.1.

Table 5.1 – Soil Aggressiveness Summary

Sample No.	Location	Depth (m)	pH	Sulfate (mg/kg)	Chloride (mg/kg)
S1	BH2	0.3	6.3	130	280
S2	BH2	1.5	4.3	120	120

The soils on the site are cohesive and above groundwater. Therefore, soil conditions B are considered appropriate (AS2159).

In accordance with AS2159-2009 the exposure classification for the onsite soils is moderately aggressive to concrete and non-aggressive to steel. In accordance with AS2870-2011 the soils are classified as B1.

6. ACID SULFATE SOIL ASSESSMENT

6.1. Introduction

ASS is the common name given to sediments and soils containing iron sulfides which, when exposed to oxygen generate sulfuric acid. Natural processes formed most acid sulfate sediments when certain conditions existed in the Holocene geological period (the last 10,000 years). Formation conditions require the presence of iron-rich sediments, sulfate (usually from seawater), removal of reaction products such as bicarbonate, the presence of sulfate reducing bacteria and a plentiful supply of organic matter. It should



be noted that these conditions exist in mangroves, salt marsh vegetation or tidal areas, and at the bottom of coastal rivers and lakes.

The relatively specific conditions under which acid sulfate soils are formed usually limit their occurrence to low lying parts of coastal floodplains, rivers and creeks. This includes areas with saline or brackish water such as deltas, coastal flats, back swamps and seasonal or permanent freshwater swamps that were formerly brackish. Due to flooding and stormwater erosion, these sulfidic sediments may continue to be re-distributed through the sands and sediments of the estuarine floodplain region. Sulfidic sediment may be found at any depth in suitable coastal sediments – usually beneath the water table.

Any lowering in the water table that covers and protects potential ASS will result in their aeration and the exposure of iron sulfide sediments to oxygen. The lowering in the water table can occur naturally due to seasonal fluctuations and drought or any human intervention, when carrying out any excavations during site development. Potential ASS can also be exposed to air during physical disturbance with the material at the disturbance face, as well as the extracted material, both potentially being oxidised. The oxidation of iron sulfide sediments in potential ASS results in ASS soils.

Successful management of areas with ASS is possible but must consider the specific nature of the site and the environmental consequences of development. While it is preferable that sites exhibiting acid sulfate characteristics are not disturbed, management techniques have been devised to minimise and manage impacts in certain circumstances.

When works involving the disturbance of soil or the change of groundwater levels are proposed in coastal areas, a preliminary assessment should be undertaken to determine whether acid sulfate soils are present and if the proposed works are likely to disturb these soils.

6.2. Presence of ASS

Reference to the Prospect – Parramatta River ASS Risk Map indicates the property is within an area where there are no known occurrences of ASS. It should be noted that maps are a guide only.

The following geomorphic or site criteria are normally used to determine if acid sulfate soils are likely to be present:

- sediments of recent geological age (Holocene)
- soil horizons less than 5 in AHD
- marine or estuarine sediments and tidal lakes
- in coastal wetlands or back swamp areas



6.3. Assessment

The site survey plan shows that the proposed development has a surface elevation of about RL 33 m AHD and the silty clay soils onsite are residual in nature. This is not consistent with the geomorphic criteria necessary for the presence of ASS. Based on the subsurface conditions observed in the boreholes the site development is extremely unlikely to result in the lowering of the groundwater where nearby ASS may be present. Therefore, the proposed works will not result in exposure of ASS allowing oxidation to take place leading to the development of acidic conditions. Based on our onsite observations, it is our opinion that the proposed construction will not intercept any ASS in the area nor cause lowering of any groundwater.

Our assessment is the proposed construction will not require the preparation of an Acid Sulfate Soil Management Plan.

7. FINAL COMMENTS

During construction, should the subsurface conditions vary from those inferred above, we would be contacted to determine if any changes should be made to our recommendations.

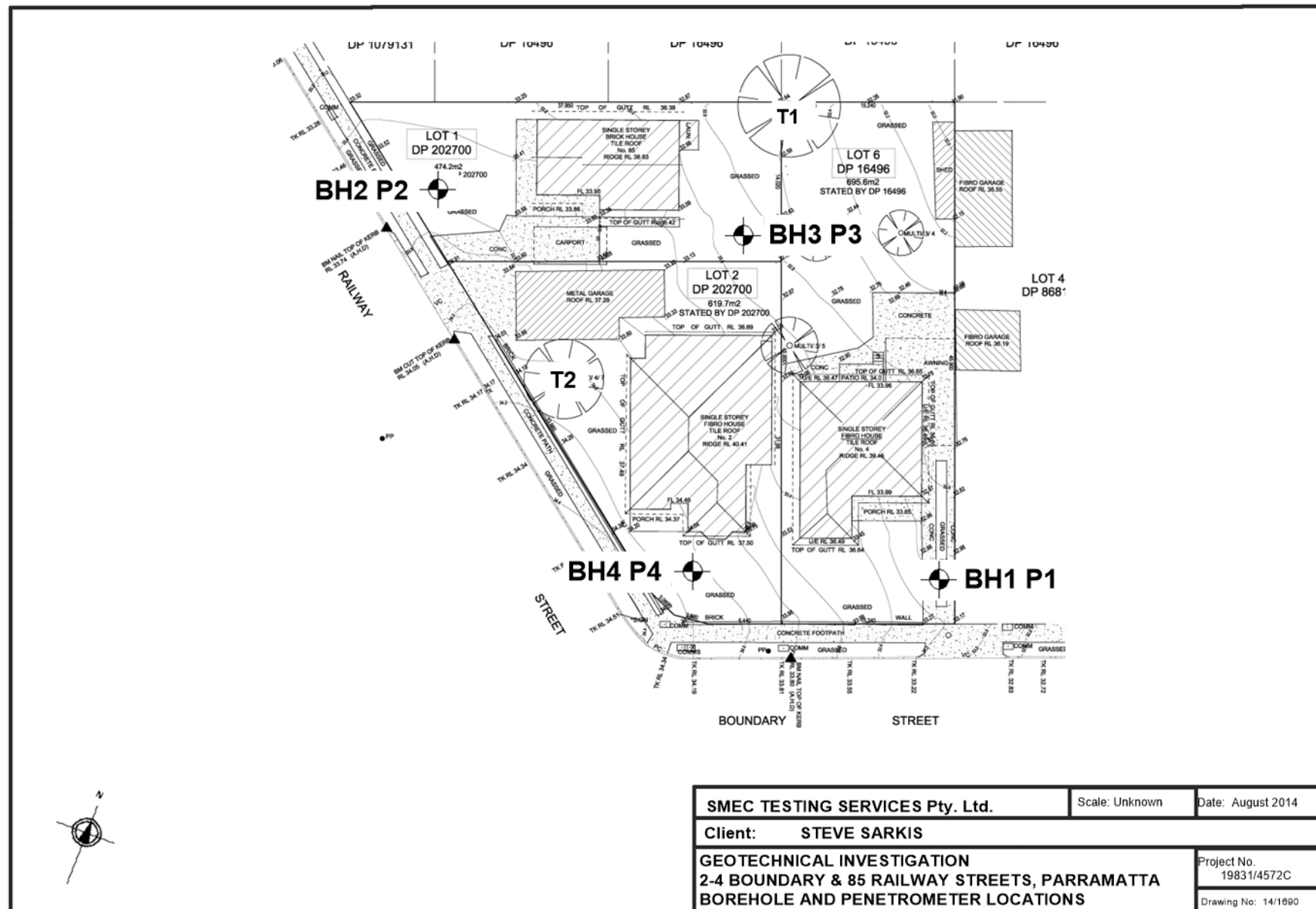
The exposed bearing surfaces for footings should be inspected by a geotechnical engineer to ensure the allowable pressure given has been achieved.

A handwritten signature in black ink, appearing to read 'Ian Watts'.

Ian Watts
Geotechnical Engineer
STS Geotechnics Pty Limited

A handwritten signature in black ink, appearing to read 'Laurie Ihnativ'.

Laurie Ihnativ
Geotechnical Engineer
STS Geotechnics Pty Limited



NOTES RELATING TO GEOTECHNICAL REPORTS

Introduction

These notes have been provided to outline the methodology and limitations inherent in geotechnical reporting. The issues discussed are not relevant to all reports and further advice should be sought if there are any queries regarding any advice or report.

When copies of reports are made, they should be reproduced in full.

Geotechnical Reports

Geotechnical reports are prepared by qualified personnel on the information supplied or obtained and are based on current engineering standards of interpretation and analysis.

Information may be gained from limited subsurface testing, surface observations, previous work and is supplemented by knowledge of the local geology and experience of the range of properties that may be exhibited by the materials present. For this reason, geotechnical reports should be regarded as interpretative rather than factual documents, limited to some extent by the scope of information on which they rely.

Where the report has been prepared for a specific purpose (eg. design of a three-storey building), the information and interpretation may not be appropriate if the design is changed (eg. a twenty storey building). In such cases, the report and the sufficiency of the existing work should be reviewed by SMEC Testing Services Pty Limited in the light of the new proposal.

Every care is taken with the report content, however, it is not always possible to anticipate or assume responsibility for the following conditions:

- Unexpected variations in ground conditions. The potential for this depends on the amount of investigative work undertaken.
- Changes in policy or interpretation by statutory authorities.
- The actions of contractors responding to commercial pressures.

If these occur, SMEC Testing Services Pty Limited would be pleased to resolve the matter through further investigation, analysis or advice.

Unforeseen Conditions

Should conditions encountered on site differ markedly from those anticipated from the information contained in the report, SMEC

Testing Services Pty Limited should be notified immediately. Early identification of site anomalies generally results in any problems being more readily resolved and allows re-interpretation and assessment of the implications for future work.

Subsurface Information

Logs of a borehole, recovered core, test pit, excavated face or cone penetration test are an engineering and/or geological interpretation of the subsurface conditions. The reliability of the logged information depends on the drilling/testing method, sampling and/or observation spacings and the ground conditions. It is not always possible or economic to obtain continuous high quality data. It should also be recognised that the volume or material observed or tested is only a fraction of the total subsurface profile.

Interpretation of subsurface information and application to design and construction must take into consideration the spacing of the test locations, the frequency of observations and testing, and the possibility that geological boundaries may vary between observation points.

Groundwater observations and measurements outside of specially designed and constructed piezometers should be treated with care for the following reasons:

- In low permeability soils groundwater may not seep into an excavation or bore in the short time it is left open.
- A localised perched water table may not represent the true water table.
- Groundwater levels vary according to rainfall events or season.
- Some drilling and testing procedures mask or prevent groundwater inflow.

The installation of piezometers and long term monitoring of groundwater levels may be required to adequately identify groundwater conditions.

Supply of Geotechnical Information or Tendering Purposes

It is recommended tenderers are provided with as much geological and geotechnical information that is available and that where there are uncertainties regarding the ground conditions, prospective tenders should be provided with comments discussing the range of likely conditions in addition to the investigation data.



APPENDIX A

BOREHOLE LOGS AND EXPLANATION SHEETS

SMEC Testing Services Pty Ltd

GEOTECHNICAL LOG - NON CORE BOREHOLE

Client: Steve Sarkis Project: 2-4 Boundary and 85 Railway Streets, Parramatta Location: Refer to Drawing No. 14/1690			Project No.: 19831/4572C Date: July 31, 2014 Logged: AC		BOREHOLE NO.: BH 1 Sheet 1 of 1	
W A T E R L E V E	S A M P L E S	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)	S Y M B O L	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	M O I S T U R E
			SILTY CLAY: dark grey, trace of fine grained sand	CL	FIRM	D-M
			TOPSOIL/FILL			
			SILTY CLAY: orange brown/grey, medium to high plasticity	CL/CH	FIRM TO STIFF	M
		1.0	SILTY CLAY: grey/orange brown, medium plasticity	CL	STIFF	M
		2.0	SILTY CLAY: grey/grey brown, trace of fine to medium grained sand, trace of fine gravel	CL	VERY STIFF	D-M
		3.0	WEATHERED SHALE: grey		EXTREMELY LOW STRENGTH	D
		4.0	AUGER REFUSAL AT 3.5 M ON WEATHERED SHALE STANDPIPE PIEZOMETER INSTALLED			
		5.0				
NOTES: D - disturbed sample U - undisturbed tube sample B - bulk sample WT - level of water table or free water N - Standard Penetration Test (SPT)				Contractor: STS Equipment: Christie		
See explanation sheets for meaning of all descriptive terms and symbols				Hole Diameter (mm): 100 Angle from Vertical (°): 0		

SMEC Testing Services Pty Ltd

GEOTECHNICAL LOG - NON CORE BOREHOLE

Client: Steve Sarkis Project: 2-4 Boundary and 85 Railway Streets, Parramatta Location: Refer to Drawing No. 14/1690			Project No.: 19831/4572C Date: July 31, 2014 Logged: AC		BOREHOLE NO.: BH 2 Sheet 1 of 1	
W A T E R L E V E	S A M P L E S	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)	S Y M B O L	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	M O I S T U R E
	S1 @ 0.3 m		SILTY CLAY: dark brown, low plasticity	CL	FIRM	M
			TOPSOIL			
			SILTY CLAY: orange brown/grey, medium to high plasticity	CL/CH	FIRM TO STIFF STIFF	M
		1.0	SILTY CLAY: grey/orange brown, medium plasticity	CL	STIFF VERY STIFF	M
	S2 @ 1.5 m					
		2.0	SILTY CLAY: grey/grey brown, some fine to medium grained sand, fine gravel	CL	VERY STIFF	D-M
		3.0	WEATHERED SHALE: grey, clay seams		EXTREMELY LOW STRENGTH	D
		4.0				
			AUGER REFUSAL AT 4.4 M ON WEATHERED SHALE			
		5.0	STANDPIPE PIEZOMETER INSTALLED			
NOTES: D - disturbed sample U - undisturbed tube sample B - bulk sample WT - level of water table or free water N - Standard Penetration Test (SPT)				Contractor: STS Equipment: Christie		
See explanation sheets for meaning of all descriptive terms and symbols				Hole Diameter (mm): 100 Angle from Vertical (°): 0		

SMEC Testing Services Pty Ltd

GEOTECHNICAL LOG - NON CORE BOREHOLE

Client: Steve Sarkis			Project No.: 19831/4572C		BOREHOLE NO.: BH 3	
Project: 2-4 Boundary and 85 Railway Streets, Parramatta			Date: July 31, 2014			
Location: Refer to Drawing No. 14/1690			Logged: AC		Sheet 1 of 1	
W A T E R L E V E L	S A M P L E S	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)	S Y M B O L	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	M O I S T U R E
			SILTY CLAY: dark grey brown, trace of fine gravel, low plasticity	CL	FIRM	D-M
			TOPSOIL		FIRM TO STIFF	
			HAND AUGER REFUSAL AT 0.25 M			
		1.0			STIFF	
		2.0			VERY STIFF	
		3.0				
		4.0				
		5.0				
NOTES: D - disturbed sample U - undisturbed tube sample B - bulk sample				Contractor: STS		
WT - level of water table or free water N - Standard Penetration Test (SPT)				Equipment: Hand Auger		
See explanation sheets for meaning of all descriptive terms and symbols				Hole Diameter (mm): 100		
				Angle from Vertical (°) 0		

SMEC Testing Services Pty Ltd

GEOTECHNICAL LOG - NON CORE BOREHOLE

Client: Steve Sarkis			Project No.: 19831/4572C		BOREHOLE NO.: BH 4	
Project: 2-4 Boundary and 85 Railway Streets, Parramatta			Date: July 31, 2014		Sheet 1 of 1	
Location: Refer to Drawing No. 14/1690			Logged: AC			
W A T E R L E V E	S A M P L E S	DEPTH (m)	DESCRIPTION OF DRILLED PRODUCT (Soil type, colour, grain size, plasticity, minor components, observations)	S Y M B O L	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	M O I S T U R E
			SILTY CLAY: dark grey brown, trace of fine gravel, low plasticity	CL	FIRM	D-M
			TOPSOIL		FIRM TO STIFF	
			HAND AUGER REFUSAL AT 0.2 M		STIFF	
		1.0			VERY STIFF	
		2.0				
		3.0				
		4.0				
		5.0				
NOTES: D - disturbed sample U - undisturbed tube sample B - bulk sample				Contractor: STS		
WT - level of water table or free water N - Standard Penetration Test (SPT)				Equipment: Hand Auger		
See explanation sheets for meaning of all descriptive terms and symbols				Hole Diameter (mm): 100		
				Angle from Vertical (°) 0		

SMEC Testing Services Pty Ltd

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Dynamic Cone Penetrometer Test Report

Project: 2-4 BOUNDARY AND 85 RAILWAY STREETS, PARRAMATTA

Project No.: 19831/4572C

Client: STEVE SARKIS

Report No.: 14/1690

Address: 44 Sorrell Street, North Parramatta

Report Date: 1/08/2014

Test Method: AS 1289.6.3.2

Page: 1 of 1

Site No.	P1	P2	P3	P4
Location	Refer to Drawing No. 14/1690	Refer to Drawing No. 14/1690	Refer to Drawing No. 14/1690	Refer to Drawing No. 14/1690
Starting Level	Surface Level	Surface Level	Surface Level	Surface Level
Depth (m)	Penetration Resistance (blows / 150mm)			
0.00 - 0.15	2	2	2	2
0.15 - 0.30	2	3	2	3
0.30 - 0.45	2	3	3	4
0.45 - 0.60	2	4	3	4
0.60 - 0.75	3	5	3	5
0.75 - 0.90	4	6	4	6
0.90 - 1.05	4	5	8	8
1.05 - 1.20	5	6	12	11
1.20 - 1.35	12	10	20/D	14
1.35 - 1.50	18	12		17
1.50 - 1.65	20/D	18		20/D
1.65 - 1.80		20/D		
1.80 - 1.95				
1.95 - 2.10				
2.10 - 2.25				
2.25 - 2.40				
2.40 - 2.55				
2.55 - 2.70				
2.70 - 2.85				
2.85 - 3.00				
3.00 - 3.15				
3.15 - 3.30				
3.30 - 3.45				
3.45 - 3.60				
3.60 - 3.75				
3.75 - 3.90				
3.90 - 4.05				

Remarks: * Pre drilled prior to testing

Technician: AC

Approved Signatory...

Laurie Ihnativ - Manager

SMEC Testing Services Pty Ltd

14/1 Cowpasture Place, Wetherill Park NSW 2164

Phone: (02)9756 2166 Fax: (02)9756 1137 Email: enquiries@smectesting.com.au

Tree Heights and Type

Project: 2-4 Boundary and 85 Railway Streets, Parramatta

Project No. / STS No.: 19831/4572C

Client: Steve Sarkis

Technician: Ac

[illegible]

E1. CLASSIFICATION OF SOILS

E1.1 Soil Classification and the Unified System

An assessment of the site conditions usually includes an appraisal of the data available by combining values of engineering properties obtained by the site investigation with descriptions, from visual observation of the materials present on site.

The system used by SMEC in the identification of soil is the Unified Soil Classification system (USC) which was developed by the US Army Corps of Engineers during World War II and has since gained international acceptance and has been adopted in its metricated form by the Standards Association of Australia.

The Australian Site Investigation Code (AS1726-1981, Appendix D) recommends that the description of a soil includes the USC group symbols which are an integral component of the system.

The soil description should contain the following information in order:

Soil composition

- SOIL NAME and USC classification symbol (IN BLOCK LETTERS)
- plasticity or particle characteristics
- colour
- secondary and minor constituents (name estimated proportion, plasticity or particle characteristics, colour)

Soil condition

- moisture condition
- consistency or density index

Soil structure

- structure (zoning, defects, cementing)

Soil origin

interpretation based on observation eg FILL, TOPSOIL, RESIDUAL, ALLUVIUM.

E1.2 Soil Composition

(a) Soil Name and Classification Symbol

The USC system is summarized in Figure E1.2.1. The primary division separates soil types on the basis of particle size into:

- Coarse grained soils - more than 50% of the material less than 60 mm is larger than 0.06 mm (60 μ m).
- Fine grained soils - more than 50% of the material less than 60 mm is smaller than 0.06 mm (60 μ m).

Initial classification is by particle size as shown in Table E1.2.1. Further classification of fine grained soils is based on plasticity.

TABLE E1.2.1 - CLASSIFICATION BY PARTICLE SIZE

NAME	SUB-DIVISION	SIZE
Clay (1)		< 2 μ m
Silt (2)		2 μ m to 60 μ m
Sand	Fine Medium Coarse	60 μ m to 200 μ m 200 μ m to 600 μ m 600 μ m to 2 mm
Gravel (3)	Fine Medium Coarse	2 mm to 6 mm 6 mm to 20 mm 20 mm to 60 mm
Cobbles (3)		60 mm to 200 mm
Boulders (3)		> 200 mm

Where a soil contains an appropriate amount of secondary material, the name includes each of the secondary components (greater than 12%) in increasing order of significance, eg sandy silty clay.

Minor components of a soil are included in the description by means of the terms "some" and "trace" as defined in Table E1.2.2.

TABLE E1.2.2 - MINOR SOIL COMPONENTS

TERM	DESCRIPTION	APPROXIMATE PROPORTION (%)
Trace	presence just detectable, little or no influence on soil properties	0-5
Some	presence easily detectable, little influence on soil properties	5-12

The USC group symbols should be included with each soil description as shown in Table E1.2.3

TABLE E1.2.3 - SOIL GROUP SYMBOLS

SOIL TYPE	PREFIX
Gravel	G
Sand	S
Silt	M
Clay	C
Organic	O
Peat	Pt

The group symbols are combined with qualifiers which indicate grading, plasticity or secondary components as shown on Table E1.2.4

TABLE E1.2.4 - SOIL GROUP QUALIFIERS

SUBGROUP	SUFFIX
Well graded	W
Poorly Graded	P
Silty	M
Clayey	C
Liquid Limit <50% - low to medium plasticity	L
Liquid Limit >50% - low to medium plasticity	H

(b) Grading

“Well graded” Good representation of all particle sizes from the largest to the smallest.

“Poorly graded” One or more intermediate sizes poorly represented

“Gap graded” One or more intermediate sizes absent

“Uniformly graded” Essentially single size material.

(c) Particle shape and texture

The shape and surface texture of the coarse grained particles should be described.

Angularity may be expressed as “rounded”, “sub-rounded”, “sub-angular” or “angular”.

Particle **form** can be “equidimensional”, “flat” or “elongate”.

Surface texture can be “glassy”, “smooth”, “rough”, “pitted” or “striated”.

(d) Colour

The colour of the soil should be described in the moist condition using simple terms such as:

Black	White	Grey	Red
Brown	Orange	Yellow	Green
Blue			

These may be modified as necessary by “light” or “dark”. Borderline colours may be described as a combination of two colours, eg. red-brown.

For soils that contain more than one colour terms such as:

- Speckled Very small (<10 mm dia) patches
- Mottled Irregular
- Blotched Large irregular (>75 mm dia)
- Streaked Randomly oriented streaks

(e) Minor Components

Secondary and minor components should be individually described in a similar manner to the dominant component.

E1.3 Soil Condition

(a) Moisture

Soil moisture condition is described as “dry”, “moist” or “wet”.

The moisture categories are defined as:

Dry (D) - Little or no moisture evident. Soils are running.
Moist (M) - Darkened in colour with cool feel. Granular soil particles tend to adhere. No free water evident upon remoulding of cohesive soils.

In addition the moisture content of cohesive soils can be estimated in relation to their liquid or plastic limit.

(b) Consistency

Estimates of the consistency of a clay or silt soil may be made from manual examination, hand penetrometer test, SPT results or from laboratory tests to determine undrained shear or unconfined compressive strengths. The classification of consistency is defined in Table E1.3.1.

TABLE E1.3.1 - CONSISTENCY OF FINE-GRAINED SOILS

TERM	UNCONFINED STRENGTH (kPa)	FIELD IDENTIFICATION
Very Soft	<25	Easily penetrated by fist. Sample exudes between fingers when squeezed in the fist.
Soft	25 – 50	Easily moulded in fingers. Easily penetrated 50 mm by thumb.
Firm	50 – 100	Can be moulded by strong pressure in the fingers. Penetrated only with great effort.
Stiff	100 – 200	Cannot be moulded in fingers. Indented by thumb but penetrated only with great effort.
Very Stiff	200 – 400	Very tough. Difficult to cut with knife. Readily indented with thumb nail.
Hard	>400	Brittle, can just be scratched with thumb nail. Tends to break into fragments.

Unconfined compressive strength as derived by a hand penetrometer can be taken as approximately double the undrained shear strength ($q_u = 2 c_u$).

(c) Density Index

The insitu density index of granular soils can be assessed from the results of SPT or cone penetrometer tests. Density index should not be estimated visually.

TABLE E1.3.2 - DENSITY OF GRANULAR SOILS

TERM	SPT N VALUE	STATIC CONE VALUE q_c (MPa)	DENSITY INDEX (%)
Very Loose	0 – 3	0 - 2	0 - 15
Loose	3 – 8	2 - 5	15 - 35
Medium Dense	8 – 25	5 - 15	35 - 65
Dense	25 – 42	15 - 20	65 - 85
Very Dense	>42	>20	>85

E1.4 Soil Structure

(a) Zoning

A sample may consist of several zones differing in colour, grain size or other properties. Terms to classify these zones are:

Layer - continuous across exposure or sample

Lens - discontinuous with lenticular shape

Pocket - irregular inclusion

Each zone should be described, their distinguishing features, and the nature of the interzone boundaries.

(b) Defects

Defects which are present in the sample can include:

- fissures
- roots (containing organic matter)
- tubes (hollow)
- casts (infilled)

Defects should be described giving details of dimensions and frequency. Fissure orientation, planarity, surface condition and infilling should be noted. If there is a tendency to break into blocks, block dimensions should be recorded

E1.5 Soil Origin

Information which may be interpretative but which may contribute to the usefulness of the material description should be included. The most common interpreted feature is the origin of the soil. The assessment of the probable origin is based on the soil material description, soil structure and its relationship to other soil and rock materials.

Common terms used are:

“Residual Soil” - Material which appears to have been derived by weathering from the underlying rock. There is no evidence of transport.

“Colluvium” - Material which appears to have been transported from its original location. The method of movement is usually the combination of gravity and erosion.

“Landslide Debris” - An extreme form of colluvium where the soil has been transported by mass movement. The material is obviously distributed and contains distinct defects related to the slope failure.

“Alluvium” - Material which has been transported essentially by water. Usually associated with former stream activity.

“Fill” - Material which has been transported and placed by man. This can range from natural soils which have been placed in a controlled manner in engineering construction to dumped waste material. A description of the constituents should include an assessment of the method of placement.

E1.6 Fine Grained Soils

The physical properties of fine grained soils are dominated by silts and clays.

The definition of clay and silt soils is governed by their Atterberg Limits. Clay soils are characterised by the properties of cohesion and plasticity with cohesion defines as the ability to deform without rupture. Silts exhibit cohesion but have low plasticity or are non-plastic.

The field characteristics of clay soils include:

- dry lumps have appreciable dry strength and cannot be powdered
- volume changes occur with moisture content variation
- feels smooth when moist with a greasy appearance when cut.

The field characteristics of silt soils include:

- dry lumps have negligible dry strength and can be powdered easily
- dilatancy - an increase in volume due to shearing - is indicated by the presence of a shiny film of water after a hand sample is shaken. The water disappears upon remoulding. Very fine grained sands may also exhibit dilatancy.
- low plasticity index
- feels gritty to the teeth

E1.7 Organic Soils

Organic soils are distinguished from other soils by their appreciable content of vegetable matter, usually derived from plant remains.

The soil usually has a distinctive smell and low bulk density.

The USC system uses the symbol Pt for partly decomposed organic material. The O symbol is combined with suffixes “O” or “H” depending on plasticity.

Where roots or root fibres are present their frequency and the depth to which they are encountered should be recorded. The presence of roots or root fibres does not necessarily mean the material is an “organic material” by classification.

Coal and lignite should be described as such and not simply as organic matter.



APPENDIX B

LABORATORY TEST RESULTS



CERTIFICATE OF ANALYSIS

Work Order	: ES1416744	Page	: 1 of 3
Client	: SMEC TESTING SERVICES PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: ALL REPORTS (ENQUIRIES)	Contact	: Client Services
Address	: P O BOX 6989 WETHERILL PARK NSW, AUSTRALIA 2164	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: enquiries@smectesting.com.au	E-mail	: sydney@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
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Project	: 19831	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 11297		
C-O-C number	: ----	Date Samples Received	: 31-JUL-2014
Sampler	: AC	Issue Date	: 06-AUG-2014
Site	: ----		
Quote number	: SY/593/14	No. of samples received	: 2
		No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
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Environmental

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RIGHT SOLUTIONS RIGHT PARTNER

Page : 2 of 3
Work Order : ES1416744
Client : SMEC TESTING SERVICES PTY LTD
Project : 19831



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Page : 3 of 3
 Work Order : ES1416744
 Client : SMEC TESTING SERVICES PTY LTD
 Project : 19831



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				S1	S2	----	----	----
				[31-JUL-2014]	[31-JUL-2014]	----	----	----
Compound	CAS Number	LOR	Unit	ES1416744-001	ES1416744-002	----	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.3	4.3	----	----	----
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	81	55	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	22.2	15.8	----	----	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	130	100	----	----	----
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	10	mg/kg	280	120	----	----	----



RODNEY STEVENS
ACOUSTICS

Acoustic Consultants

REPORT R210908 R1

Revision 0

Traffic Noise Assessment
Proposed Residential Development
2 - 4 Boundary Street & 85 Railway Street, Parramatta

PREPARED FOR:
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2 December 2021

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Traffic Noise Assessment

Proposed Residential Development

2 - 4 Boundary Street & 85 Railway Street, Parramatta

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DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
210908R1	Revision 0	2 December 2021	James Wilkinson	Rodney Stevens	Rodney Stevens

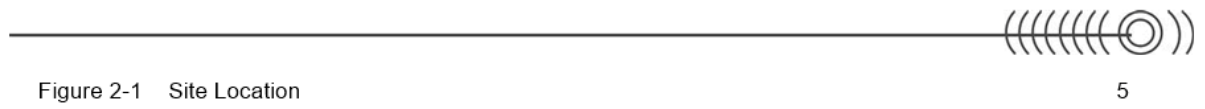
Rodney Stevens Acoustics
 Report Number R210908 R1
 Revision 0

Traffic Noise Assessment,
 2 - 4 Boundary Street & 85 Railway Street, Parramatta
 Infinity Idea Pty Ltd
 Page 2



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1 INTRODUCTION

Rodney Stevens Acoustics Pty Ltd (here forth referred to as RSA) has been engaged by Infinity Idea Pty Ltd to conduct a road noise impact assessment for development application (DA) lodgement of the proposed residential development at 2 - 4 Boundary Street & 85 Railway Street, Parramatta.

This report addresses the road traffic noise impacts from Railway Street and Boundary Street on the amenity of the proposed residential development.

This assessment is to form part of the supporting documentation for the DA submission to Parramatta City Council. Specific acoustic terminology is used in this report. An explanation of common acoustic terms is provided in Appendix A.

2 PROJECT DESCRIPTION

2.1 Site Location

The proposed development site is located at 2 - 4 Boundary Street & 85 Railway Street, Parramatta. The site will be bounded by residential dwellings to the north and east, Railway Street to the west and Boundary Street to the south. The site and its surroundings are shown in Figure 2-1.

Figure 2-1 Site Location





Aerial image courtesy of Google Maps © 2021

2.2 Proposed Development

The proposal is to construct a new 4 storey multi residential development. The floor plans of the proposed residential development are presented in Appendix C.

3 BASELINE NOISE SURVEY

3.1 Unattended Noise Monitoring

In order to characterise the existing acoustical environment of the area, unattended noise monitoring was conducted between Wednesday 24th November – Wednesday 1st December at the logging location shown in Figure 2-1. Two noise loggers were set up on site. The first logger was located in the front yard of the site overlooking Railway Street and Boundary Street, this location is representative of the traffic noise levels that the site will be exposed to.

The second logger was located on the rear yard of the site, noise monitoring at this location is representative of the typical acoustic environment of the site.

Logger locations were selected with consideration to other noise sources which may influence readings, security issues for noise monitoring equipment and gaining permission for access from residents and landowners.

Instrumentation for the survey comprised of two RION NL-42 environmental noise loggers (serial numbers 572558 and 572542) fitted with microphone windshields. Calibration of the logger was checked prior to and following measurements. Drift in calibration did not exceed ± 0.5 dB(A). All equipment carried appropriate and current NATA (or manufacturer) calibration certificates. Measured data has been filtered to remove data measured on 25th, 26th and 27th November during adverse weather conditions upon consultation with historical weather reports provided by the Bureau of Meteorology (BOM).

The logger determines LA1, LA10, LA90 and LAeq levels of the ambient noise. LA1, LA10, LA90 are the levels exceeded for 1%, 10% and 90% of the sample time respectively (see Glossary for definitions in Appendix A). Detailed results at the monitoring location are presented in graphical format in Appendix B. The graphs show measured values of LA1, LA10, LA90 and LAeq for each 15-minute monitoring period.

3.2 Ambient Noise Results

In order to establish the ambient noise criteria of the area, the data obtained from the noise logger has been processed in accordance with the procedures contained in the NSW Environmental Protection Authority's (EPA) Noise Policy for Industry (NPfI, 2017) to establish representative noise levels that can be expected in the residential vicinity of the site. The monitored baseline noise levels are detailed in Table 3-1

Table 3-1 Measured Baseline Noise Levels Corresponding to Defined NPfI Periods

Location	Measurement Descriptor	Measured Noise Level – dB(A) re 20 μ Pa		
		Daytime 7 am - 6 pm	Evening 6 pm – 10 pm	Night-time 10 pm – 7 am
Logger at north-east boundary of site	LAeq	52	50	48
	RBL (Background)	40	41	36



Notes: All values expressed as dB(A) and rounded to nearest 1 dB(A);

LAeq Equivalent continuous (energy average) A-weighted sound pressure level. It is defined as the steady sound level that contains the same amount of acoustic energy as the corresponding time-varying sound.

LA90 Noise level present for 90% of time (background level). The average minimum background sound level (in the absence of the source under consideration).

3.3 Noise Intrusion (State Environmental Planning Policy (Infrastructure) 2007)

To assess noise intrusion into the proposed multi residential development, the data obtained from the first logger location has been processed to establish representative ambient noise levels at the facades most exposed to Boundary Street and Railway Street.

The time periods used for this assessment are as defined in the State Environmental Planning Policy (Infrastructure) 2007 and the Development near Rail Corridors and Busy Roads Interim Guideline. Results are presented below in Table 3-2.

Table 3-2 Traffic Noise Levels Corresponding to Defined SEPP 2007 Periods

Location	Period	External Noise Levels dB(A)
Approximately 5m from Boundary Street and Railway Street	Day Time 7:00 am - 10:00 pm	LAeq(15hour) 58
	Night Time 10:00 pm - 7:00 am	LAeq(9hour) 53

4 NOISE GUIDELINES AND CRITERIA

4.1 Road Noise Criteria

The determination of an acceptable level of traffic noise impacting the internal residential spaces requires consideration of the activities carried out within the space and the degree to which noise will interfere with those activities.

As sleep is the activity most affected by traffic noise, bedrooms are considered to be the most sensitive internal living areas. Higher levels of noise are acceptable in living areas without interfering with activities such as reading, listening to the television etc. Noise levels in utility spaces such as kitchens, bathrooms, laundries etc. can be higher.

4.2 Parramatta City Council Requirements

Section 3.3.4 (Acoustic Amenity) of the Parramatta Council DCP 2011 provides acoustic objectives and design principles for residential developments. The objectives include:

O.1 To ensure that the siting and design of buildings minimises noise impacts from abutting busy roads, rail corridors and other noise-generating land uses.

O.2 To ensure that commercial or industrial development does not unreasonably diminish the amenity of nearby residential uses from noise intrusion.

The Design principles in the DCP include:

P.1 Where dwellings are proposed within proximity to noise-generating land uses such as major roads and rail corridors, entries, halls, storage rooms, bathrooms and laundries should be located on the noise affected side of each dwelling and should be able to be sealed off by doors from living areas and bedrooms where practicable.



P.2 Where dwellings are proposed within proximity to noise-generating land uses, appropriate materials with acoustic properties should be incorporated such as solid core doors with seal vents and insulation and suitably treated glazing.

P.3 Non-residential development is not to adversely affect the amenity of adjacent residential development as a result of noise, odour, hours of operation and/or service deliveries.

P.4 Council may require a report by an acoustic consultant to be submitted with development applications for noise generating developments or for residential developments on sites adjacent to noise generating sources such as busy roads and rail corridors.

P.5 The provisions of the State Environmental Planning Policy (Infrastructure) 2007 and Development near Rail Corridors and Busy Roads Interim Guideline must be taken into consideration, to minimise impacts of busy roads and railway corridors on residential and other sensitive development such as schools, child care centres, places of public worship and health services facilities.

4.2.1 State Environmental Planning Policy (Infrastructure) 2007

The NSW Government's State Environmental Planning Policy (Infrastructure) 2007 (SEPP (Infrastructure) 2007) was introduced to facilitate the delivery of infrastructure across the State by improving regulatory certainty and efficiency. In accordance with the SEPP, Table 3.1 of the NSW Department of Planning and Infrastructure's "Development near Rail Corridors and Busy Roads - Interim Guideline" (the DP&I Guideline) of December 2008 provides noise criteria for residential and non-residential buildings. These criteria are summarised in Table 4-1.

Table 4-1 DP&I Interim Guideline Noise Criteria

Type of occupancy	Noise Level dB(A)	Applicable time period
Sleeping areas (bedroom)	35	Night 10 pm to 7 am
Other habitable rooms (excl. garages, kitchens, bathrooms & hallways)	40	At any time

Note 1: Airborne noise is calculated as $L_{Aeq}(15\text{hour})$ daytime and $L_{Aeq}(9\text{hour})$ night-time

The following guidance is also provided in the DP&I Guideline:

"These criteria apply to all forms of residential buildings as well as aged care and nursing home facilities. For some residential buildings, the applicants may wish to apply more stringent design goals in response to market demand for a higher quality living environment.

The night-time "sleeping areas" criterion is 5 dB(A) more stringent than the "living areas" criteria to promote passive acoustic design principles. For example, designing the building such that sleeping areas are less exposed to road or rail noise than living areas may result in less onerous requirements for glazing, wall construction and acoustic seals. If internal noise levels with windows or doors open exceed the criteria by more than 10 dB(A), the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also to meet the ventilation requirements of the Building Code of Australia."

The noise criteria presented in Section 0 and in Table 4-1 apply to a 'windows closed condition'. Standard window glazing of a building will typically attenuate noise ingress by 20 dB(A) with windows closed and 10 dB(A) with windows open (allowing for natural ventilation). Accordingly, the external noise threshold above which a development will require mechanical ventilation is an $L_{Aeq}(9\text{hour})$ 55 dB(A) for bedrooms and $L_{Aeq}(15\text{hour})$ 60 dB(A) for other areas.



Where windows must be kept closed, the adopted ventilation systems must meet the requirements of the Building Code of Australia and Australian Standard 1668 – The use of ventilation and air conditioning in buildings.

4.3 Operational Noise Project Trigger Noise Levels

Responsibility for the control of noise emissions in New South Wales is vested in Local Government and the EPA. The EPA oversees the Noise Policy for Industry (NPfI) October 2017 which provides a framework and process for deriving project trigger noise level. The NPfI project noise levels for industrial noise sources have two (2) components:

- Controlling the intrusive noise impacts for residents and other sensitive receivers in the short term; and
- Maintaining noise level amenity for particular land uses for residents and sensitive receivers in other land uses.

4.3.1 Intrusiveness Noise Levels

For assessing intrusiveness, the background noise generally needs to be measured. The intrusiveness noise level essentially means that the equivalent continuous noise level (LAeq) of the source should not be more than 5 dB(A) above the measured Rated Background Level (RBL), over any 15 minute period.

4.3.2 Amenity Noise Levels

The amenity noise level is based on land use and associated activities (and their sensitivity to noise emission). The cumulative effect of noise from industrial sources needs to be considered in assessing the impact. The noise levels relate only to other industrial-type noise sources and do not include road, rail or community noise. The existing noise level from industry is measured.

If it approaches the project trigger noise level value, then noise levels from new industrial-type noise sources, (including air-conditioning mechanical plant) need to be designed so that the cumulative effect does not produce total noise levels that would significantly exceed the project trigger noise level.

4.3.3 Area Classification

The NPfI characterises the “Suburban” noise environment as an area with an acoustical environment that:

- has local traffic with characteristically intermittent traffic flows or with some limited commerce or industry.
- This area often has the following characteristic: - evening ambient noise levels defined by the natural environment and human activity

The area surrounding the proposed development falls under the “Suburban” area classification.

4.3.4 Project Specific Trigger Noise Levels

Having defined the area type, the processed results of the unattended noise monitoring have been used to determine project specific project trigger noise levels. The intrusive and amenity project trigger noise levels for nearby residential premises are presented in Table 4-2. These project trigger noise levels are nominated for the purpose of assessing potential noise impacts from the proposed development.



Table 4-2 Operational Project Trigger Noise Levels

Receiver	Time of Day	ANL ¹ L _{Aeq} (15min)	Measured		Project Trigger Noise Levels	
			RBL ² L _{A90} (15min)	Existing L _{Aeq} (Period)	Intrusive L _{Aeq} (15min)	Amenity L _{Aeq} (15min)
Residential	Day	55	40	52	45	58
	Evening	45	41	50	46	48
	Night	40	36	48	41	43

Note 1: ANL = "Amenity Noise Level" for residences in Suburban Areas.

Note 2: RBL = "Rating Background Level".

5 NOISE IMPACT ASSESMENT

5.1 Traffic Noise Assessment

In order to ascertain the existing traffic noise levels from Boundary Street and Railway Street, the measured noise logger data was processed in accordance to the NSW Department of Planning and Infrastructure's "Development near Rail Corridors and Busy Roads - Interim Guideline" assessment time periods as shown in Table 3-2.

The final façade noise levels were predicted for each time period taking into account the distance attenuation from each respective source, virtual source, façade's orientation and any barrier effects.

The required noise reduction via the building façade for each respective room for each time period will be compared to determine the appropriate design criteria levels.

It is typically accepted that an open window (fractionally open to meet ventilation requirements) results in an attenuation of external noise by 10 dB. This reduction has been used to predict the room noise level in the window open condition.

5.2 Recommended Noise Control Treatment

The calculation procedure establishes the required noise insulation performance of each surface component such that the internal noise level is achieved whilst an equal contribution of traffic noise energy is distributed across each component. Building envelope components with a greater surface area must therefore offer increased noise insulation performance.

The recommended acoustic treatment is based on the following floor finishes:

- Bedrooms: Carpet and underlay
- Living Room: Hard Flooring
- Kitchen/Wet Areas: Tiles

The acoustic requirements shown in this report will increase further where the bedroom floor finishes are tiled or timber.

All recommendations must be checked by others to ensure compliance with other non-acoustic requirements that Council or other authority may impose (e.g. Thermal requirements for BASIX compliance).



5.3 Glazing

The R_w rating required for each window will vary from room to room. Recommendations for windows also apply to any other item of glazing located on the external facade of the building in a habitable room unless otherwise stated.

Note that the R_w rating is required for the complete glazing and frame assembly. The minimum glazing thicknesses will not necessarily meet the required R_w rating without an appropriate frame system. It will be therefore necessary to provide a window glass and frame system having a laboratory tested acoustic performance meeting the requirements below

The window systems must be tested in accordance with both of the following:

- Australian Window Association Industry Code of Practice Window and Door – Method of Acoustic Testing; and
- AS 1191 Acoustics – Method for laboratory measurement of airborne sound insulation of building elements.

It is necessary to submit such Laboratory certification for the proposed glazing systems (i.e. windows and framing systems) (e.g. NAL or CSIRO) for approval by RSA prior to ordering or commitment.

The entire frame associated with the glazing must be sealed into the structural opening using acoustic mastics and backer rods. Normal weather proofing details do not necessarily provide the full acoustic insulation potential of the window system. The manufacturers' installation instructions for the correct acoustic sealing of the frame must be followed.

It is possible that structural demands for wind loading or fire rating or the like may require more substantial glass and framing assemblies than nominated above. Where this is the case the acoustic requirements must clearly be superseded by the structural or fire rating demands.

Table 5-1 presents the minimum recommended R_w (weighted noise reduction) for glazing elements.

Table 5-1 Minimum Acoustic Rating (R_w) Required For Glazing Elements

Level	Facade	Windows	Glazed Door/Doors
All Levels	South-East (Facing Boundary Street)	R_w 30	R_w 30
All Levels	South-West (Facing Railway Street)	R_w 30	R_w 30
All Levels	North – West	R_w 25	R_w 25
All Levels	North – East	R_w 25	R_w 25



The above recommended glazing systems are indicative only. Care should be taken when selecting the system to ensure the acoustic rating (R_w) is verified through laboratory tested data. As a guide, the following table presents the R_w ratings of different glass thicknesses, please note that these are shown as a guide only, all final glazing system selections must comply with the requirements in Section 5.3.

Table 5-2 Glass Thickness Guideline

Glass Thickness	R_w Rating (Glass Pane Only)
5mm	26
6mm	28
6.38mm Laminated	32
8.38 Laminated	34
10.38 Laminated	36
12.38 Laminated	37
4mm – 50mm Airgap – 6mm Double Glazed	41

5.4 Detailing

Note that well-detailed construction and careful installation is needed to achieve the required R_w acoustic ratings. All gaps are to be minimised and fully sealed with an acoustic rated sealant, such as FireBan One by Bostik or Sikaflex Pro 2HP by Sika.

5.5 Mechanical Plant Noise Assessment

A specific mechanical plant selection has not been supplied at this stage. It is anticipated that the building will be serviced by typical mechanical ventilation/air conditioning equipment.

It is likely that the criteria set out in Table 4-2 will be met through the use of conventional noise control methods (e.g. selection of equipment on the basis of quiet operation and, where necessary, providing enclosures, localised barriers, silencers and lined ductwork).

An appropriately qualified acoustic consultant should review the mechanical plant associated with the development at the detailed design stage when final plant selections have been made.



6 CONCLUSION

RSA has conducted a traffic noise impact assessment of the proposed residential development at 2 - 4 Boundary Street & 85 Railway Street, Parramatta. The assessment has comprised the establishment of noise criteria and assess noise impacts with regard to relevant statutory requirements.

A noise survey has been conducted and the processed data has been used to determine traffic noise from Boundary Street and Railway Street at the project site.

Based on the noise impact study conducted, the proposed development is assessed to comply with the SEPP (Infrastructure) 2007 noise criteria with recommendations from this report. It is therefore recommended that planning approval be granted for the proposed development on the basis of acoustics.

Noise emissions criteria for mechanical plant have not been established at this stage, a future noise survey may be required once the mechanical plan schedules are available.

Approved:-

Rodney Stevens

Manager/Principal

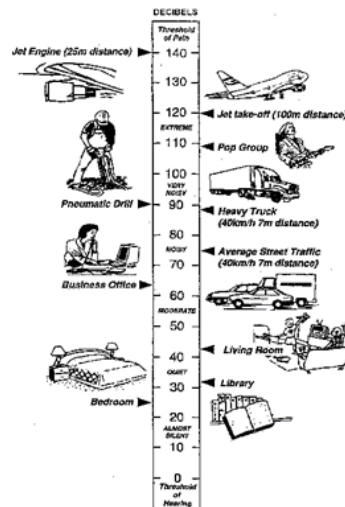


Appendix A – Acoustic Terminology

A-weighted sound pressure	The human ear is not equally sensitive to sound at different frequencies. People are more sensitive to sound in the range of 1 to 4 kHz (1000 – 4000 vibrations per second) and less sensitive to lower and higher frequency sound. During noise measurement an electronic 'A-weighting' frequency filter is applied to the measured sound level $dB(A)$ to account for these sensitivities. Other frequency weightings (B, C and D) are less commonly used. Sound measured without a filter is denoted as linear weighted $dB(\text{linear})$.
Ambient noise	The total noise in a given situation, inclusive of all noise source contributions in the near and far field.
Community annoyance	Includes noise annoyance due to: character of the noise (e.g. sound pressure level, tonality, impulsiveness, low-frequency content) character of the environment (e.g. very quiet suburban, suburban, urban, near industry) miscellaneous circumstances (e.g. noise avoidance possibilities, cognitive noise, unpleasant associations) human activity being interrupted (e.g. sleep, communicating, reading, working, listening to radio/TV, recreation).
Compliance	The process of checking that source noise levels meet with the noise limits in a statutory context.
Cumulative noise level	The total level of noise from all sources.
Extraneous noise	Noise resulting from activities that are not typical to the area. Atypical activities may include construction, and traffic generated by holiday periods and by special events such as concerts or sporting events. Normal daily traffic is not considered to be extraneous.
Feasible and reasonable measures	Feasibility relates to engineering considerations and what is practical to build; reasonableness relates to the application of judgement in arriving at a decision, taking into account the following factors: Noise mitigation benefits (amount of noise reduction provided, number of people protected). Cost of mitigation (cost of mitigation versus benefit provided). Community views (aesthetic impacts and community wishes). Noise levels for affected land uses (existing and future levels, and changes in noise levels).



Impulsiveness	Impulsive noise is noise with a high peak of short duration or a sequence of these peaks. Impulsive noise is also considered annoying.
Low frequency	Noise containing major components in the low-frequency range (20 to 250 Hz) of the frequency spectrum.
Noise criteria	The general set of non-mandatory noise levels for protecting against intrusive noise (for example, background noise plus 5 dB) and loss of amenity (e.g. noise levels for various land use).
Noise level (goal)	A noise level that should be adopted for planning purposes as the highest acceptable noise level for the specific area, land use and time of day.
Noise limits	Enforceable noise levels that appear in conditions on consents and licences. The noise limits are based on achievable noise levels, which the proponent has predicted can be met during the environmental assessment. Exceedance of the noise limits can result in the requirement for either the development of noise management plans or legal action.
Performance-based goals	Goals specified in terms of the outcomes/performance to be achieved, but not in terms of the means of achieving them.
Rating Background Level (RBL)	The rating background level is the overall single figure background level representing each day, evening and night time period. The rating background level is the 10 th percentile min L _{A90} noise level measured over all day, evening and night time monitoring periods.
Receptor	The noise-sensitive land use at which noise from a development can be heard.
Sleep disturbance	Awakenings and disturbance of sleep stages.
Sound and decibels (dB)	<p>Sound (or noise) is caused by minute changes in atmospheric pressure that are detected by the human ear. The ratio between the quietest noise audible and that which should cause permanent hearing damage is a million times the change in sound pressure. To simplify this range the sound pressures are logarithmically converted to decibels from a reference level of 2 x 10⁻⁵ Pa.</p> <p>The picture below indicates typical noise levels from common noise sources.</p>



dB is the abbreviation for decibel – a unit of sound measurement. It is equivalent to 10 times the logarithm (to base 10) of the ratio of a given sound pressure to a reference pressure.

Sound power Level (SWL)

The sound power level of a noise source is the sound energy emitted by the source. Notated as SWL, sound power levels are typically presented in $dB(A)$.

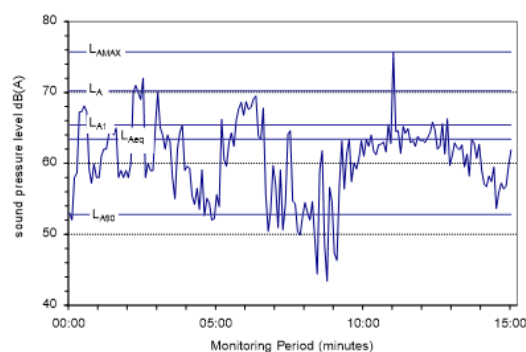
Sound Pressure Level (SPL)

The level of noise, usually expressed as SPL in $dB(A)$, as measured by a standard sound level meter with a pressure microphone. The sound pressure level in $dB(A)$ gives a close indication of the subjective loudness of the noise.

Statistic noise levels

Noise levels varying over time (e.g. community noise, traffic noise, construction noise) are described in terms of the statistical exceedance level.

A hypothetical example of A weighted noise levels over a 15 minute measurement period is indicated in the following figure:



Key descriptors:

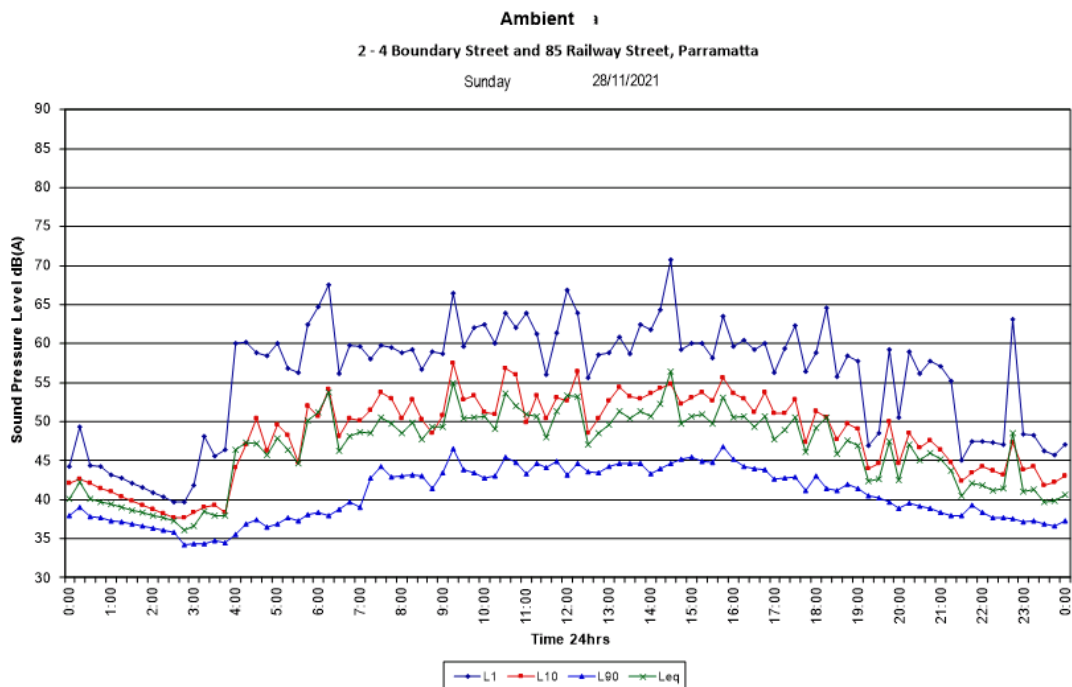
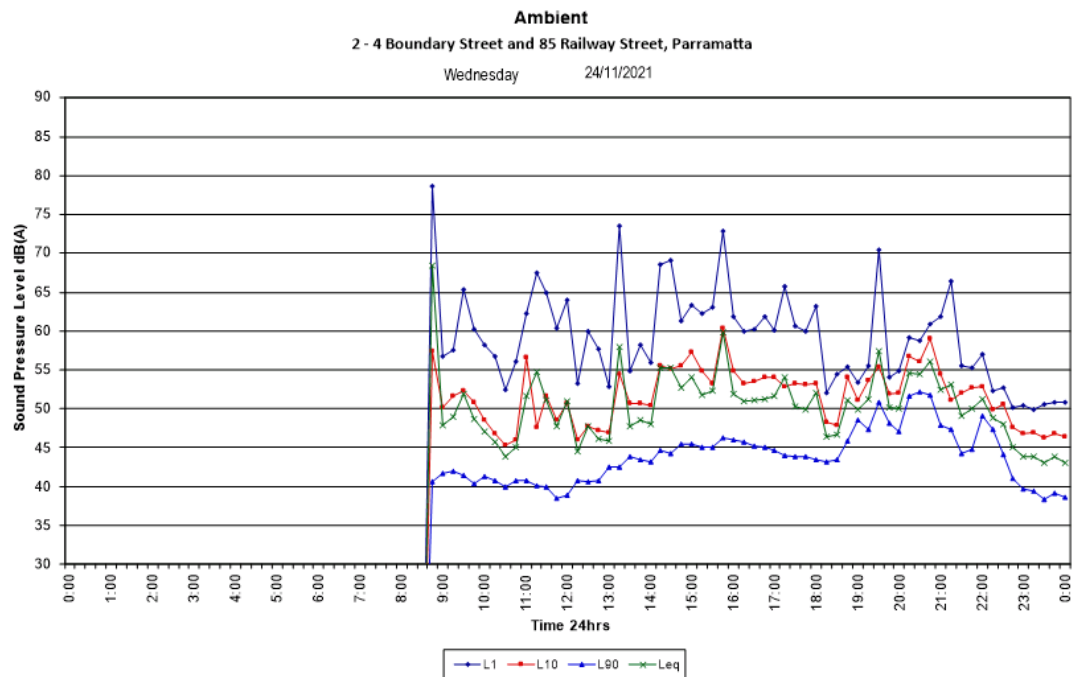


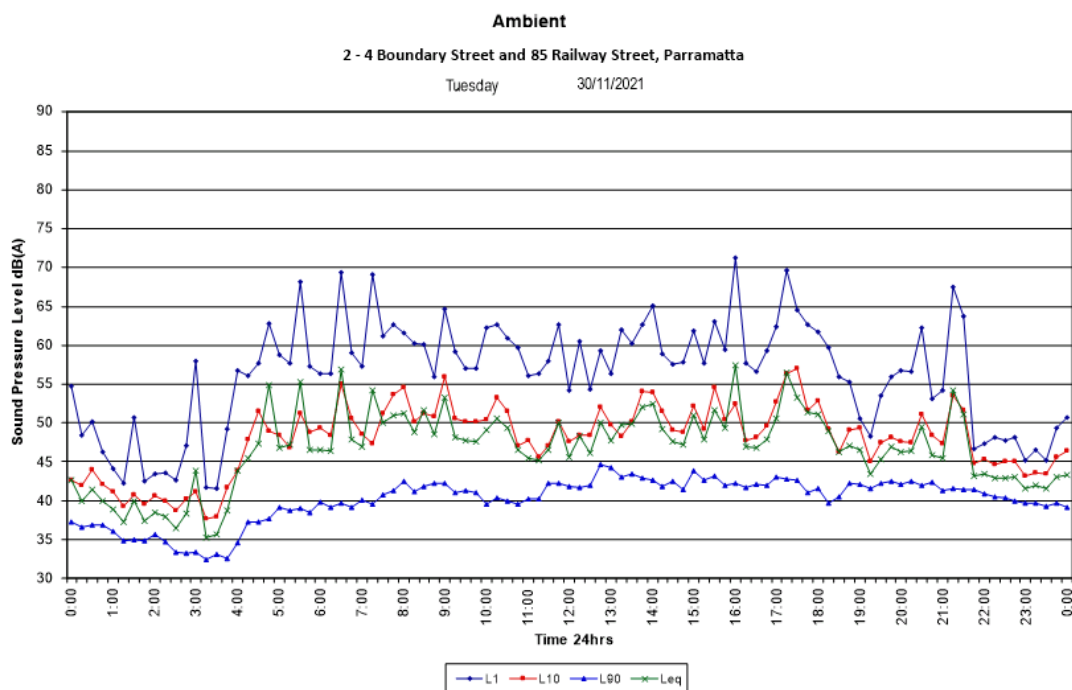
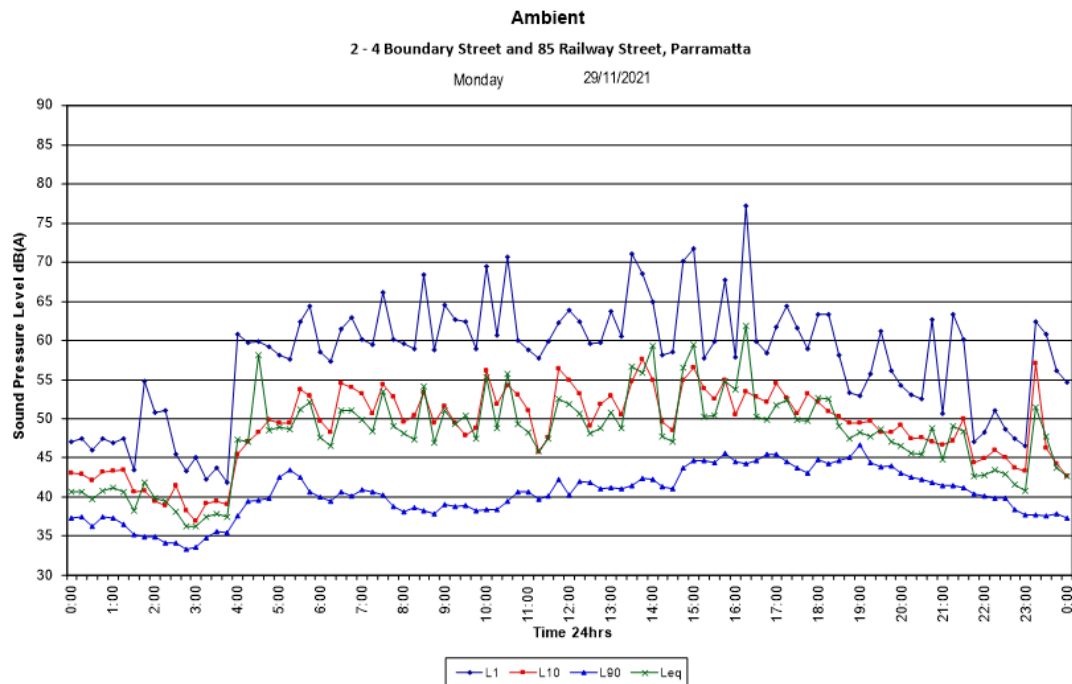
	L_{Amax}	Maximum recorded noise level.
	L_{A1}	The noise level exceeded for 1% of the 15 minute interval.
	L_{A10}	Noise level present for 10% of the 15 minute interval. Commonly referred to the average maximum noise level.
	L_{Aeq}	Equivalent continuous (energy average) A-weighted sound pressure level. It is defined as the steady sound level that contains the same amount of acoustic energy as the corresponding time-varying sound.
	L_{A90}	Noise level exceeded for 90% of time (background level). The average minimum background sound level (in the absence of the source under consideration).
Threshold		The lowest sound pressure level that produces a detectable response (in an instrument/person).
Tonality		Tonal noise contains one or more prominent tones (and characterised by a distinct frequency components) and is considered more annoying. A 2 to 5 dB(A) penalty is typically applied to noise sources with tonal characteristics

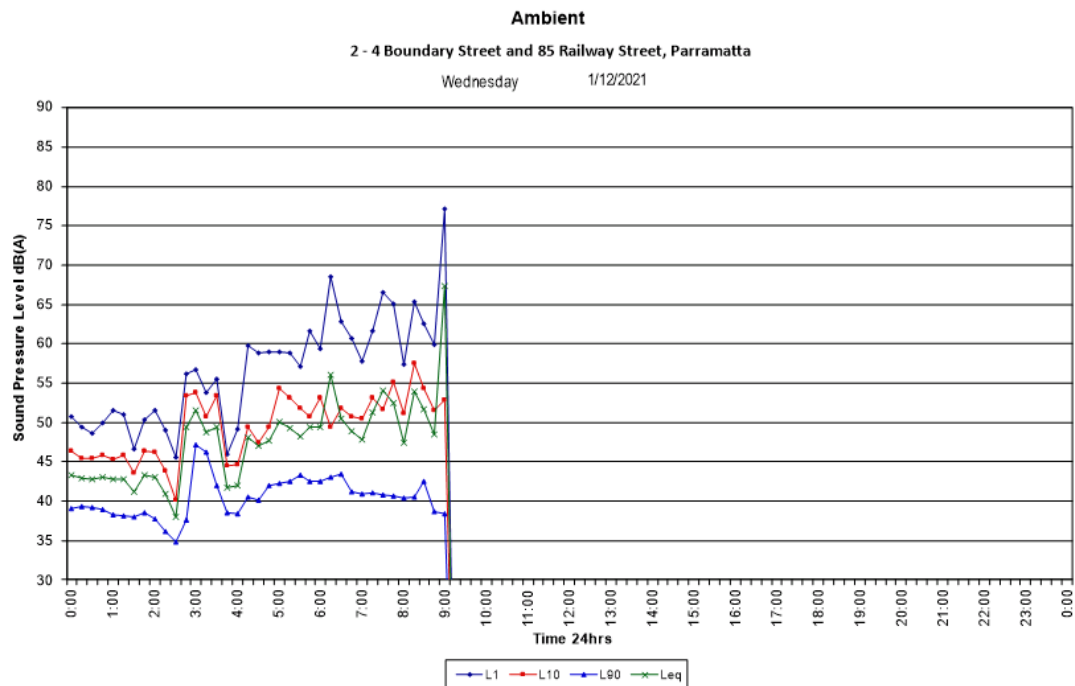


Appendix B – Logger Graphs

Ambient Logger

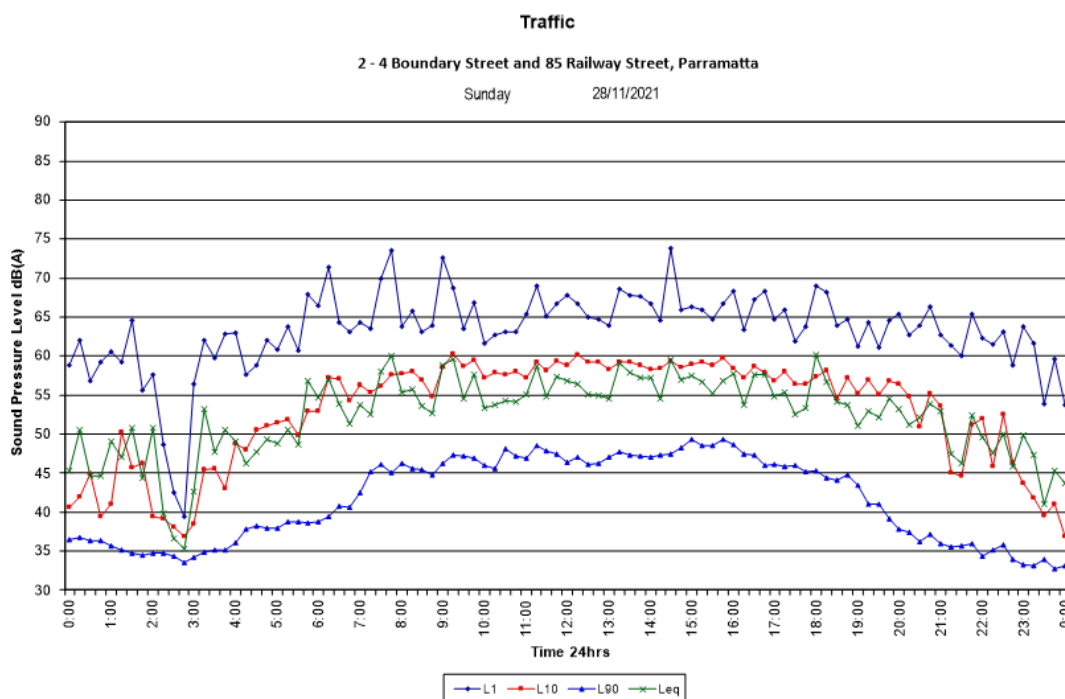
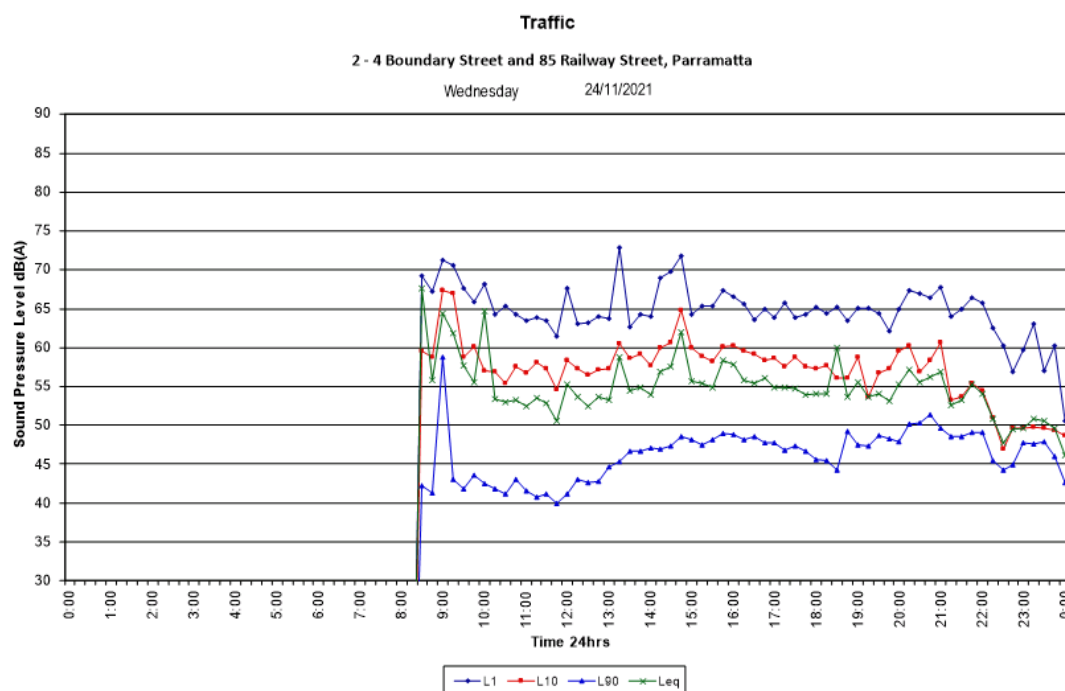








Traffic Logger

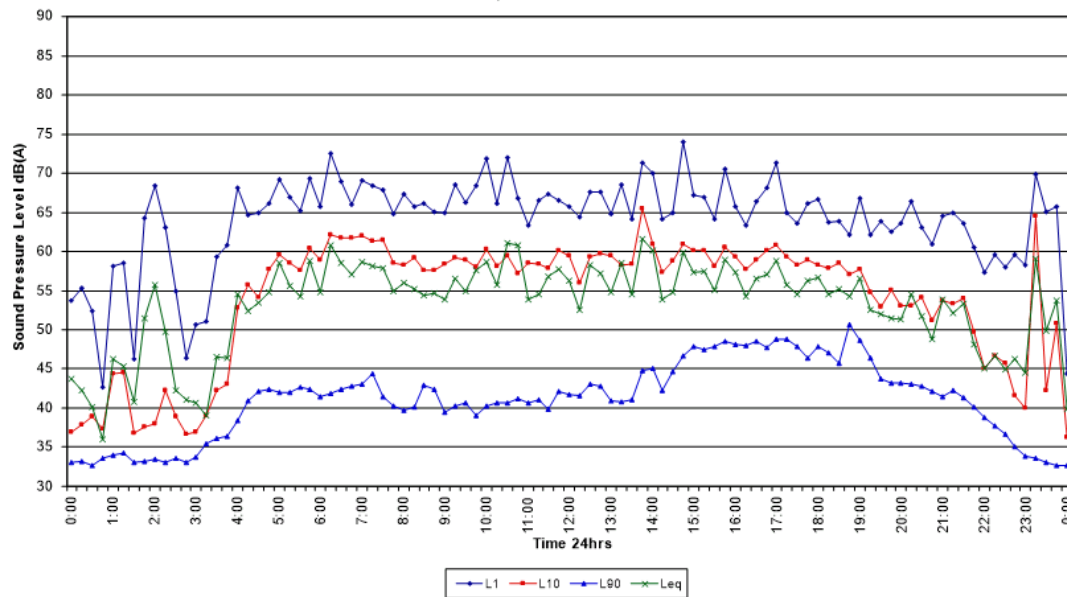




Traffic

2 - 4 Boundary Street and 85 Railway Street, Parramatta

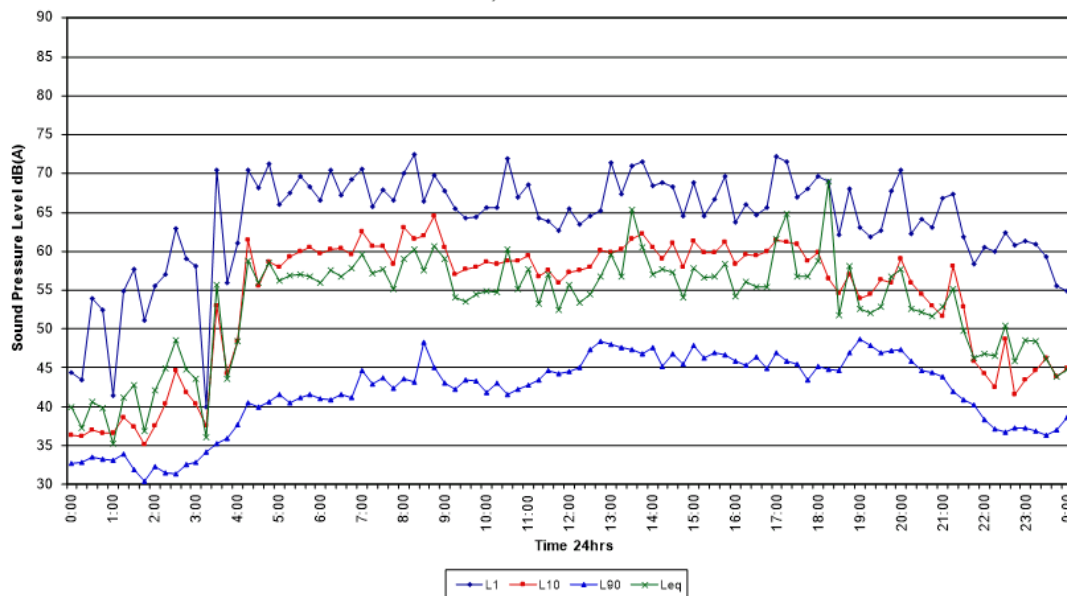
Monday 29/11/2021

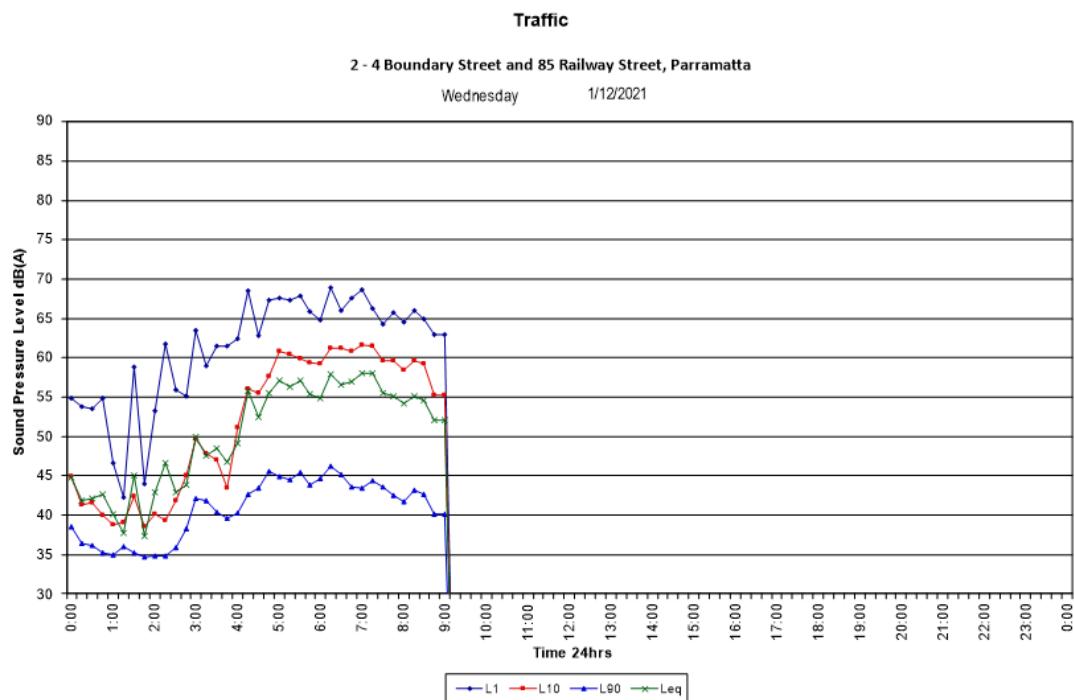


Traffic

2 - 4 Boundary Street and 85 Railway Street, Parramatta

Tuesday 30/11/2021







Appendix C – Calibration Certificate



**Acoustic
Research
Labs Pty Ltd**


Unit 36/14 Loyalty Rd
North Rocks NSW AUSTRALIA 2151
Ph: +61 2 9484 0800 A.B.N. 65 160 399 119
www.acousticresearch.com.au

Sound Level Meter

IEC 61672-3:2013

Calibration Certificate

Calibration Number C21521

Client Details		Rodney Stevens Acoustics Pty Ltd 1 Majura Close St Ives NSW 2075	
Equipment Tested/ Model Number :		Rion NL-42EX	
Instrument Serial Number :		00572558	
Microphone Serial Number :		170393	
Pre-amplifier Serial Number :		72896	
Pre-Test Atmospheric Conditions		Post-Test Atmospheric Conditions	
Ambient Temperature : 21.9°C		Ambient Temperature : 22.4°C	
Relative Humidity : 36.5%		Relative Humidity : 35.5%	
Barometric Pressure : 100.9kPa		Barometric Pressure : 100.9kPa	
Calibration Technician : Lucky Jaiswal		Secondary Check: Max Moore	
Calibration Date : 30 Jul 2021		Report Issue Date : 30 Jul 2021	
Approved Signatory :		 Ken Williams	
Clause and Characteristic Tested		Result	
12: Acoustical Sig. tests of a frequency weighting		Pass	
13: Electrical Sig. tests of frequency weightings		Pass	
14: Frequency and time weightings at 1 kHz		Pass	
15: Long Term Stability		Pass	
16: Level linearity on the reference level range		Pass	
Clause and Characteristic Tested		Result	
17: Level linearity incl. the level range control		Pass	
18: Toneburst response		Pass	
19: C Weighted Peak Sound Level		Pass	
20: Overload Indication		Pass	
21: High Level Stability		Pass	

The sound level meter submitted for testing has successfully completed the class 2 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full requirements of IEC 61672-1:2013 because evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013 and because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Least Uncertainties of Measurement -			
Acoustic Tests		Environmental Conditions	
125Hz	±0.13dB	Temperature	±0.2°C
1kHz	±0.13dB	Relative Humidity	±2.4%
8kHz	±0.14dB	Barometric Pressure	±0.015kPa
Electrical Tests	±0.10dB		

All uncertainties are derived at the 95% confidence level with a coverage factor k of 2.



This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172.
Accredited for compliance with ISO/IEC 17025 - calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to SI units.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.

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Sound Level Meter

IEC 61672-3:2013

Calibration Certificate

Calibration Number C21461

Client Details Rodney Stevens Acoustics Pty Ltd
1 Majura Close
St Ives Chase NSW 2075

Equipment Tested/ Model Number : Rion NL-42EX
Instrument Serial Number : 00572542
Microphone Serial Number : 170370
Pre-amplifier Serial Number : 72880

Pre-Test Atmospheric Conditions
Ambient Temperature : 21.3°C
Relative Humidity : 41.8%
Barometric Pressure : 101.3kPa

Post-Test Atmospheric Conditions
Ambient Temperature : 21.5°C
Relative Humidity : 41.6%
Barometric Pressure : 101.26kPa

Calibration Technician : Lucky Jaiswal
Calibration Date : 8 Jul 2021

Secondary Check: Rhys Gravelle
Report Issue Date : 8 Jul 2021

Approved Signatory :

Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
12: Acoustical Sig. tests of a frequency weighting	Pass	17: Level linearity incl. the level range control	Pass
13: Electrical Sig. tests of frequency weightings	Pass	18: Toneburst response	Pass
14: Frequency and time weightings at 1 kHz	Pass	19: C Weighted Peak Sound Level	Pass
15: Long Term Stability	Pass	20: Overload Indication	Pass
16: Level linearity on the reference level range	Pass	21: High Level Stability	Pass

The sound level meter submitted for testing has successfully completed the class 2 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full requirements of IEC 61672-1:2013 because evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013 and because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Least Uncertainties of Measurement -			
Acoustic Tests		Environmental Conditions	
125Hz	±0.12dB	Temperature	±0.2°C
1kHz	±0.11dB	Relative Humidity	±2.4%
8kHz	±0.13dB	Barometric Pressure	±0.015kPa
Electrical Tests	±0.10dB		

All uncertainties are derived at the 95% confidence level with a coverage factor $k=2$.



This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172.
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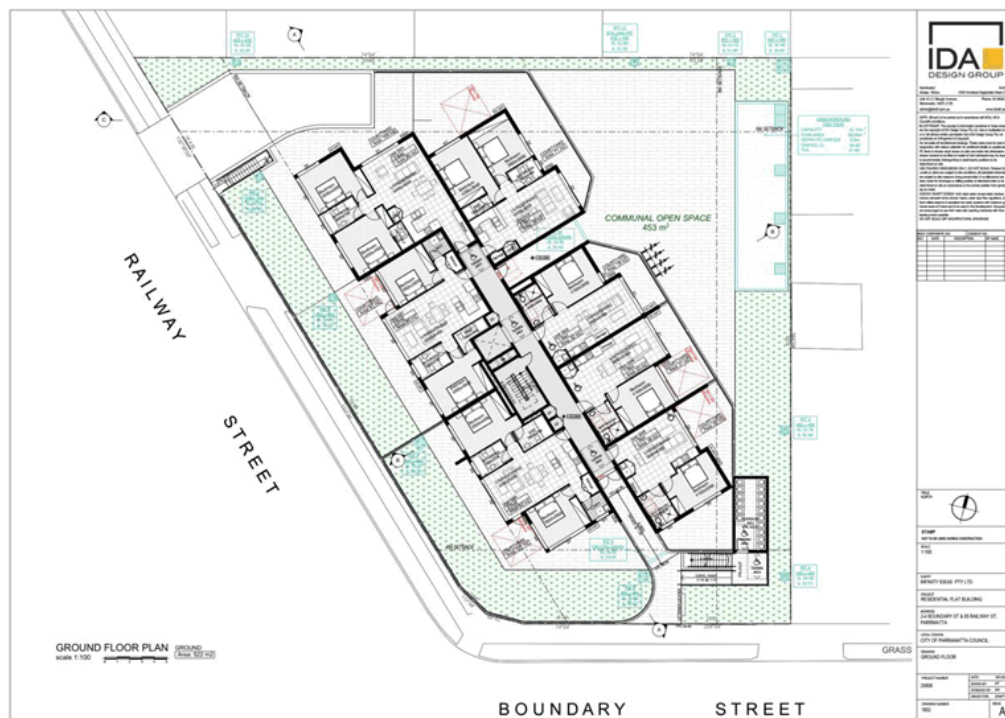
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PAGE 1 OF 1



Appendix D – Architectural Plans











BCA COMPLIANCE ASSESSMENT REPORT

LOCATION: 2-4 Boundary Street & 85 Railway Street Parramatta

PROPOSAL: Residential apartment building

REPORT SECTIONS:

SECTION C - FIRE RESISTANCE

SECTION D – ACCESS & EGRESS

SECTION E – SERVICES & EQUIPMENT

SECTION F – HEALTH & AMENITY

SECTION J – ENERGY EFFICIENCY

DATE: 25.11.2021

PREPARED BY: CHRIS DAN CERTIFICATION

Daniel Wallace

BUILDING SURVEYOR - UNRESTRICTED

Accreditation No: BDC 04600

REVIEWED BY: CHRIS DAN

DIRECTOR, CHRIS DAN CERTIFICATION

A1 – ACCREDITED CERTIFIER – BUILDING SURVEYING GRADE 1

Accreditation No: BDC-2471

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Website: www.chrisdancertification.com.au / ACN 614 224 896 / ABN 146 142 248 96





EXECUTIVE SUMMARY

This report provides a Building Code of Australia 2019 (BCA) assessment for a Residential apartment building at 2-4 Boundary Street & 85 Railway Street Parramatta. The primary purpose of this report is to identify any non-compliance in respect of the proposed development building against the current Deemed-to-Satisfy (DTS) Provisions of the BCA.

The recommendations below provide an overview of the (DTS) non-compliances identified in the assessment.

RECOMMENDATIONS

The following is a list of Deemed-to-Satisfy Provisions that should be addressed by design amendments or through performance solution to achieve compliance with the requirements of the BCA.

BCA Clause	Deemed –to-Satisfy Provision to be addressed
D1.7 Travel via fire isolated exits	The fire isolated stairs from the Class 2 residential building part discharges internally to the building on ground floor contrary to the requirements of this clause. A performance solution is required to demonstrate compliance with the performance requirements of this clause.

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1.0 INTRODUCTION

This report provides a Building Code of Australia 2019 (BCA) assessment for a proposed a Residential apartment building at 2-4 Boundary Street & 85 Railway Street Parramatta. This report provides a BCA assessment in Section 3.0 that summarises the identified non-compliance matters and offers specific recommendations in the executive summary.

1.1 Basis of Report

The key basis of this report is to address compliance with the Building Code of Australia (BCA) 2019. The scope of services is limited to Section C – Fire Resistance, Section D - Access & Egress, Section E – Services & Equipment & Section F - Health and Amenity of the BCA.

This report is based on a desktop assessment of the proposed plans, with specific reference to the following:

- The following architectural plans as listed hereunder:

Plan No./s	Revision/s	Prepared by	Date
0003	A	IDA Design Group	-
0005	A		-
0008	A		-
0009	A		-
1001 – 1006	A		-
2001	A		-
2002	A		-

- The NCC 2019 Building Code of Australia – Volume One - prepared by the Australian Building Codes Board.
- The Guide to Building Code of Australia – Volume One – prepared by the Australian Building Codes Board.

1.2 Purpose of the Report

The purpose of this report is to carry out an assessment under the current Building Code of Australia 2019 and provide advice in terms of any non-compliance matters.

1.3 Limitations of the Report

The limitations of this report include:

- Assessment of any structural elements or geotechnical matters relating to the construction of the building.
- Consideration of any fire services operations (including hydraulic, electrical or other systems).
- Assessment of plumbing and drainage installations, including stormwater.
- Assessment of mechanical plant operations, electrical systems or security systems.
- Consideration of Council's local planning policies, environmental or planning issues.

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- Provision of any construction approvals or certification under the Environmental Planning & Assessment Act 1979.
- Assessment of compliance against section D3 – Access for people with a disability and the requirements of the Disability (Access to Premises - Buildings) Standards 2010.
- A detailed section J assessment including glazing, shading, lighting calculations and the like required by Section J of the BCA has not been carried out.

2.0 BCA Assessment

Assessment data regarding the current Building Code of Australia:

BCA Building Classification/s	Class 7a Carpark – Basement Class 2
Building Rise in Storeys	5 (the basement ceiling protrudes up to 1500mm above ground level)
Type of Construction	A
General Floor area limitations	Floor area and volume limitations are in accordance with BCA Part C2.2.
Effective height	Level 4 (RL 43.2) - Basement RL (30.9) = 12.3m

Effective height is defined in Schedule 3 of the BCA as:

'the vertical distance between the floor of the lowest storey included in the calculation of rise in storeys and the floor of the topmost storey'.

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3.0 BCA ASSESSMENT SUMMARY

Class 2-9 Buildings

The following table details the BCA compliance of the assessed design

Capable of complying	The documents provided demonstrate compliance with the clause is possible. Further construction documentation and specifications are required at Construction Certificate application phase
Complies	The documents provided offer enough information to demonstrate compliance with the clause.
Performance solution	The documents provided demonstrate compliance with the clause is not achievable and a performance solution is required to satisfy the performance requirements.
Note	For information
N/A	This clause is not applicable to this development.

The following table details the BCA compliance of the assessed design.

Structure (BCA Section B)

BCA Clause	Title	Assessment and Comment	Status
B1.1	Resistance to actions	The resistance of the building must be greater than the most critical action effects resulting from different combinations of actions in accordance with this clause. The structural design is to be completed by a Structural Engineer to meet the requirements of this provision.	Capable of Complying
B1.2	Determination of individual actions	The structural design is to be completed by a Structural Engineer to meet the requirements of this provision.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
		Non-structural components such as partitions, ceilings, services, etc, and their fastenings must be designed for earthquake forces comply in accordance with AS1170.4-2007 Amdt 1 & 2, as relevant. Design certification should be provided by the relevant designers.	
B1.4	Determination of structural resistance of materials & forms of construction	<p>The structural resistance of the following materials and forms of construction for the following elements are to be in accordance with the standards nominated in this clause:</p> <ul style="list-style-type: none"> ▪ Masonry ▪ Concrete ▪ Steel construction ▪ Composite steel and concrete ▪ Aluminium construction ▪ Timber construction ▪ Piling ▪ Glazing assemblies ▪ Termite risk management ▪ Roof construction ▪ Particleboard structural flooring ▪ Garage doors ▪ Lift shafts <p>The plans and specifications are to identify compliance.</p> <p>The method of termite control shall be to use primary building elements (as defined by BCA) that are of a material that is not subject to termite attack, i.e primary building elements must not be timber unless the timber is naturally termite resistant, or preservative treated in accordance with AS 3660.1.</p> <p>The structural design is to be completed by a Structural Engineer to meet the requirements of this provision.</p>	Capable of Complying

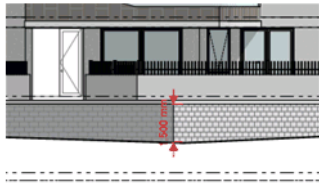
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BCA Clause	Title	Assessment and Comment	Status
B1.5	Structural Software	Structural software used in computer aided design is to comply with the requirements of this provision.	Capable of Complying
B1.6	Construction of buildings in flood hazard areas	A Class 2, 3, 4, 9a or 9c building is required to comply with the ABCB standards for Construction of Buildings in Flood Hazard Areas.	Capable of Complying

Fire Resistance (BCA Section C)

BCA Clause	Title	Assessment and Comment	Status
C1.1	Type of construction required	The type of fire resisting construction applicable is Type A construction.	Note
C1.2	Calculation in rise in storeys	<p>The building contains a rise in storeys of 5.</p> <p>A storey is counted in the calculation of rise in storeys where it is situated partly below the finished ground and the underside of the ceiling is more than 1m above the average finished level of the ground at the external wall.</p> 	Note

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BCA Clause	Title	Assessment and Comment	Status
C1.8	Lightweight construction	<p>Any proposed fire resisting lightweight walls or fire resisting lightweight protection to steel columns is to comply with Specification C1.8.</p> <p>Test certificates, for those tests prescribed by Spec C1.8, are required to be provided at construction certificate application stage to demonstrate compliance with this clause.</p>	Capable of Complying
C1.9	Non-combustible building elements	<p>The following building elements and their components must be non-combustible:</p> <ul style="list-style-type: none"> ▪ External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation. ▪ The flooring and floor framing of lift pits. ▪ Non-loadbearing internal walls where they are required to be fire-resisting. ▪ A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing. ▪ A loadbearing internal wall and loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1. <p>The requirements of this clause do not apply to gaskets, caulking, sealants, termite management systems, glass, thermal breaks associated with glazing systems & dampproof courses.</p> <p>Notwithstanding the above, the following materials may be used wherever a non-combustible material is required:</p> <ul style="list-style-type: none"> ▪ Plasterboard. ▪ Perforated gypsum lath with a normal paper finish. ▪ Fibrous-plaster sheet. ▪ Fire-reinforced cement sheeting. ▪ Pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. 	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> Sarking that does not exceed 1 mm thickness and have a flammability index of not greater than 5. Bonded lamination materials where each lamina, including any core, is non-combustible; each adhesive layer does not exceed 1mm in thickness and the total thickness of the adhesive layers does not exceed 2mm; and the Spread of Flame Index and the Smoke-Developed Index of the bonded laminated materials as a whole do not exceed 0 and 3 respectively. 	
C1.10	Fire hazard properties	Proposed internal linings, materials and assemblies are to be selected to comply with the required fire hazard properties of Specification C1.10. Evidence of compliance (test certificates) shall be obtained from the supplier or manufacturer.	Capable of Complying
C1.11	Performance of external wall in fire	NA – greater than 2 storey.	N/A
C1.13	Fire protected timber: Concession	NA – not proposed.	N/A
C1.14	Ancillary Elements	An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible, except were permitted by this clause.	Capable of Complying
C2.2	General floor area and volume limitations	The building complies with the general floor area and volume limitations identified by this clause.	Complies
C2.3	Large Isolated buildings	NA – not considered large isolated.	N/A
C2.4	Open space and vehicular access	NA – not considered large isolated.	N/A

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BCA Clause	Title	Assessment and Comment	Status
NSW C2.5	Class 9a and 9c buildings	NA – Class not proposed.	N/A
C2.6	Vertical separation of openings in external walls	The building is required to be protected with sprinklers throughout and therefore vertical separation is not required.	N/A
C2.7	Separation by fire walls	Fire walls are not required where storage areas to the basement do not comprise more than 10% of the floor area. Alternatively a performance solution may be required to address the performance requirements.	Capable of Complying
C2.8	Separation of classifications in the same storey	<p>If a building has parts of different classifications located alongside one another in the same storey,</p> <ul style="list-style-type: none"> each building element in that storey must have the higher FRL prescribed in Specification C1.1 for that element for the classifications concerned; or the parts must be separated in that storey by a fire wall. <p>The requirement for fire walls are identified in C2.7 above.</p>	Capable of Complying
C2.9	Separation of classifications in different storeys	<p>The floors between parts of different classifications must have an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower storey.</p> <p>Separation is required to be provided between the Class 7a part and the Class 2 part.</p>	Capable of Complying
C2.10	Separation of lift shafts	The lift shafts are required to be fire separated from the rest of the building in accordance with this clause.	Capable of Complying
C2.11	Stairways and lifts in one shaft	The stairs and lift shaft are located in different shafts.	Complies
C2.12	Separation of equipment	The following equipment are required to be fire separated from the remainder of the building by 120/120/120 FRL construction:	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> ▪ Lift motor rooms and lift control panels. ▪ Emergency Generators. ▪ Central smoke control plant. ▪ Boilers. ▪ Battery systems. <p>The building does not contain any of the above rooms or equipment and the requirements of this provision do not apply.</p> <p>Separation of on-site fire pumps must comply with the requirements of AS2419.1.</p>	
C2.13	Electricity supply system	<p>Any main switchboard located in the building which sustains emergency equipment operating in emergency mode, is required to be fire separated from the remainder of the building by 2 hr fire resisting construction. Construction should achieve an FRL of 120/120/120, doorways are required achieve an FRL of -/120/30 and to be self-closing and all penetrations in enclosures are to be appropriately fire stopped.</p> <p>All switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear.</p> <p>Electrical conductors and switchboards are required to comply with this clause.</p>	Capable of Complying
C2.14	Public corridors in Class 2 & 3 buildings	NA - The building does not contain public corridors more than 40 m in length.	N/A
C3.2	Protection of openings in external walls	NA - Openings are located more than 3m from the allotment boundary.	N/A

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BCA Clause	Title	Assessment and Comment	Status
C3.3	Separation of external walls and associated openings in different fire compartments	NA - The building does not contain separate fire compartments which are applicable to this clause.	N/A
C3.4	Acceptable method of protection	NA – Protection to openings is not required.	N/A
C3.5	Doorways in fire walls	NA – Firewalls are not proposed.	N/A
C3.6	Sliding fire doors	NA – sliding fire doors are not proposed.	N/A
C3.7	Protection of doorways in horizontal exits	NA - The building does not contain horizontal exits and the provisions of this part do not apply.	N/A
C3.8	Openings in fire isolated exits	The fire-isolated exits are required to be protected by -/60/30 self-closing fire doors.	Capable of Complying
C3.9	Service penetrations in fire isolated exits	Service are not to penetrate through fire isolated exits unless permitted by this clause.	Capable of Complying
C3.10	Fire isolated lift shafts	The lift doors are required to be -/60/- fire doors and comply with this provision. A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35 000 mm ² in area.	Capable of Complying
NSW C3.11	Bounding construction	Doors from sole occupancy units opening into enclosed public corridors are required to be protected by - /60/30 self-closing fire doors.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
		A doorway from any other room not within a SOU, must be protected by -/60/30 self-closing fire doors if it opens to a public corridor, public lobby or the like within the residential portion of the building.	
C3.12	Openings in floors and ceilings for services.	Fire separation between floors is required to be maintained where services penetrate through floors unless the services are located in fire rated shafts.	Capable of Complying
C3.13	Openings in shafts	Opening in shafts are required to be protected in accordance with this clause. Where a waste loading room is proposed, being an extension of the fire rated shaft containing the garbage chute, access doors are required to demonstrate compliance with this clause.	Capable of Complying
C3.15	Openings for service installations	Services that penetrate a building element that is required to have an FRL must be protected utilising one of the options listed under this clause. Test certificates describing each individual service penetration and configuration will be required at the construction certificate stage (fire stopping matrix).	Capable of Complying
C3.16	Construction joints	Construction joints in building elements required to be fire resistant are required to be protected in accordance with this clause.	Capable of Complying
C3.17	Columns protected with lightweight construction to achieve an FRL	Any columns protected with fire resisting lightweight construction to achieve an FRL must be installed in a manner that's identical to the tested prototype.	Capable of Complying

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**Fire-Resisting Construction (Specification C1.1)**

BCA Clause	Title	Assessment and Comment	Status
2.1	Exposure to fire source features	Exposure to fire source features is to be determined in accordance with this clause.	Note
2.2	Fire protection for support of another part	When determining FRL's applicable to a particular building element, the requirements of this clause are required to be complied with.	Note
2.3	Lintels	Lintels are to be protected as required by the requirements of this clause.	Capable of Complying
2.4	Method of attachment not to reduce the fire resistance of building elements	The method of attaching or installing a finish, lining, ancillary element or service installation to the building element must not reduce the fire-resistance of that element to below that required.	Capable of Complying
2.5	General concessions	Roof top plant rooms need not have an FRL if they are non-combustible and they only contain equipment specified in this clause.	Note
2.6	Mezzanine floors: concession	NA - The building does not contain mezzanines that are subject to this provision.	N/A
2.7	Enclosure of shafts	Fire rated shafts are to be enclosed at the top and bottom in accordance with the requirements of this clause.	Capable of Complying
2.9	Residential care building: Concession	NA - The requirements of this provision apply to the subject building.	N/A

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BCA Clause	Title	Assessment and Comment	Status
3.1	Fire resistance of building elements	Generally building elements are required to achieve the following FRL's; Carpark & storage: 2 hrs Residential: 1½ hrs A loadbearing internal wall and a loadbearing fire wall must be of concrete or masonry.	Capable of Complying
3.5	Roof: Concession	The roof is not required to achieve an FRL as the building has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 installed throughout.	Capable of Complying
3.6	Roof lights	NA - Roof lights are not proposed.	N/A
3.7	Internal wall and column: concession	Internal columns, internal walls (other than fire walls and shaft wall) immediately below the roof are permitted to achieve an FRL of 60/60/60. This concession does not apply to internal columns within 1.5m from the external windows.	Note

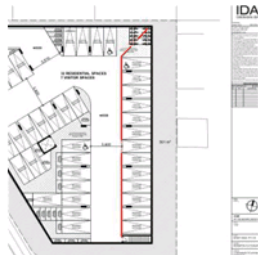
Access and Egress (BCA Section D)

BCA Clause	Title	Assessment and Comment	Status
D1.2	Number of exits required	The Class 2 residential component of the building is required to be provided with a minimum of 1 exit. The basement is required to be provided with a minimum of 2 exits.	Complies
D1.3	When fire isolated exits are required	The stairs providing egress from the Class 2 residential parts are required to be fire isolated stairs.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
D1.4	Exit travel distances	<p>Class 2 part – Utilising the concession available under Spec E1.5a - entrance doorways of any sole-occupancy unit must be not be more than 12m from an exit or from a point from which travel in different directions is available or 30m from a single exit serving the storey at the level of egress to a road or open space.</p> <p>No point on the floor of a room which is not in a sole-occupancy unit must be more than 30m from an exit or from a point at which travel in different directions to 2 exits is available.</p> <p>The Class 2 part complies with the requirements of this clause.</p> <p>Class 5, 6 and 7a parts - No point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40m.</p> <p>Travel distances of up to 41m to the basement levels. A design review should be provided to rectify this extended distance at construction certificate application stage.</p> 	Capable of Complying
D1.5	Distance between alternative exits	<p>Exits that are required to serve as alternative means of egress must not be more than 45m apart in a residential building and not more than 60m in all other parts.</p> <p>The distance between alternative exits comply.</p>	Capable of Complying

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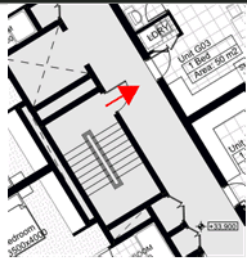


BCA Clause	Title	Assessment and Comment	Status
		Exits required as alternative means of egress must be located not less than 9m apart and located so that the alternative paths of travel do not converge such that they become less than 6m apart. The exits comply with the requirements above.	
NSW D1.6	Dimensions of exits and paths of travel to exits	A required exit or path of travel to an exit are required to be a minimum unobstructed height of not less than 2m and minimum width of 1m.	Capable of Complying
D1.7	Travel via fire isolated exits	<p>A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from:</p> <ul style="list-style-type: none"> ▪ a public corridor, public lobby or the like; or ▪ a sole-occupancy unit occupying all of a storey; or ▪ a sanitary compartment, airlock or the like. <p>Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway to a road or open space;</p> <p>Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have an FRL of not less than 60/60/60 and any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser.</p> <p>The fire isolated stairs from the Class 2 residential building part discharges internally into the building on ground floor contrary to the requirements of this clause. A performance solution is required to demonstrate compliance with the performance requirements of this clause.</p>	Performance Solution

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BCA Clause	Title	Assessment and Comment	Status
			
D1.8	External Stairs or ramps in lieu of Fire-isolated exits	NA - External stairs are not provided in lieu of fire isolated exits.	N/A
D1.9	Travel via non-fire-isolated stairways or ramps	A non-fire-isolated stair serving as a required exit must provide a continuous means of travel by its own flights and landings to a level at which egress to a road or open space is available. Both non-fire isolated stairs from the basement comply.	Complies
D1.10	Discharge from exits	The discharge point of the fire isolated exits is required to be connected to the road by a path that is not less than the exit width to which the external path serves. Where there is a change of level, the path must contain a complying stair or ramp.	Capable of Complying
D1.11	Horizontal exits	NA - Horizontal exits are not proposed.	N/A
D1.12	Non-required stairways, ramps or escalators	NA - Non-required stairways, ramps or travellers are not proposed.	N/A

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BCA Clause	Title	Assessment and Comment	Status
D1.13	Number of persons accommodated	Populations have been assessed in accordance with Table D1.13.	Note
D1.16	Plant rooms and lift rooms: concession	A ladder may be used in lieu of a stairway to provide egress from a plant room with a floor area less than 100m ² or plant or lift machine rooms with a floor area of less than 200 m ² , for all but one point of egress. Ladders are required to comply with AS1657 and the requirement of this clause.	Capable of Complying
D1.17	Access to lift pits	Access to lift pits is to be in accordance with this clause.	Capable of Complying
D1.18	Egress from early childhood centres	NA – not proposed.	N/A
D2.2	Fire-isolated stairways and ramps	A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed of non-combustible materials and so that if there is local failure it will not cause structural damage to or impair the fire-resistance of the shaft.	Capable of Complying
D2.3	Non-fire isolated stairs and ramps	The non-fire isolated stairs are required to be designed in accordance with the requirements of this provision.	Capable of Complying
D2.4	Separation of rising and descending stair flights	NA – not affected.	N/A
D2.7	Installation in exits and paths of travel	Access to service shafts and services other than to firefighting or detection equipment as permitted in the Deemed-to-Satisfy provisions of Section E, must not be provided from a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp. Gas or other fuel services must not be installed in a required exit.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
		Electrical or telecommunications cupboards opening onto a corridor or the like must be of non-combustible construction and smoke sealed from the corridor (including metal lining to inside face of door and smoke seals to door). Only electrical wiring associated with services specified in the clause, are permitted to be installed in a fire isolated exit.	
D2.8	Enclosure of space under stairs and ramps	The space below the required fire-isolated stairways must not be enclosed to form a cupboard or similar enclosed space. The space below a required non fire-isolated stairway (including an external stairway) or non fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless: <ul style="list-style-type: none"> the enclosing walls and ceilings have an FRL of not less than 60/60/60; and any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door. 	Capable of Complying
D2.9	Width of stairways	A required stairway or ramp that exceeds 2m in width is counted as having a width of only 2m unless it is divided by a handrail or barrier continuous between landings and each division has a width of not more than 2m	Note
D2.10	Pedestrian ramps	A ramp must: <ol style="list-style-type: none"> where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS1428.1; or in any other case, have a gradient not steeper than 1:8. The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS4586.	Capable of Complying
D2.11	Fire-isolated passageways	The fire rating of fire-isolated passageways is required to be achieved from the outside.	Note
D2.12	Roof as open space	NA - There is no roof as open space and therefore this clause does not apply.	N/A

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BCA Clause	Title	Assessment and Comment	Status
NSW D2.13	Goings & risers	Goings and risers are to be designed to comply with this clause including: <ul style="list-style-type: none"> going and riser dimensions; and slip resistance. 	Capable of Complying
D2.14	Landings	Landings are to be designed in accordance with this clause.	Capable of Complying
NSW D2.15	Thresholds	Thresholds are to comply with this clause.	Capable of Complying
NSW D2.16	Barriers to prevent falls	Balustrades are to be designed to comply with this clause.	Capable of Complying
D2.17	Handrails	Handrails are required along at least one side of all stairways or ramps, or on both sides of stairs or ramps with a total width of 2m or more. In a required exit serving an area required to be accessible, handrails are required to comply with AS 1428.1-2009.	Capable of Complying
D2.18	Fixed platforms, walkways, stairways & ladders	Fixed platforms, walkways, stairways & ladders are to be designed in accordance with this clause.	Capable of Complying
NSW D2.19	Doorways and doors	Power-operated doors are required to be opened manually under a force of not more than 110 N and open automatically if it leads directly to a road or open space.	Capable of Complying
D2.20	Swinging doors	A swinging door must not encroach and impede the path of travel/exit width by more than 500mm at any part of its swing. When in the fully open position, it must not encroach into the path of travel/exit width by more than 100mm.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
		Doors in or serving as a required exit must swing in the direction of egress unless they are subject to the concession in this clause.	
NSW D2.21	Operation of latch	All the doors in the required exits, doors forming part of the required exits, and doors within paths of travel must be readily openable in accordance with this clause	Capable of Complying
D2.22	Re-entry from fire-isolated exits	NA – the building is under 25m in height.	N/A
D2.23	Signs on doors	A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to exit door and smoke doors, in accordance with this clause.	Capable of Complying
D2.24	Protection of openable windows	Window openings must be protected in accordance with this clause to limit the risk of a person falling through an openable window	Capable of Complying
D2.25	Timber stairways: Concession	NA – timber stairways are not proposed.	N/A
D3.1	General building access requirements	Refer to access consultant report.	Capable of Complying

Services and Equipment (BCA Section E)

BCA Clause	Title	Assessment & Comment	Status
E1.3	Fire hydrants	A fire hydrant system must be provided in accordance with this clause to serve the whole building and must also be installed in accordance with AS 2419.1. Where internal hydrants are provided, they must only serve the storey in which they are located.	Capable of Complying

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BCA Clause	Title	Assessment & Comment	Status
		The locations of hydrant boosters and pumps is required to be provided on the plans at construction certificate application stage complying with the requirements of this clause.	
E1.4	Fire hose reels	A hose reel system must be provided to serve the Class 7a part. The hose reel system must be installed in accordance with this clause and AS 2441.	Capable of Complying
E1.5	Sprinklers	A sprinkler system must be installed throughout the whole building and must comply with Specification E1.5 and E1.5a, as applicable.	Capable of Complying
E1.6	Portable fire extinguishers	Portable fire extinguishers are to comply with this provision and sections 1, 2, 3 and 4 of AS 2444.	Capable of Complying
E1.8	Fire control centres	NA – the building is under 25m in height.	N/A
E1.9	Fire precautions during construction	In a building under construction not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit. After the building has reached an effective height of 12 m the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storey's and any required booster connections must be installed.	Capable of Complying
E1.10	Provision for special hazards	NA - No special hazards have been identified.	N/A
E2.2	General requirements	The following smoke hazard management measures are required in accordance with this clause: E2.2 - An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a and which recycles air from one fire compartment to another fire compartment or	Capable of Complying

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BCA Clause	Title	Assessment & Comment	Status
		<p>operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must:</p> <ul style="list-style-type: none"> ▫ be designed and installed to operate as a smoke control system in accordance with AS 1668.1; or ▫ incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and be arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with Clause 7.5 of AS 1670.1; and for the purposes of this provision, each SOU in the Class 2 part is treated as a separate fire compartment. <ul style="list-style-type: none"> - Miscellaneous air-handling systems covered by Sections 5 and 6 of AS 1668.1 serving more than one fire compartment (other than a car park ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard. - A smoke detection and alarm system must be installed in accordance with Specification E2.2a to the Class 2 part. 	
E2.3	Provision for special hazards	NA – special hazards are not identified.	N/A
E3.1	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1.	Capable of Complying
E3.2	Stretcher facility in lifts	NA – the building is under 25m in height.	N/A
E3.3	Warning against use of lifts in fire	Warning signs must be displayed near every lift call button in accordance with this clause.	Capable of Complying
E3.4	Emergency lifts	NA – the building is under 25m in height.	N/A

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BCA Clause	Title	Assessment & Comment	Status
E3.5	Landings	Access and egress to and from lift well landings must comply with the DTS provision of Section D Refer to access consultant report.	Capable of Complying
E3.6	Passenger lifts	The lifts are required to be of a type and have features for people with disabilities as required by this clause.	Capable of Complying
E3.7	Fire service controls	Fire service controls are required to every lift serving any storey above an effective height of 12m. Fire service controls are required to comply with the requirements of this provision.	Capable of Complying
E3.8	Aged care buildings	N/A – not affected.	N/A
E3.9	Fire service recall operation switch	Each group of lifts must be provided with one fire service recall control switch where fire service controls are required by E3.7. Fire recall operation switches are to comply with the requirements of this provision.	Capable of Complying
E3.10	Lift car fire service drive control switch	Lift car fire service drive control switch required by E3.7 must be activated from within the car and the switch must comply with the requirements of this clause.	Capable of Complying
E4.2 to E4.4	Emergency lighting requirements	Emergency lighting must be provided in accordance with these clauses. Emergency lighting is required to comply with AS2293.1-2005.	Capable of Complying
E4.5 to E4.8	Exit signs	Exit signage must be provided in accordance with this clause. Exit signage is required to comply with AS2293.1-2005 and be clearly visible at all times.	Capable of Complying
E4.9	Emergency warning and intercom systems	NA – not affected.	N/A

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**Health and Amenity (BCA Section F)**

BCA Clause	Title	Assessment and Comment	Status
F1.0	Deem to satisfy provisions	Performance requirement FP1.4, for the prevention of the penetration of water through external walls, is required to be complied with. A performance solution is required to demonstrate compliance with the performance requirements.	Performance Solution
F1.1	Stormwater drainage	Stormwater drainage is required to be designed to comply with AS/NZS 3500.3-2015.	Capable of Complying
F1.4	External above ground membranes	Waterproofing membranes for external above ground use must comply with AS 4654.1-2012 & AS 4654.2-2012.	Capable of Complying
F1.5	Roof coverings	NA – not proposed.	N/A
F1.6	Sarking	Sarking-type materials used for weatherproofing of roofs and walls are required to comply with AS/NZS 4200 Parts 1 and 2.	Capable of Complying
F1.7	Waterproofing of wet areas in buildings	Waterproofing of wet areas are required to comply with this clause & AS 3740-2010 <small>Amdt 1</small> .	Capable of Complying
F1.9	Damp-proofing	Damp proofing is required to be provided in accordance with this clause.	Capable of Complying
F1.10	Damp-proofing of floor on ground	Damp proofing is required to be provided in accordance with this clause.	Capable of Complying
F1.11	Provision of floor wastes	In a Class 2 or 3 building or Class 4 part of a building, a bathroom or laundry located at any level above a sole occupancy unit or public space must have: ▪ a floor waste.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> The floor graded to the floor waste to permit drainage of water 	
F1.12	Sub-floor ventilation	NA – subfloors are not proposed.	N/A
F1.13	Glazed assemblies	Glazed assemblies to comply with AS 2047 as applicable.	Capable of Complying
F2.1	Facilities in residential buildings	<p>The residential portion of the building is to be provided with appropriate facilities in accordance with Table F2.1. Generally, provision of the following facilities within each unit will comply:</p> <ul style="list-style-type: none"> A bath or shower; and A closet pan & wash basin; and Kitchen; and Wash tub and space for washing machine and drier <p>Sanitary facilities are provided as required.</p>	Complies
F2.3	Facilities in Class 3 to 9 buildings	NA – not affected.	N/A
F2.4	Facilities for people with disabilities	Refer to access consultant report.	Capable of Complying
F2.5	Construction of sanitary compartments	The construction of sanitary compartments is required to comply with this requirement.	Capable of Complying
F2.6	Interpretation: Urinals and washbasins	NA – not affected.	N/A

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BCA Clause	Title	Assessment and Comment	Status
F2.8	Waste management	NA – not affected.	N/A
F2.9	Accessible adult change facilities	NA – not affected.	N/A
F3.1	Height of rooms and other spaces	The minimum ceiling height requirements are to comply with the requirements of this provision.	Capable of Complying
F4.1-4.3	Provision of natural light	Natural lighting must be provided in all habitable rooms of the residential units.	Capable of Complying
F4.4	Artificial lighting	Artificial lighting is to be provided in accordance with AS/NZS1680.0 to spaces required by this clause.	Capable of Complying
F4.5-4.7	Ventilation of rooms	Ventilation is to be provided by natural or mechanical means in accordance with this provision and Clause F4.6.	Capable of Complying
F4.8	Restriction on the position of water closets and urinals	A room containing a closet pan or urinal must not open directly into a room used for public assembly or a workplace normally occupied by more than one person.	Capable of Complying
F4.9	Airlocks	If the room containing a closet pan or urinal must not open directly into rooms identified in F4.8 above then an airlock of not less than 1.1 m ² and fitted with self-closing doors at all access doorways or the room containing the closet pan or urinal must be provided with mechanical ventilation and the doorway to the room adequately screened from view. Mechanical ventilation of the bathrooms is to be provided.	Capable of Complying
F4.11	Car park exhaust	Each storey of the carpark must have a system of ventilation complying with AS1668.2 or permanent natural ventilation in accordance with Section 4 of AS1668.4.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
F4.12	Kitchen local exhaust	NA - No commercial kitchens are provided.	N/A
F5.1	Application of part	The sound insulation requirements of F5.2, F5.3, F5.4, F5.5, F5.6 & F5.7 only apply to the Class 2, 3 and 9c component of the building.	Note
F5.2	Determination of airborne sound insulation ratings	A form of construction required to have an airborne sound insulation rating must: <ul style="list-style-type: none"> have the required value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term ($R_w + C_{tr}$) determined in accordance with AS/NZS 1276.1 or ISO 717.1 using results from laboratory measurements; or an acceptable form of construction under Spec F5.2. 	Note
F5.3	Determination of impact sound insulation ratings	Determination of impact sound insulation ratings is to be in accordance with this clause. Particular attention is required to the requirements for discontinuous construction	Note
F5.4	Sound insulation rating of floor	1. A floor in a Class 2 or 3 building must have an $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w}$ (impact) not more than 62 if it separates— <ol style="list-style-type: none"> sole-occupancy units; or a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification. 	Capable of Complying
F5.5	Sound insulation of walls	Sound insulation of walls and doors is required to be in accordance with this clause.	Capable of Complying
F5.6	Sound insulation rating of internal services	Services that serves or pass through more than one SOU must achieve the required ratings specified by this clause.	Capable of Complying

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BCA Clause	Title	Assessment and Comment	Status
F5.7	Sound isolation of pumps	A flexible coupling must be installed at the point of connection between service pipes in a building and any circulating or other pump.	Capable of Complying
F6.1	Application of part	The deemed-to-satisfy provisions of this Part only apply to a sole-occupancy unit of a Class 2 building and a Class 4 part of a building	Note
F6.2	Pliable building membrane	Where a pliable building membrane is installed in an external wall, it must comply with the provisions of this clause. Except for single skin masonry and single skin concrete, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity.	Capable of Complying
F6.3	Flow rate and discharge of exhaust systems	<ol style="list-style-type: none"> 1. An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of: <ol style="list-style-type: none"> (a) 25 L/s for a bathroom or sanitary compartment; and (b) 40 L/s for a kitchen or laundry. 2. Exhaust from a kitchen must be discharged directly or via a shaft or duct to outdoor air. 3. Exhaust from a bathroom, sanitary compartment, or laundry must be discharged: <ol style="list-style-type: none"> (a) Directly or via a shaft or duct to outdoor air; or (b) To a roof space that is ventilated in accordance with F6.4. 	Capable of Complying
F6.4	Ventilation of roof spaces	NA – roof space not proposed.	N/A

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**Ancillary Provisions (BCA Section G)**

BCA Clause	Title	Assessment and comment	Status
G1.1	Swimming Pools	NA – not proposed.	N/A
G1.2	Refrigerated chambers, strong rooms & vaults	NA – not proposed.	N/A
G1.3	Outdoor Play Spaces	NA – not proposed.	N/A
NSW G1.101	Provision for the cleaning of windows	The method of provision for the cleaning of windows is required to be in accordance with this clause (windows 3 or more storeys above the ground).	Capable of complying
G2.2	Installation of appliances	NA – not proposed.	N/A
G2.3	Open fireplaces	NA – not proposed.	N/A
G2.4	Incinerator rooms	NA – not proposed.	N/A
G3.1	Atriums affected by this part	NA – not proposed.	N/A
NSW G5.2	Protection in bushfire prone areas	NA – not affected.	N/A

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BCA Clause	Title	Assessment and comment	Status
G6.1	Application of part	<p>This part applies to occupiable outdoor areas. Except for G6.2, the Deemed-to-Satisfy Provisions of this Part do not apply to:</p> <ul style="list-style-type: none"> an occupiable outdoor area of a sole-occupancy unit in a Class 2 or 3 building, Class 9c building or Class 4 part of a building; or an occupiable outdoor area with an area less than 10m². 	Note
G6.2	Fire hazard properties	A lining, material or assembly in an occupiable outdoor area must comply with C1.10 as for an internal element as specified in this clause.	Capable of Complying
G6.3	Fire separation	For the purposes of the Deemed-to-Satisfy Provisions of C2.7, C2.8 and C2.9, a reference to a storey includes an occupiable outdoor area, however a fire wall cannot be used to separate an occupiable outdoor area into different fire compartments.	Capable of Complying
G6.4	Provision for escape	For the purposes of the Deemed-to-Satisfy Provisions of Part D1, a reference to a storey or room includes an occupiable outdoor area.	Capable of Complying
G6.5	Construction of exits	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area.	Capable of Complying
G6.6	Firefighting equipment	Except for Clause 7(b)(i) of Specification E1.5, for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area.	Capable of Complying
G6.7	Lift installations	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area.	Capable of Complying
G6.8	Visibility in an emergency, exit signs and warning systems	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a room includes an occupiable outdoor area.	Capable of Complying

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BCA Clause	Title	Assessment and comment	Status
G6.9	Light and ventilation	For the purposes of the Deemed-to-Satisfy Provisions of F4.4, F4.8 and F4.9, a reference to a room includes an occupiable outdoor area.	Capable of Complying

Energy Efficiency (BCA Section J – Class 3 and 5 to 9 Buildings)

External Fabric (Part J1)

BCA Clause	Title	Assessment and Comment	Status
J1.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 3 and 5 to 9 building in accordance with this clause.	Capable of Complying
J1.2	Thermal Construction - General	Required insulation, reflective insulation and bulk insulation is to be installed in accordance with this clause and AS/NZS 4859.1.	Capable of Complying
J1.3	Roof and Ceiling Construction	A roof or ceiling that is part of the envelope must achieve the Total R-Value in accordance with this clause.	Capable of Complying
J1.5	Walls & Glazing	External wall-glazing that are part of the envelope are required to comply with the requirements of this provision.	Capable of Complying
J1.6	Floors	Floors that are part of the envelope are required to comply with the requirements of this provision.	Capable of Complying

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**Building Sealing (Part J3)**

BCA Clause	Status	Assessment and Comment	Status
NSW J3.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 3 & 5 to 9 building in accordance with this clause.	Capable of Complying
J3.4	Windows and doors	Windows and doors forming part of the envelope are required to be sealed to restrict air infiltration in accordance with this clause.	Capable of Complying
J3.5	Exhaust Fans	An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a: <ul style="list-style-type: none"> ▪ conditioned space; or ▪ a habitable room in climate zone 4, 6, 7 & 8. 	Capable of Complying
J3.6	Construction of roofs, walls and floors	Roofs, ceilings, walls, floors and any openings are required to be designed and constructed to minimise air leakage in accordance with this clause.	Capable of Complying

Air Conditioning and Ventilation Systems (Part J5)

BCA Clause	Status	Assessment and Comment	Status
J5.2	Air Conditioning System control	Any proposed air-conditioning systems must be designed in accordance with this clause.	Capable of Complying
J5.3	Mechanical ventilation system control	Any proposed mechanical ventilation systems must be designed in accordance with this clause.	Capable of Complying

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BCA Clause	Status	Assessment and Comment	Status
J5.4	Fan systems	Any proposed fan systems must be designed in accordance with this clause.	Capable of Complying
J5.5	Ductwork insulation	Ductwork and fittings in an air-conditioning system must be provided with insulation in accordance with this clause.	Capable of Complying
J5.6	Ductwork sealing	Ductwork in an air-conditioning system with a capacity of 3000 L/s or greater, not located within the only or last room served by the system, must be sealed against air loss in accordance with the duct sealing requirements of AS 4254.1 and AS 4254.2 for the static pressure in the system.	Capable of Complying
J5.7	Pump systems	Pumps and pipework that form part of an air-conditioning system are to be designed in accordance with this clause.	Capable of Complying
J5.8	Pipework insulation	Piping, vessels, heat exchangers and tanks containing heating or cooling fluid, where the fluid is held at a heated or cooled temperature, that are part of an air-conditioning system, other than in appliances covered by MEPS, must be provided with insulation in accordance with this clause.	Capable of Complying
J5.9	Space heating	A heater used for air-conditioning or as part of an air-conditioning system must be provided with insulation in accordance with this clause	Capable of Complying
J5.10	Refrigerant chillers	An air-conditioning system refrigerant chiller must comply with MEPS and the full load operation energy efficiency ratio and integrated part load energy efficiency ratio in Table J5.10a or Table J5.10b when determined in accordance with AHRI 551/591.	Capable of Complying
J5.11	Unitary air conditioning equipment	Unitary air-conditioning equipment including packaged air-conditioners, split systems, and variable refrigerant flow systems must comply with MEPS and for a capacity greater than or equal to 65 kW _r where required by this clause.	Capable of Complying
J5.12	Heat rejection equipment	The motor rated power of a fan in a cooling tower, closed circuit cooler or evaporative condenser must not exceed the allowances in Table J5.12.	Capable of Complying

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BCA Clause	Status	Assessment and Comment	Status
		The fan in an air-cooled condenser must have a motor rated power in accordance with this clause.	

Artificial Lighting and Power (Part J6)

BCA Clause	Status	Assessment and Comment	Status
J6.2	Artificial lighting	Artificial lighting is to be designed in accordance with this provision.	Capable of Complying
J6.3	Interior artificial lighting and power control	Artificial lighting and power control are to be designed and provided in accordance with this provision.	Capable of Complying
J6.4	Interior decorative and display lighting	Interior decorative and display lighting, such as for foyer mural or art display, must be controlled in accordance with this clause.	Capable of Complying
J6.5	Exterior artificial lighting	Artificial lighting around the perimeter of a building must be designed to comply with this clause.	Capable of Complying
J6.6	Boiling water and chilled water storage units	Power supply to a boiling water or chilled water storage unit is required to be controlled by a time switch in accordance with Spec J6.	Capable of Complying
J6.7	Lifts	Lifts must be designed to comply with this clause.	Capable of Complying

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**Facilities for Energy Monitoring (Part J8)**

BCA Clause	Status	Assessment and Comment	Status
J8.3	Facilities for energy monitoring	Facilities for energy monitoring are required to be provided in accordance with this clause.	Capable of Complying

Energy Efficiency (BCA Section J – Class 2 and 4 Buildings)

The provisions of this Section J(A) are designed to complement the requirements of BASIX which are implemented via a Development Consent or Complying Development as applicable. BASIX is a web-based planning tool design to assess the potential performance of certain residential buildings against a range of sustainability indices.

Building Fabric (NSW Part J(A)1)

BCA Clause	Status	Assessment and Comment	Status
NSW J(A)1.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to thermal insulation in a Class 2 building or Class 4 part of a building where a development consent specifies that insulation is to be provided. The DTS provisions for thermal breaks apply to all Class 2 buildings and Class 4 parts.	Note
NSW J(A)1.2	Compliance with BCA	The sole occupancy units of a Class 2 building and a Class 4 part of the building must comply with the national BCA provisions of J02(b) to (d). Refer to J1.2, J1.3, J1.5 & J1.6 below.	Note
J1.2	Thermal construction — general	Thermal insulation is required to be installed in accordance with AS/NZS 4859.1 and the general requirements of this clause. Reflective & bulk insulation is to be installed in accordance with this clause.	Capable of Complying
J0.4	Roof thermal breaks	Roof thermal breaks are required in accordance with this clause.	Capable of Complying

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BCA Clause	Status	Assessment and Comment	Status
J0.5	Wall thermal breaks	Wall thermal breaks are required in accordance with this clause.	Capable of Complying
J1.6 (c) & (d)	Floors – floor edge insulation	Floor edge insulation is to comply with this clause	Capable of Complying

Building Sealing (NSW Part J(A)2)

BCA Clause	Status	Assessment and Comment	Status
NSW J(A)2.1	Application of part	<p>The Deemed-to-Satisfy Provisions of this Part apply to a Class 2 building and a Class 4 part of a building, but exclude the following:</p> <ul style="list-style-type: none"> a building in climate zones 2 and 5 where the only means of air-conditioning is by using an evaporative cooler; or a permanent building opening, in a space where a gas appliance is located, that is necessary for the safe operation of a gas appliance; or. parts of those buildings that cannot be fully enclosed 	Choose an item.
NSW J(A)2.2	Compliance with BCA provisions	<p>The following national provisions apply to the requirements of this clause:</p> <ul style="list-style-type: none"> J3.4 External Doors and windows J3.5 Exhaust fans J3.6 Construction of roofs, walls and floors 	Capable of Complying
J3.4 (a) to (d)	Windows and doors	External windows and doors are required to be designed to comply with this clause.	Capable of Complying

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BCA Clause	Status	Assessment and Comment	Status
J3.5	Exhaust fans	An exhaust fan must be fitted with a sealing device to prevent air infiltration in a conditioned space or in climate zones 4, 6, 7 and 8.	Capable of Complying
J3.6	Construction of roofs, walls and floors	Roofs, external walls, external floors and any openings are required to be designed and constructed to minimise air leakage.	Capable of Complying

Air-Conditioning and Ventilating System (NSW Part J(A)3)

BCA Clause	Status	Assessment and Comment	Status
NSW J(A)3.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to a Class 2 building and a Class 4 part of a building.	Note
NSW J(A)3.2	Compliance with BCA provisions	Class 2 buildings and Class 4 parts of buildings must comply with national BCA provisions as identified below.	Note
J5.2	Air Conditioning System control	Any proposed air-conditioning systems must be designed in accordance with this clause.	Capable of Complying
J5.3	Mechanical ventilation system control	Any proposed mechanical ventilation systems must be designed in accordance with this clause.	Capable of Complying
J5.4	Fan systems	Any proposed fan systems must be designed in accordance with this clause.	Capable of Complying
J5.5	Ductwork insulation	Ductwork and fittings in an air-conditioning system must be provided with insulation in accordance with this clause.	Capable of Complying

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BCA Clause	Status	Assessment and Comment	Status
J5.6	Ductwork sealing	Ductwork in an air-conditioning system with a capacity of 3000 L/s or greater, not located within the only or last room served by the system, must be sealed against air loss in accordance with the duct sealing requirements of AS 4254.1 and AS 4254.2 for the static pressure in the system.	Capable of Complying
J5.7	Pump systems	Pumps and pipework that form part of an air-conditioning system are to be designed in accordance with this clause.	Capable of Complying
J5.8	Pipework insulation	Piping, vessels, heat exchangers and tanks containing heating or cooling fluid, where the fluid is held at a heated or cooled temperature, that are part of an air-conditioning system, other than in appliances covered by MEPS, must be provided with insulation in accordance with this clause.	Capable of Complying
J5.10	Refrigerant chillers	An air-conditioning system refrigerant chiller must comply with MEPS and the full load operation energy efficiency ratio and integrated part load energy efficiency ratio in Table J5.10a or Table J5.10b when determined in accordance with AHRI 551/591.	Capable of Complying
J5.11	Unitary air conditioning equipment	Unitary air-conditioning equipment including packaged air-conditioners, split systems, and variable refrigerant flow systems must comply with MEPS and for a capacity greater than or equal to 65 kW _r where required by this clause.	Capable of Complying
J5.12	Heat rejection equipment	The motor rated power of a fan in a cooling tower, closed circuit cooler or evaporative condenser must not exceed the allowances in Table J5.12. The fan in an air-cooled condenser must have a motor rated power in accordance with this clause.	Capable of Complying

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**Heated Water Supply (NSW Part J(A)4)**

BCA Clause	Status	Assessment and Comment	
NSW J(A)4.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to a Class 2 building and a Class 4 part of a building.	Note
NSW J(A)4.2	Compliance with the BCA provisions	Class 2 buildings and Class 4 parts of buildings must comply with the national BCA provisions of J7.2.	Note
J7.2	Hot Water Supply	A heated water supply system for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.	Capable of Complying

Facilities for Energy Monitoring (NSW Part J(A)5)

BCA Clause	Status	Assessment and Comment	Status
NSW J(A)5.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to a Class 2 building except within a sole occupancy unit.	Note
NSW J(A)5.3	Compliance with BCA provisions	Class 2 buildings must comply with the national provision of J8.3.	Capable of Complying
J8.3	Facilities for energy monitoring	Facilities for energy monitoring are required to be provided in accordance with this clause.	Capable of Complying

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4.0 Conclusion

The proposed Residential apartment building at 2-4 Boundary Street & 85 Railway Street Parramatta has been assessed against the deemed to satisfy provisions of the BCA 2019. The primary purpose of this report is to identify the non-compliance matters in comparison to the current Deemed-to-Satisfy Provisions of the BCA, which are outlined in the **executive summary** and further detailed in Section 3.0 above. Compliance with the recommendations of the report will ensure that the proposed building additions will be provided with a satisfactory level of fire safety and amenity to the building occupants.

Fire Safety Measures

The fire safety measures within the building must be maintained to ensure correct operation at all times the building is occupied. All fire fighting equipment should be tagged when tested/inspected and log books kept up-to-date for all smoke detection, warning systems and sprinkler systems (where installed).

An annual fire safety certificate must be submitted to the local consent authority and the NSW Fire Brigade each year indicating satisfactory performance of the fire safety measures contained within the building. The annual fire safety statement should be displayed in a prominent place within the building (i.e. the main entry foyer).

The correct operation and maintenance of the buildings fire safety measures is critical in affording an adequate level of fire safety.

Good Housekeeping

The ongoing management of the building should ensure good housekeeping procedures. The following matters should be considered by building management:

- Ensure exits and paths of travel to exits remain unobstructed (in particular stairways).
- Avoid storage of materials in unoccupied areas.
- Limit storage of flammable/combustible materials to designated and approved areas.
- Prevent chocking open fire/smoke doors.
- Prevent storage of materials that could hinder access to firefighting equipment.

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PLANNING PROPOSALS

15 NOVEMBER 2022

- 6.1 Exhibition Outcomes - Draft Planning Proposal, Draft Site-Specific DCP and
Draft Planning Agreement - Holdmark Sites (Melrose Park South)..... 436

PLANNING PROPOSAL

ITEM NUMBER	6.1
SUBJECT	Exhibition Outcomes - Draft Planning Proposal, Draft Site-Specific DCP and Draft Planning Agreement - Holdmark Sites (Melrose Park South)
REFERENCE	RZ/1/2020 -
APPLICANT/S	Holdmark Property Group
OWNERS	Holdmark Property Group
REPORT OF	Senior Project Officer

DEVELOPMENT APPLICATIONS CONSIDERED BY SYDNEY CENTRAL CITY PLANNING PANEL Nil

PURPOSE

The purpose of this report is to detail submissions received during the public exhibition of the Planning Proposal, draft Site-Specific Development Control Plan (DCP) and draft Planning Agreement and to respond to issues raised, relating to two (2) sites in the southern precinct of Melrose Park identified as the East Site (112 Wharf Road, 30 and 32 Waratah Street, Melrose Park) and West Site (82 Hughes Avenue, Ermington). The report recommends that the updated Planning Proposal, draft Site-Specific DCP and updated draft Planning Agreement be approved by Council.

RECOMMENDATION

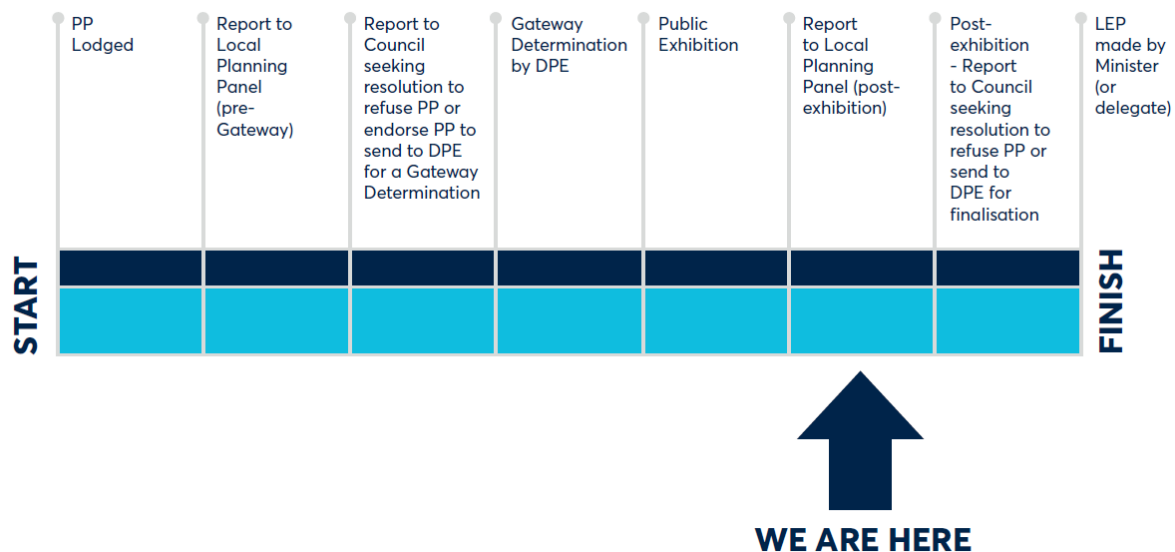
That the Parramatta Local Planning Panel consider the following Council Officer recommendation in its advice to Council:

- (a) **That** Council receives and notes the submissions made during the exhibition of the Planning Proposal, draft Site-Specific Development Control Plan (DCP), and draft Planning Agreement (**Attachment 1**) and Council officer responses to the issues raised (**Attachment 2**).
- (b) **That** Council approve the updated Planning Proposal for finalisation (provided at **Attachment 3**) that seeks to amend *Parramatta Local Environmental Plan 2011* as follows:
 1. Rezone 112 Wharf Road, 32 Waratah Street, Melrose Park and 82 Hughes Avenue, Ermington from IN1 General Industrial to part R4 High Density Residential and part RE1 Public Recreation.
 2. Rezone 30 Waratah Street, Melrose Park from IN1 General Industrial to RE1 Public Recreation.
 3. Amend the maximum building height on the East Site and West Site from 12m to a combination of 25m (6 storeys), 34m (8 storeys), 68m (20 storeys, and 77m (22 storeys) on each site.
 4. Amend the Floor Space Ratio on the East Site from 1:1 to 2.74:1 (net).

5. Amend the Floor Space Ratio on the West Site from 1:1 to 2.46:1 (net).
 6. Insert a site-specific provision in Part 6 additional local provisions – generally of Parramatta Local Environmental Plan 2011 and amending the Additional Local Provisions map to include the East Site and West Site to ensure:
 - 6.1 That design excellence provisions be applicable to buildings with a height of 55m and above and appoint a Design Excellence Panel to provide design advice for all development applications within the subject sites. Floor Space Ratio and height of building bonuses are not to be awarded on any development lot.
 - 6.2 A minimum of 1,000m² of non-residential floor space is to be provided across the East and West Sites to serve the local retail and commercial needs of the incoming population.
 7. Amend the Land Reservation Acquisition map to reflect areas of open space to be dedicated to Council.8) Insert provisions into the *Parramatta Local Environmental Plan 2011* to ensure that the number of dwellings approved at the development application stage aligns with the required infrastructure identified by Council in the Transport Management and Accessibility Plan (TMAP).
 8. Insert provisions into the *Parramatta Local Environmental Plan 2011* requiring the Planning Secretary to be satisfied that all State public infrastructure needs (including transport and schools) are met before development can proceed.
 9. Insert provisions into *Parramatta Local Environmental Plan 2011* to ensure that the new planning controls do not take effect on the subject sites prior to the local infrastructure identified in the local Planning Agreement being secured by way of an executed Planning Agreement between Council and the Applicant.
 10. Amend Schedule 1 *Additional Permitted Uses of Parramatta Local Environmental Plan 2011* to permit ‘food and drink’ premises in the R4 High Density Residential zone as identified on the new Additional Permitted Uses map.
- (c) **That** Council forward the Planning Proposal to the Department of Planning and Environment for finalisation.
 - (d) **That** Council approve the Site-Specific DCP at **Attachment 4**.
 - (e) **That** Council approve the Planning Agreement at **Attachment 6** and the Chief Executive Officer be authorised to sign the Planning Agreement on behalf of Council.
 - (f) **Further, that** Council authorises the Chief Executive Officer to make any minor amendments and corrections of a non-policy and administrative nature that

may arise during the finalisation of the Planning Proposal, DCP and Planning Agreement.

PLANNING PROPOSAL TIMELINE



SUMMARY

1. This report seeks the Local Planning Panel's (LPP) advice on a recommendation for Council to consider the outcomes of the public exhibition of the Planning Proposal, draft Site-Specific DCP and draft Planning Agreement relating to two (2) sites within the southern precinct of Melrose Park (East Site and West Site).
2. The Planning Proposal seeks to amend the *Parramatta Local Environmental Plan 2011 (PLEP 2011)* to enable non-industrial development on the abovementioned sites in the form of high density residential, public open space, and small-scale retail/commercial uses. This Proposal is generally in accordance with the Southern Structure Plan adopted by Council in December 2019. Should the Planning Proposal and draft DCP be approved, approximately 1,925 new dwellings could be delivered across the two subject sites.
3. The Planning Proposal, draft DCP and Planning Agreement were placed on public exhibition from 25 August 2022 to 21 September 2022. Eighty-five (85) submissions were received comprising seventy-nine (79) from the community, with the remaining 6 from public agencies and other organisations. Overall, 3% of submissions were in support and 77% objected to the Proposal with the remaining 20% neither objecting nor supporting the Proposal. A summary of the key issues raised is provided later in this report, with further details and responses provided at **Attachment 2**.
4. The key issues raised in submissions relate to building heights, infrastructure provision, potential traffic impacts and character loss. With regards to building heights, the proposed heights are the result of detailed urban design testing and are compatible with the adopted building heights in the Melrose Park North precinct and will be consistent with the established future character of the area. In relation to concerns about increases in traffic, the proposed road upgrades

and public transport improvements including a bridge connection over Parramatta River will ensure any impacts can be managed. The infrastructure identified to be provided as part of the Planning Proposal is consistent with the identified needs of the precinct and is considered appropriate. These matters can be further considered at the development application stage, which will be addressed by the controls within the PLEP 2011 and draft Melrose Park South DCP.

5. The matters raised in the submissions do not necessitate changes to the Planning Proposal, draft DCP and draft Planning Agreement. Minor changes are however proposed to the exhibited Planning Proposal to reflect the post-exhibition Gateway conditions and these changes are detailed within **Table 2**.

BACKGROUND

6. Council adopted the Parramatta Employment Lands Strategy (ELS) at its meeting of 11 July 2016, which identified the Melrose Park industrial area precinct as being a Structure Plan precinct and suitable for redevelopment for non-industrial uses.
7. In May 2016, a Planning Proposal was lodged for the Holdmark East site, however this was not progressed due to the requirement within the adopted ELS to first prepare a structure plan for the precinct before any Planning Proposals could be progressed. This Planning Proposal was subsequently placed on hold until the Southern Structure Plan process was complete.
8. A draft Southern Structure Plan was submitted by the Applicant for the southern part of the Melrose Park precinct in November 2017, which was subject to extensive review and refinement over the course of 2018 and early 2019. Council endorsed the draft Southern Structure Plan for public exhibition on 24 June 2019 and it was exhibited from 14 August to 10 September 2019. Following exhibition, a revised version of the draft Southern Structure Plan (**Attachment 5**) was considered and adopted by Council on 16 December 2019.
9. Adopted by Council on 23 March 2020, City of Parramatta's Local Strategic Planning Statement (LSPS) sets out Council's 20-year vision for land use and infrastructure in the City of Parramatta. Melrose Park is identified as a Local Centre within the LSPS and is therefore suitable for high density residential development. The LSPS recognises that Melrose Park could provide over 2,000 jobs once redeveloped and identifies the need for improved public transport. As Melrose Park is identified as a Growth Precinct and the Planning Proposal will help deliver housing and infrastructure needs, it aligns with the vision of the LSPS.
10. The Applicant lodged a revised Planning Proposal with Council on 11 May 2020 reflecting the requirements of the adopted Southern Structure Plan and incorporating an additional site at 82 Hughes Avenue. The revised Planning Proposal was considered by the LPP on 29 September 2020 and the LPP unanimously supported the recommendation of the report. Council endorsed the Planning Proposal to proceed to the Department of Planning and Environment (DPE) for Gateway Determination on 9 November 2020.

11. A Gateway determination was issued by DPE on 17 August 2021 requiring the Planning Proposal to be submitted to DPE by 30 June 2022 for finalisation to occur by 31 August 2022.
12. A report on the draft Site-Specific DCP and draft Planning Agreement was considered by Council on 28 March 2022, where both documents were endorsed to proceed to public exhibition. After this time, Council officers undertook further discussions with the proponent regarding the finer details of the clauses within the Planning Agreement, which took several months to resolve.
13. A Gateway Alteration was issued by DPE on 12 September 2022 granting an extension until 24 December 2022 for the Planning Proposal to be submitted to DPE for finalisation.
14. The draft Planning Proposal, draft Site-Specific DCP and draft Planning Agreement were publicly exhibited from 25 August to 21 September 2022.

SITE DESCRIPTION

15. The southern precinct is bound by Hope Street to the north, Wharf Road to the east, Parramatta River to the south and Atkins Road to the west. It is located approximately 6km east of the Parramatta CBD and adjoins the Ryde Local Government Area (LGA) to the east. The proposed Parramatta Light Rail Stage 2 (PLR2) corridor runs through the precinct along Hope Street before turning south onto Waratah Street and over the proposed bridge connecting to Wentworth Point.
16. The sites subject to this Planning Proposal are located on the eastern and western sides of the southern precinct. The East Site, which relates to 112 Wharf Road and 30 and 32 Waratah Street is approximately 42,692m² (4.2ha) and is located to the south of Melrose Park Public School. The West Site is approximately 51,607m² (5.1ha) and bound by Hughes Avenue to the east, Parramatta River to the south, Atkins Road to the west and 71 Atkins Road and 80 Hughes Avenue along the northern boundary. These sites are referred to as “East” and “West” respectively in this report (see **Figure 1**). These two sites comprise of approximately 9.4ha of the 19ha southern precinct, which equates to approximately 49% of the land area under Holdmark’s ownership
17. The sites are currently largely developed and occupied by a variety of industrial premises. The East Site comprises pharmaceutical, engineering and plastics manufacturing. The West Site comprises purpose-built pharmaceutical manufacturing buildings. Surrounding land uses comprise low density residential in both the Parramatta (west) and Ryde LGAs (east), Parramatta River to the south and industrial land between both sites.
18. There are currently no Planning Proposals lodged with Council for the remaining industrial sites within the southern precinct. As a result, it is difficult to provide a timeframe for when the remainder of the southern precinct will be redeveloped.



Figure 1. Sites subject to this Planning Proposal

OVERVIEW OF THE PLANNING PROPOSAL

19. The Planning Proposal seeks to amend PLEP 2011 to enable redevelopment for high density residential, public open space and some small-scale retail/commercial uses on the two sites. Refer to **Table 1** below for a summary of the existing and proposed controls.
20. Specifically, the Planning Proposal also seeks the following amendments:
 - ☐ Amend Schedule 1 Additional Permitted Uses of PLEP 2011 to permit 'food and drink premises' in the R4 High Density Residential zone. The intention of this amendment is to enable street-level activation by allowing restaurants and cafes to operate on the ground floor of buildings.
 - ☐ Amend the Land Reservation Acquisition map to reflect areas of open space to be dedicated to Council.
 - ☐ Insert provisions into PLEP 2011 similar to those utilised for the Melrose Park North amendment to ensure that consideration is given to the State infrastructure, including schools, required to serve the precinct relative to the number of dwellings proposed when development applications are determined.
 - ☐ Insert provisions in PLEP 2011 to ensure that the new planning controls do not take effect on the subject sites prior to the local infrastructure identified in the local Planning Agreement being secured. It is envisaged that the mechanism will be via a deferred commencement clause as was done with the Melrose Park North amendment.

- Insert a site-specific provision in Part 6 *additional local provisions* – *generally* of PLEP 2011 amending the Additional Local Provisions map to include the land to ensure:
- That design excellence provisions be applicable to buildings of 55m and above in height and appoint a Design Excellence Panel to provide design advice for all development applications within the subject sites. Floor space and height bonuses are not to be awarded on any development lot.
 - A minimum of 1,000m² of non-residential floor space is to be provided within the subject sites to serve the local retail and commercial needs of the incoming population.

Table 1. Summary of current and proposed planning controls on the subject sites

	EAST SITE			WEST SITE
	112 Wharf Road	30 Waratah Street	32 Waratah Street	82 Hughes Avenue
Current Zone	IN1 General Industrial			
Proposed Zone	Part R4 High Density Residential, part RE1 Public Recreation	RE1 Public Recreation	Part R4 High Density Residential, part RE1 Public Recreation	Part R4 High Density Residential, part RE1 Public Recreation
Current FSR	1:1			1:1
Proposed FSR (gross)	1.66:1			1.78:1
Proposed FSR (net)	2.74:1			2.46:1
Current height limit	12m			12m
Proposed Height	Ranging between 6 storeys (25m), 8 storeys (34m), 20 storeys (68m) and 22 storeys (77m)			
Potential dwelling yield per site	835 dwellings			1,090 dwellings
Combined potential dwelling yield	1,925 dwellings			
Non-residential floor space component	500m ²			500m ²

21. Refer to **Figures 2 to 7** showing the current and proposed zones, height of buildings and FSR controls. **Figure 8** shows the proposed Additional Local Provisions location, **Figure 9** shows the proposed land reserved for dedication to Council (at no cost as per Planning Agreement) and **Figure 10** shows the proposed Additional Permitted Uses location.

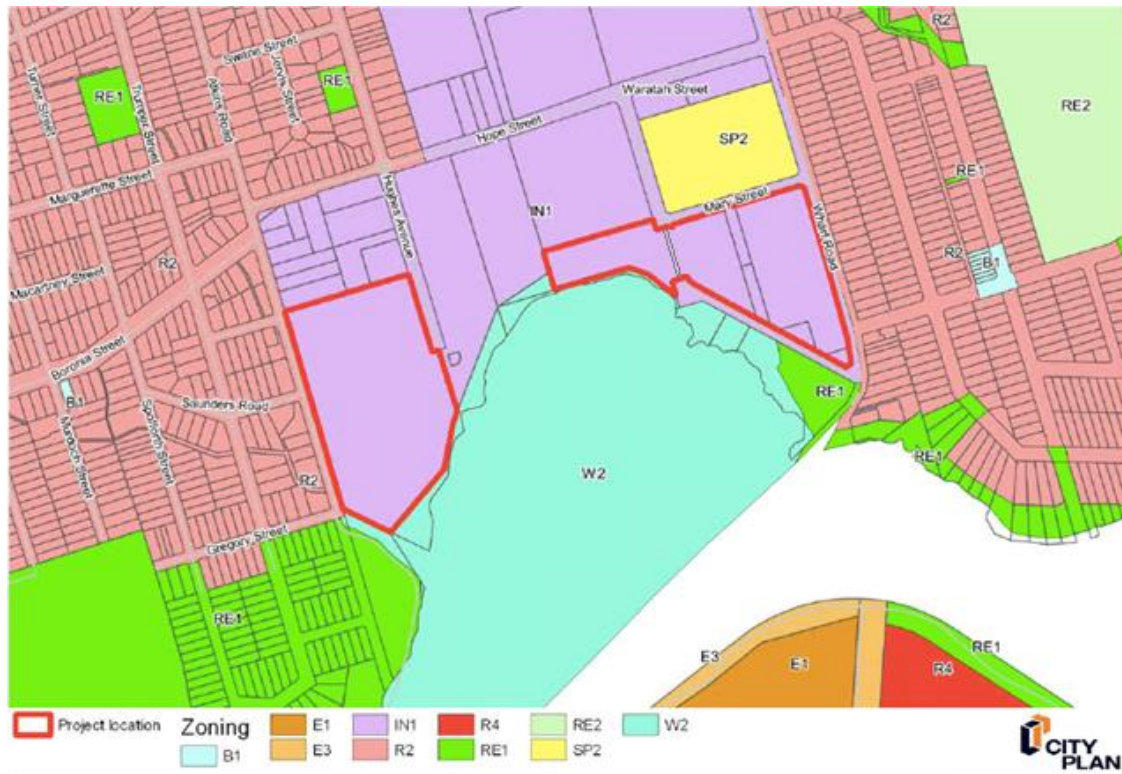


Figure 2. Current land use zones applicable on the subject sites

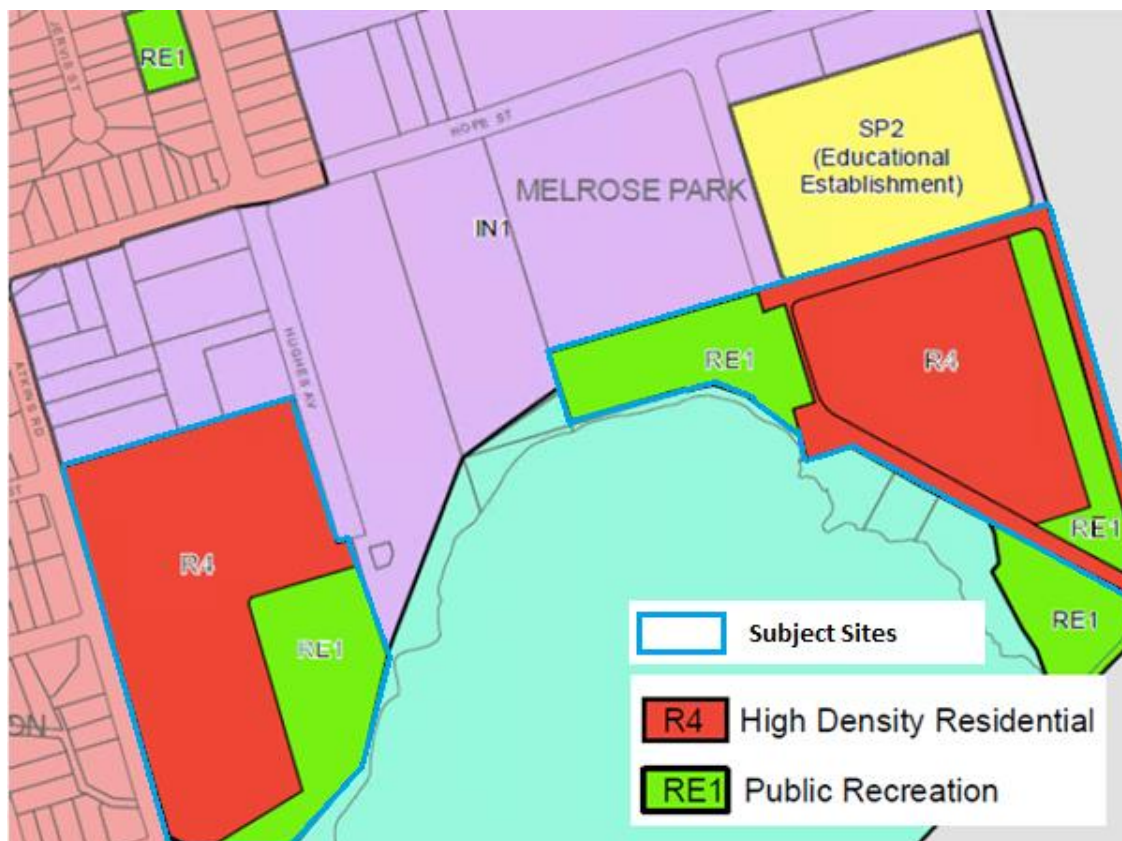


Figure 3. Proposed land use zones on the subject sites

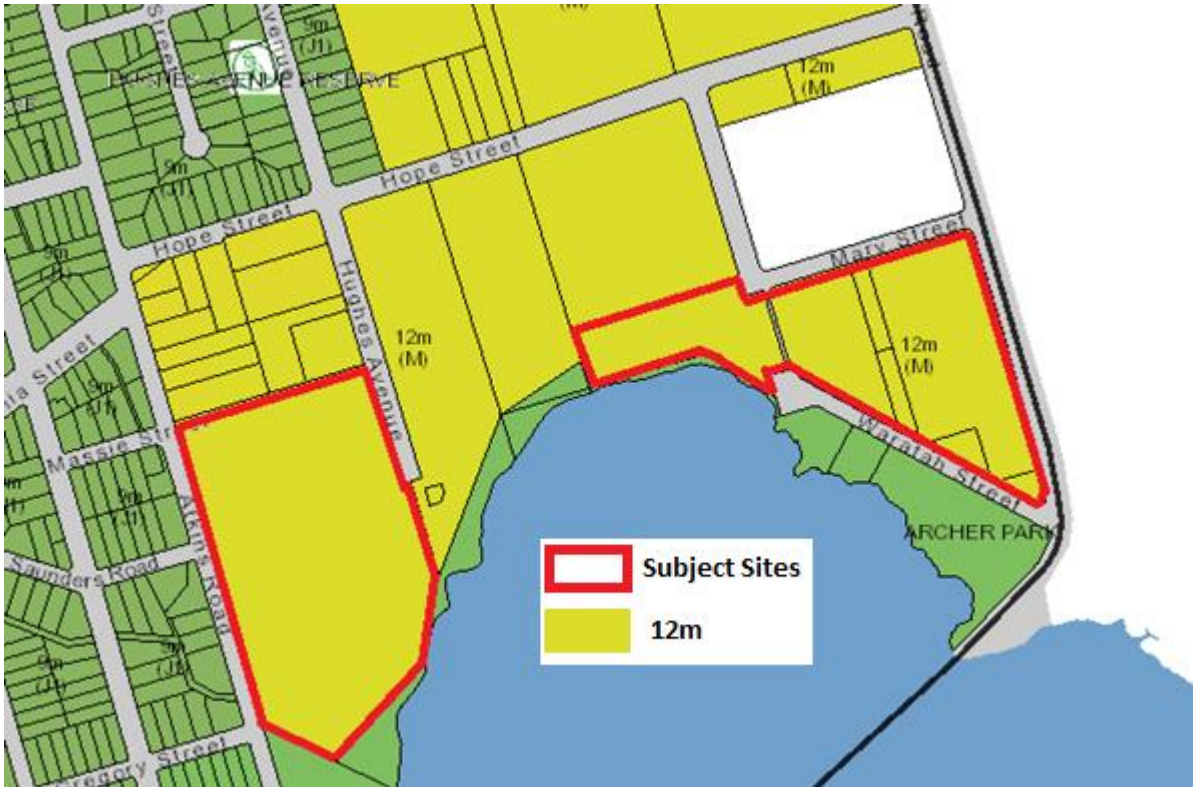


Figure 4. Current maximum height of building applicable on the subject sites

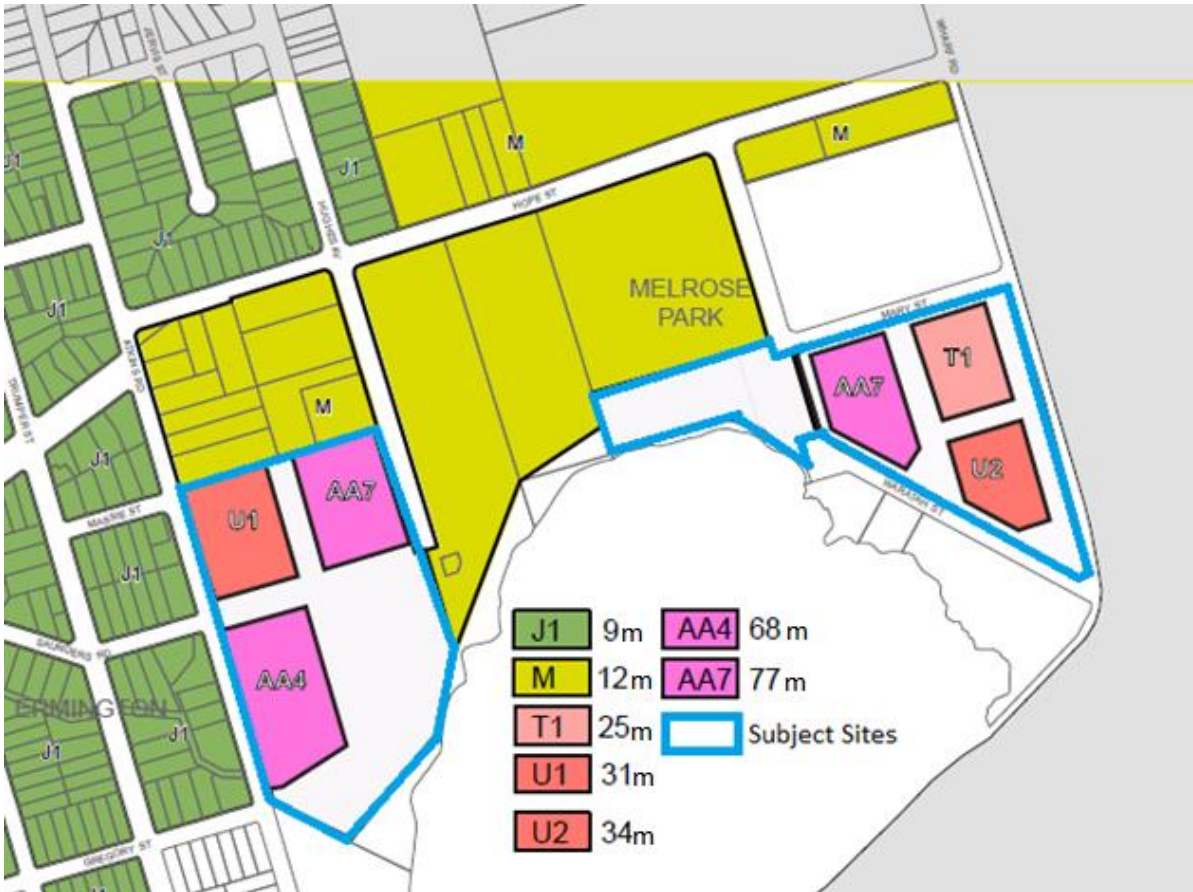


Figure 5. Proposed height of buildings on the subject sites

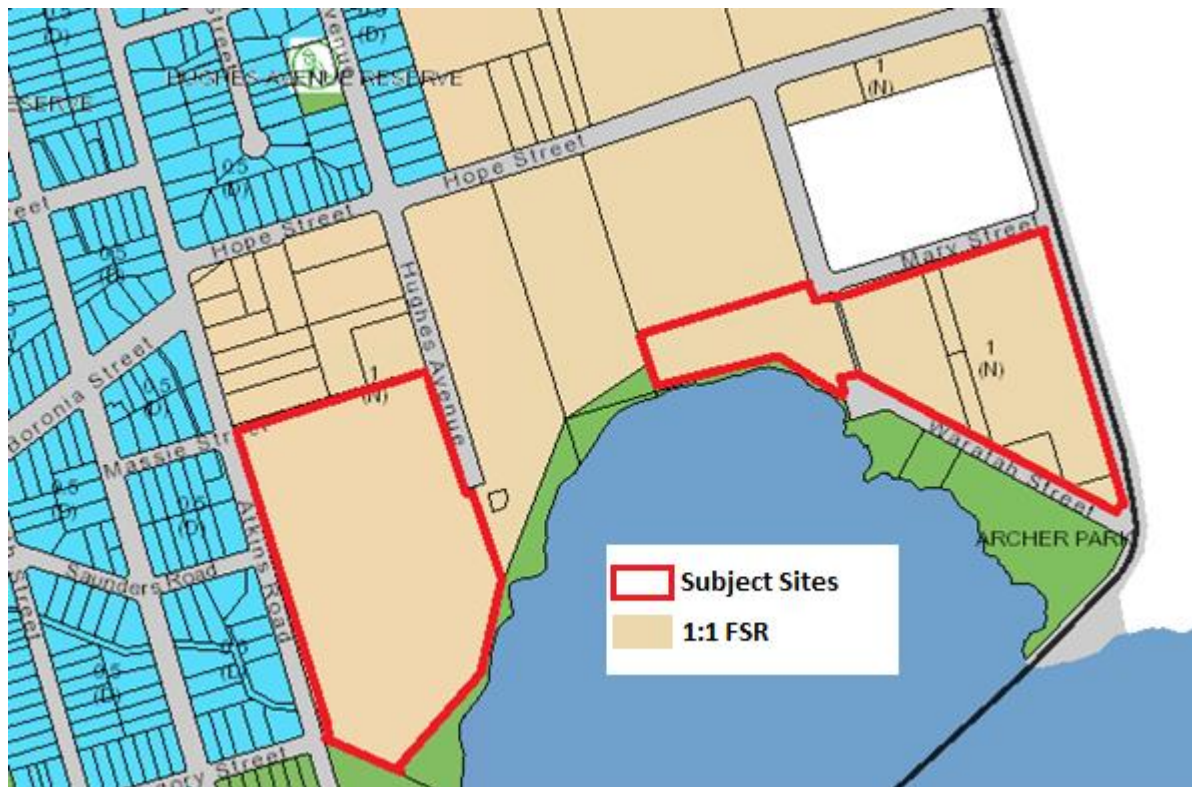


Figure 6. Current FSR applicable on the subject sites

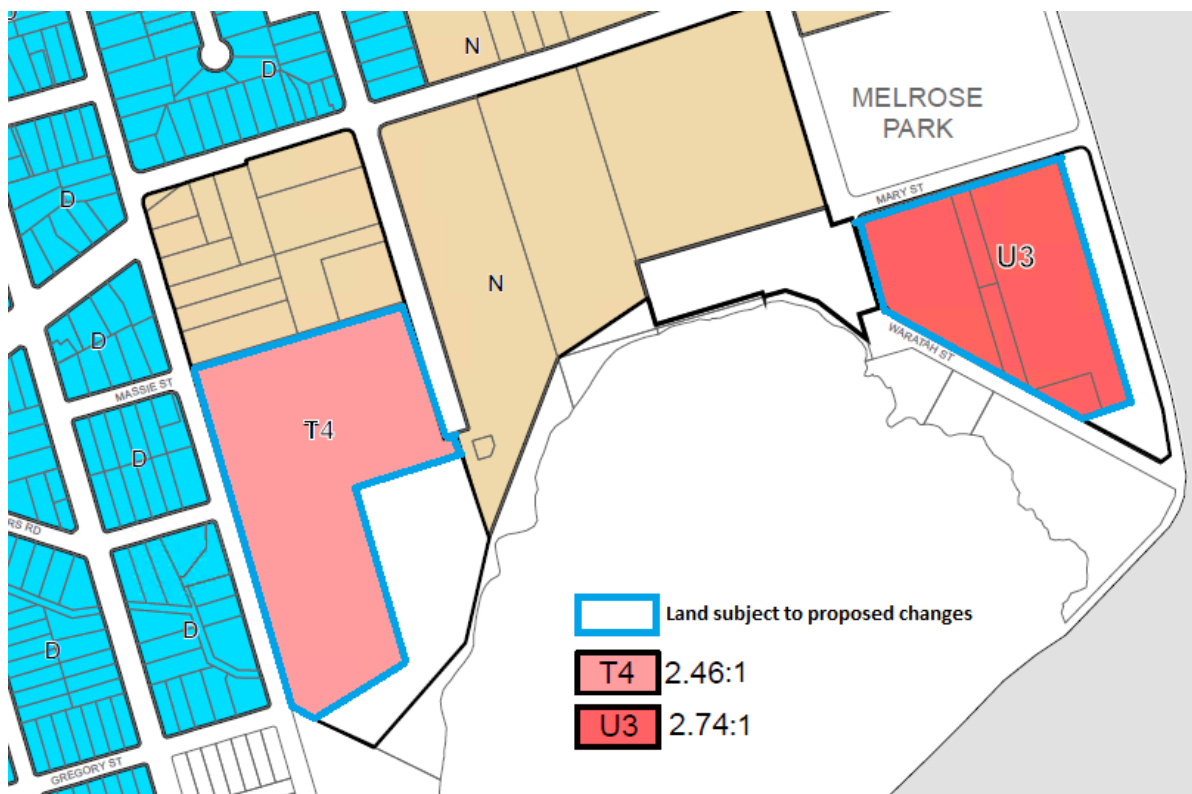


Figure 7. Proposed FSRs on the subject sites



Figure 8. Proposed location of Additional Local Provisions (design excellence competition)

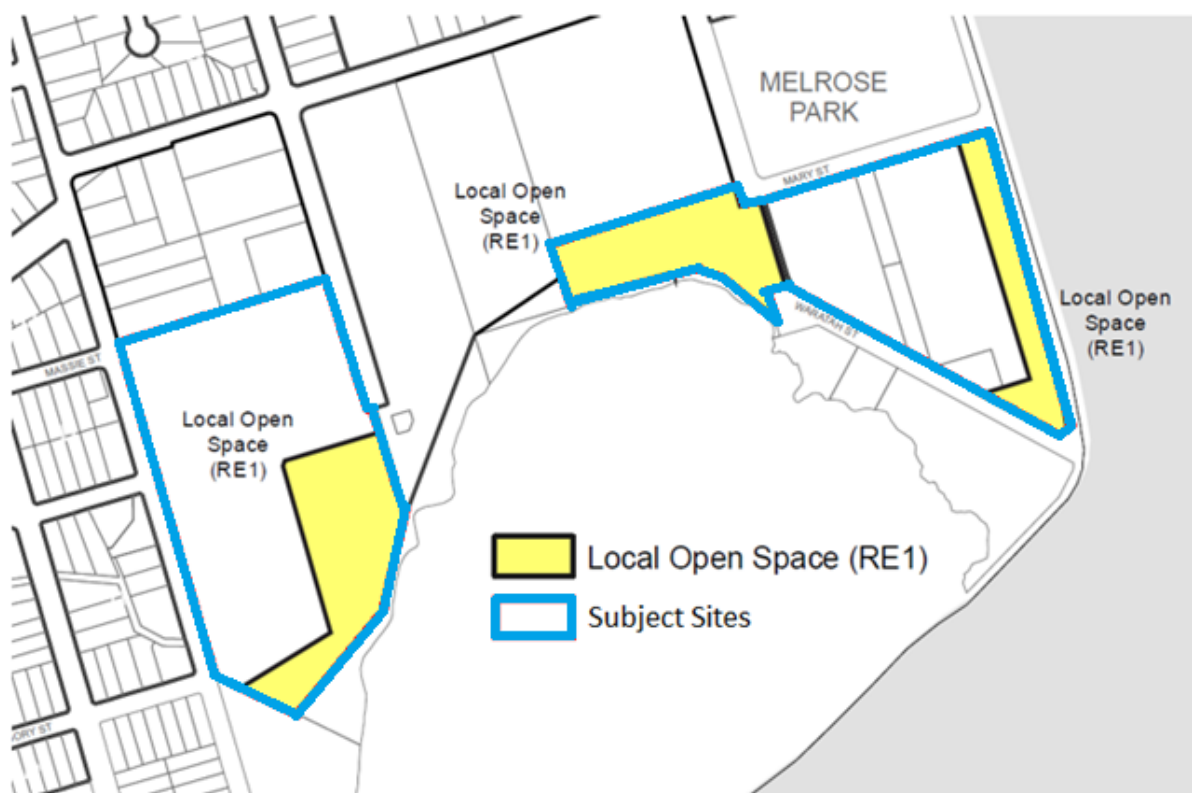


Figure 9. Land subject to dedication to Council



Figure 10. Proposed location of Additional Permitted Uses provision (food and drink premises)

PLANNING PROPOSAL CHANGES

22. No changes to the intended outcomes are proposed to the Planning Proposal as a result of the public exhibition. However, several minor amendments have been made to reflect the conditions of the Gateway determination. These changes are identified in **Table 2** below. Two mapping changes have been made to better identify the land subject to the proposed additional permitted use and additional local provisions. These include:
 - i. Updating the Additional Local Provisions map (**Figure 8**) which now identifies the land subject to design excellence competition provisions requiring buildings of 55m and above to be subject to a design excellence competition and that all development applications on the East Site and West Site be subject to review by the Design Excellence Panel.
 - ii. Creation of an Additional Permitted Uses map (**Figure 10**) to identify the expanded area subject to the proposed additional permitted use of 'food and drink premises'.
23. The 'food and drink premises' use was initially envisaged to be permissible only along the waterfront of Parramatta River but has been revised to enable the use to be permissible anywhere within the R4 High Density Residential zone. This is to ensure greater flexibility and to be consistent with the Council resolution from 9 November 2020 that endorsed the submission of the Planning Proposal for Gateway determination. It is noted that the future fit out and use of these premises will be subject to detailed impact assessment at the development application stage.

Table 2. Changes to the Planning Proposal

POST-EXHIBITION GATEWAY CONDITIONS	
Condition	Action
a) <i>ensure endorsement of the Parramatta Employment Land Study and alignment with the planning proposal outcomes;</i>	The Parramatta Employment Land Study is currently with DPE for endorsement; however, no timeframe has been provided as to when endorsement may occur. Following advice from DPE, a statement has been included in Section 3.1.1 of the Planning Proposal outlining how the Proposal responds to the requirements of the Employment Lands Study.
b) <i>further consideration of how the planning proposal aligns with the broader Melrose Park precinct in terms of implementation and delivery of infrastructure to ensure the orderly development of land</i>	As experienced in the finalisation of the Melrose Park North Planning Proposal, it is not possible to dictate the order in which redevelopment of land occurs within the Melrose Park Precinct. However, the local Planning Agreement (refer to summary later in this report) includes a staging plan in the Infrastructure Services Delivery Plan identifying at which stage of redevelopment the identified infrastructure items are required to be delivered. This ensures that the infrastructure required to support the incoming population is delivered at the appropriate stage of redevelopment. This has been inserted into Section 10.1.1 of the Planning Proposal.
c) <i>consistency with section 9.1 Direction 1.1 Business and Industrial Zones and Central City District Plan Planning Priority C11;</i>	Additional explanation has been included in Section 3.2.3 of the Planning Proposal detailing consistency with this Direction and Priority.
d) <i>ensure there is a mechanism in place for the delivery of local and State infrastructure required to support the anticipated growth;</i>	Text has been inserted in Section 1.1 of the Planning Proposal indicating that the intended mechanism to meet this condition is via the requirement of the proponent to enter into Planning Agreements with both Council and the State Government to secure applicable contributions towards the delivery of local and State infrastructure. It is anticipated that a concurrence clause will be inserted into PLEP 2011 relating to the timing of development and State infrastructure delivery such as significant road works and schools. This approach

	<p>was taken for the Melrose Park North Planning Proposal</p> <p>The draft local Planning Agreement includes a staging plan in the Infrastructure Services Delivery Plan identifying at which stage of redevelopment the identified infrastructure items are required to be delivered.</p> <p>In addition, Council's officers will recommend to DPE that a provision be inserted into PLEP 2011 that specifies a date to which the new controls come into effect. This approach was taken with the Melrose Park North Planning Proposal to ensure the local Planning Agreement is finalised and registered before any redevelopment of the site seeking to utilise the new controls could occur.</p>
<p>e) <i>ensure that the land is suitable for the intended land uses with regard to high-pressure pipeline safety risk with a hazard assessment against the relevant legislation and policies.</i></p>	<p>A Hazard Analysis Report was prepared during the preparation of the Melrose Park North Planning Proposal to address DPE's and School Infrastructure NSW's concerns about the proximity of the Viva high pressure oil pipeline to the new school site in the northern precinct. This report covers the entire Melrose Park precinct and concludes that the maximum individual fatality risk only occurs at two locations where the Gore Bay Pipeline changes direction and would only apply to sensitive land uses (schools, hospitals, etc.). These uses are not currently proposed on the subject sites. Therefore, the proposed redevelopment satisfies the individual fatality risk criteria.</p> <p>Despite the report concluding that there is no risk to the subject sites, the report does recommend several measures, many of which relate to sensitive land uses such as hospitals, aged care facilities and child care centres. The remaining recommendations are in relation to the detailed design of the future buildings within the precinct.</p> <p>Given the Proposal is still at rezoning stage, the Arriscar report is sufficient to satisfy item 5 (e) of the Gateway Determination. Further studies will be</p>

	undertaken at Development Application and Construction Certificate stage once the use and design of each individual building is known. This has been inserted into Section 3.2.2 of the Planning Proposal.
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OVERVIEW OF THE DRAFT DEVELOPMENT CONTROL PLAN

24. The LEP is a higher-order planning instrument than the DCP and contains the overarching planning provisions such as the zoning, height of buildings and floor space ratio. The Draft Site-Specific DCP supports the provisions within the LEP by providing detailed development controls relating to design, character, and the environment to ensure the desired outcome for the site is achieved. The draft Site-Specific DCP was endorsed by Council for public exhibition on 28 March 2022 provides specific development requirements for the Melrose Park South precinct and is required to be consistent with the new LEP controls that are set by the Planning Proposal.
25. The Melrose Park South Site-Specific DCP (refer to **Attachment 4**) has been drafted using the Melrose Park North DCP (adopted by Council on 11 October 2021) as a template with changes made where necessary to respond to the context of the southern precinct. As with the north, a collaborative approach has been taken in working with the proponent to finalise the draft DCP.
26. The draft DCP reflects and is consistent with the key development standards and desired outcome of this Planning Proposal.

Primary DCP Objectives

27. The draft DCP will guide development and contain specific requirements that must be addressed during the design stage of the planning process and future development applications, having regard to the location within an identified Growth Precinct, the local context and detailed design requirements for the two sites. The detailed design requirements are grouped into five (5) main parts, being:
 - i. Introduction
 - ii. Built Form
 - iii. Public Domain
 - iv. Vehicular Access, Parking and Servicing
 - v. Sustainability
28. These parts contain multiple sub-sections that include detailed controls, such as:

• General objectives and principles	• Solar access
• Allocation of gross floor area (building envelopes)	• Dwelling mix
• Setbacks	• Desired future character
• Street and block layout	• Open space
• Tower design	• Parking requirements

- Ground floor frontage
- Stormwater management

29. A key consideration when drafting the DCP controls was to ensure that the best possible amenity in the precinct could be achieved for the future residents, visitors, and existing neighbours in the surrounding low density residential areas. The draft DCP underpins and relates to the site configurations and building envelopes identified in the Southern Structure Plan (refer to **Attachment 5**) and the Planning Proposal to achieve the FSRs and building heights adopted by Council for these sites and the broader southern precinct. The current scheme is shown in **Figure 9** below.

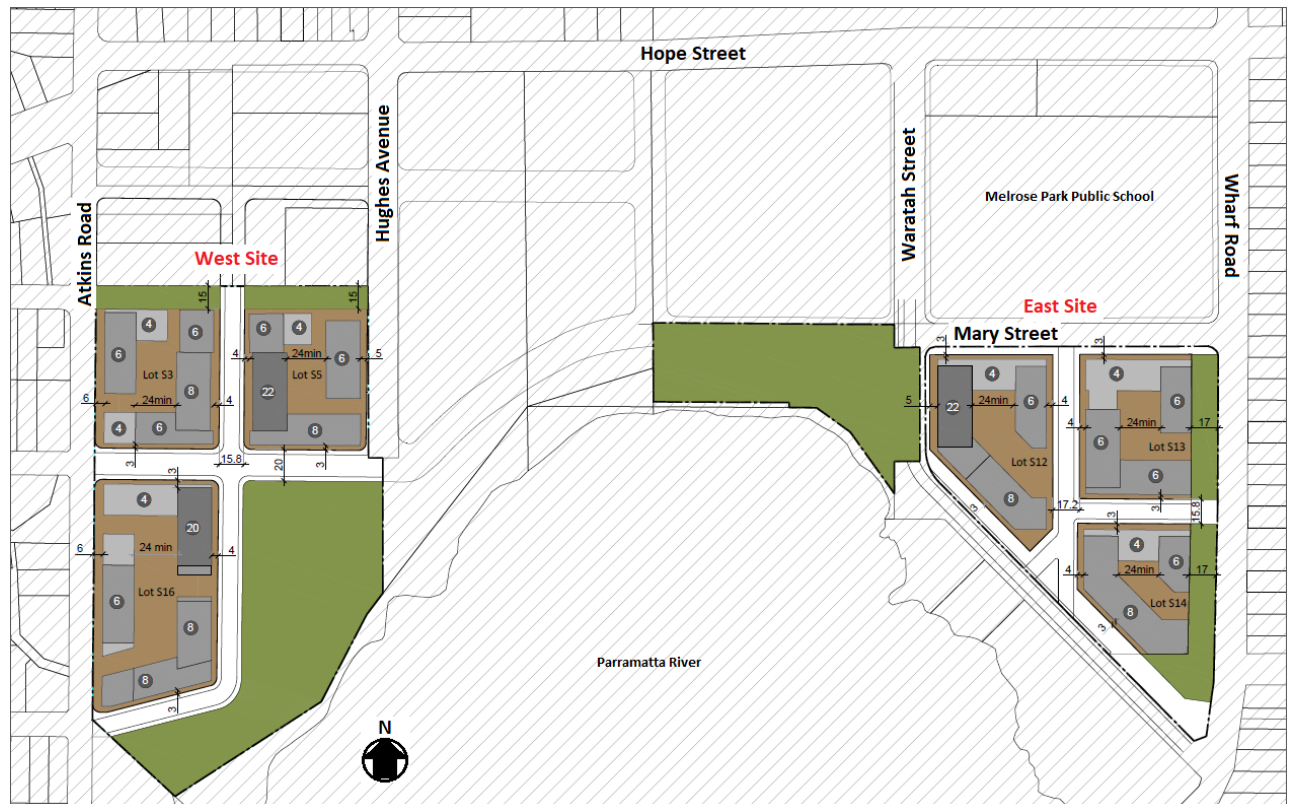


Figure 9. Proposed scheme on the East Site and West Site

30. Although several submissions raised matters relating to the draft DCP, including road carriageway requirements and the effectiveness of the design controls, these concerns are considered to be addressed by the proposed controls. Details of these matters and Council officer responses are provided at **Attachment 2**.
31. A concern was raised in a submission relating to the indicative gross floor area map contained at Figure 2 on page 14 of the draft DCP, and the distribution of non-residential gross floor area between the East Site and West Site. Figure 2 only provides for a maximum residential gross floor area and does not include the minimum 1,000m² non-residential gross floor area that is required by the draft LEP provisions. Council officers have since confirmed that Figure 2 included the residential and non-residential gross floor area as part of the residential gross floor area figure. Therefore, it is recommended that the legend be updated to refer to the combined residential and non-residential gross floor area (refer to **Figure 10** below). The distribution of residential and non-

residential gross floor area will be considered further at the development application stage.



Figure 10. Updated Figure 2 referring to combined residential and non-residential GFA

OVERVIEW OF THE DRAFT PLANNING AGREEMENT

32. The draft Planning Agreement relating to the provision of local infrastructure has a total value of \$37,246,825 and proposed to deliver the following items.

NO	ITEM	CONTRIBUTION VALUE
1.	Affordable rental housing (24 units with a minimum of 34 bedrooms) dedicated to Council in perpetuity.	\$16,169,411
2.	Dedication of land to be used as public open space to Council at no cost. Embellishment of new public open space to Council's requirements with a 50% offset* included in the Planning Agreement for the cost of works.	\$21,077,414
3.	Delivery of cycleways and new roads with a 50% offset* for the cost of works included in the Planning Agreement.	

	TOTAL VALUE OF OFFER	\$37,246,825
	Per Unit Contribution	\$19,349

* A 50% offset is included in the Planning Agreement as an acknowledgement by Council that the subject works will benefit the broader community and not just the residents within the development. It means that half of the identified cost of delivering this infrastructure is offset by Council and half is offset by the developer.

33. This offer is the result of extensive negotiations over the past 12 months and is considered an appropriate contribution towards the provision of local infrastructure. The items included in the offer are consistent with the Infrastructure Needs List (INL) for the precinct which is to be used to inform all Planning Agreements in the precinct.
34. Comments on the draft Planning Agreement that were raised in submissions related to appropriateness of the included infrastructure items. Council officer responses are provided later in this report.

CONSULTATION

35. The Planning Proposal, draft Site-Specific DCP and Draft Planning Agreement and supporting documents were publicly exhibited from 25 August to 21 September 2022. During this time the community was invited to comment on the draft documents. Notification methods used in the exhibition included:
 - a. Letters to landowners within a 1km radius of the site, including those within the Ryde LGA (over 6,400 letters in total);
 - b. Dedicated exhibition page on Council's Participate Parramatta website;
 - c. Advertisement on Council's website;
 - d. Hard copies of the draft documents and supporting information provided at Council's Customer Contact Centre, Parramatta Library and Ermington Branch Library;
 - e. Geo-targeted social media campaigns on Council's Facebook and Instagram platforms; and
 - f. Advertisement in Parra News.
36. Public agencies and State Members of Parliament were also notified in writing of the public exhibition, with the following consulted:

<ul style="list-style-type: none"> • Transport for NSW • Transport for NSW - Parramatta Light Rail • Environment, Energy and Science • Department of Education • Heritage NSW • Fire and Rescue NSW • Western Sydney Local Health District • NSW Ministry of Health • Greater Cities Commission 	<ul style="list-style-type: none"> • City of Ryde Council • Sydney Water • Viva Energy • Ausgrid • Transgrid • Endeavour Energy • Dr Geoff Lee MP, Member for Parramatta • Victor Dominello MP, Member for Ryde
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37. A total of eighty-six (86) submissions were received from 85 submitters (two submissions were received from the same submitter) as part of the community consultation period. A detailed breakdown of positions taken by the submitters is provided in **Table 3**. Overall, 3% of submissions supported the Proposal in full and 77% objected to the Proposal in full. Other submissions either partially supported or objected or were uncertain. A breakdown of who made submissions is provided in **Table 4**.

Table 3. Breakdown of submission positions

POSITION	TOTAL NUMBER	PERCENTAGE %
Support	2	3
Object	65	77
Partial Objection	1	1
Partial Support	7	8
No Objection	4	4
Neutral	6	7
Total	85	100

Table 4. Breakdown of submissions received

	NUMBER	BREAKDOWN
Community/landowners	77	Various residents, landowners and stakeholders
Public Agencies	4	<ul style="list-style-type: none"> • Western Sydney Local Health District • Environment, Energy and Science Group (part of DPE) • Transport for NSW (combined with PLR) • <input type="checkbox"/> Education NSW/School Infrastructure NSW
Other Organisation	4	<ul style="list-style-type: none"> • Endeavour Energy • City of Ryde Council • Community Housing Industry Association NSW • Mecone
Total	85	

COUNCIL OFFICER RESPONSES TO KEY ISSUES RAISED IN SUBMISSIONS

38. A summary of the common concerns raised in the submissions and Council officer responses is provided below. A number of other concerns were raised in submissions in addition to those mentioned below. Detailed Council officer responses are provided in **Attachment 2** to this report. While a number of issues have been raised in relation to the exhibited planning provisions, it is considered that these matters are addressed in the draft provisions or can be addressed as part of the detailed design at the development application stage. Therefore, no changes to the exhibited draft Planning Proposal, DCP or Planning Agreement are recommended as a result of the issues raised in submissions.

39. The most common themes raised by community members/landowners were as follows:
- a. building height, scale, location, and local character/amenity (raised by 78%),
 - b. Traffic impacts, parking, and Transport Management and Accessibility Plan (TMAP) (raised by 70%),
 - c. Infrastructure provision (raised by 70%),
 - d. Environmental impacts (raised by 34%),
 - e. Heritage impacts (raised by 9%), and
 - f. Consultation process (raised by 9%).

Building Heights and Amenity

40. Most submissions objecting to the exhibited scheme raised concerns regarding the proposed building heights, advising they are too high resulting in overshadowing, loss of privacy and neighbourhood character, in addition to being inconsistent with the Southern Structure Plan that was adopted by Council on 16 December 2019.

Council Officer Response

41. It is acknowledged that there are some differences between the proposed building heights identified in the Southern Structure Plan, however they are considered to remain consistent with the envisaged approach for the precinct. The proposed height variation on the East Site ranges between an additional 7m to 10m above those identified within the Southern Structure Plan. On the West Site, the height variation ranges between an additional 10m and 19m above that identified in the Southern Structure Plan.
42. The proposed buildings heights identified on the subject sites in the Proposal have been informed by those identified in the Southern Structure Plan, which was a high-level guiding document intended to inform any future Planning Proposal in the Precinct. Although urban design testing was undertaken as part of the development of the Southern Structure Plan to determine appropriate height and FSR controls, it was acknowledged that these would be subject to further, detailed testing and refinement at the Planning Proposal stage.
43. As a result of detailed testing and discussions between Council officers and the proponent as part of the Planning Proposal and DCP work, some variations to building height were considered appropriate to produce a better built form outcome. These height variations do not result in an increase in the gross floor area (GFA) identified on these sites in the Southern Structure Plan. Additionally, the core principles of the Southern Structure Plan have been retained, which include:
- a. ensuring that the taller buildings are located within the centre of the site and away from existing low-density residential development surrounding the precinct;
 - b. ensuring that each building has a courtyard width greater than that is required by the Apartment Design Guide;

- c. that solar access within and outside of the two development sites is maximised;
 - d. maintaining key view lines outside the precinct to minimise the perception of density; and
 - e. maintenance of the 17m landscaped buffer along Wharf Road.
44. While the variations may not appear to be minor, they have enabled better utilisation of lower building heights on the perimeter of the site and improve the interface to surrounding lower density areas. The draft DCP (refer to **Appendix 3**) shows buildings of four (4) storeys can be achieved in certain areas on the West Site because of the heights increasing elsewhere. Council officers consider that lower perimeter heights are preferred even if it results in the taller building in the centre of the site. These amended heights have been tested and comply with solar access and other Apartment Design Guide (ADG) requirements.
45. In addition, the draft DCP includes objectives and controls relating to built form, which specifies requirements such as building setbacks, building separation, the distribution and allocation of floor space on a block-by-block basis, and tower design and slenderness. These controls are intended to ensure that the perception of the building heights within the precinct is minimised at street level.
46. The issues raised in relation to the height of buildings are therefore not considered sufficient justification to warrant a reduction in the proposed building heights on the site. Extensive urban design testing has been undertaken to demonstrate that the proposed heights can be achieved without significant and unmanageable impacts being experienced by future or surrounding residents and this is considered to be consistent with the core principles of the adopted Southern Structure Plan. It is therefore recommended that the provisions be retained as exhibited.

Traffic Impacts and Transport Management and Accessibility Plan (TMAP)

47. Most submissions objecting to the proposal raised concern regarding the potential traffic impacts on the existing road network, particularly within the Ryde LGA, and questioned the TMAP's (**Attachment 7**) validity, relevancy to current road and traffic conditions, and level of consultation with Ryde Council.

Council Officer Response

48. It is acknowledged that any redevelopment within the Melrose Park precinct will have some impact upon the local road network and to a lesser extent, the wider regional network.
49. A TMAP was prepared in response to a Gateway Determination condition relating to the Melrose Park North Planning Proposal. The aims of the TMAP were to understand the existing traffic behaviour, road network capacity and public transport services and identify improvements to public transport and the road infrastructure that would be required to support the proposed redevelopment of the Melrose Park precinct at each stage of its redevelopment. The TMAP was subject to extensive review and consultation by the TMAP

reference group, which comprised stakeholders from Council and State Agencies, including Transport for NSW (TfNSW), DPE, and applicants from the northern and southern precincts of Melrose Park. The TMAP was signed off and endorsed for exhibition by TfNSW.

50. The TMAP is required to be utilised for all Planning Proposals within Melrose Park in addition to site-specific traffic studies for each Planning Proposal. While not involved in the TMAP reference group, Ryde Council officers were briefed in the TMAP, and their input was provided as part of the exhibited Planning Proposal for the Melrose Park North Precinct. Should a review of the TMAP be required, further input from Ryde Council will be sought to ensure any additional concerns have been addressed.
51. The TMAP is an informing document to the Proposal and provides a comprehensive analysis of the potential traffic and parking impacts and includes required mitigation measures that future redevelopment must deliver to ensure the traffic and transport network can accommodate the proposed increase in density on the site. It also provides a Staging Plan for the delivery of required road upgrades and public transport infrastructure to service the precinct as well as recommended parking rates. Refer to **Table 4** for a summary of the staging plan and dwelling thresholds. As development progresses, the applicant will need to demonstrate that the required infrastructure will also be delivered as identified in the TMAP's staging plan.

Table 4. TMAP infrastructure staging plan

STAGE	INFRASTRUCTURE TRIGGER POINT (DWELLINGS)	YIELD SUPPORTED (DWELLINGS)	KEY INFRASTRUCTURE REQUIRED
Existing network	NA	1,100	Nil
Stage 1A	1,100	1,800	Wharf Road widening south of Victoria Road Left in/left out access from Victoria Road to NSR2
Stage 1B	1,800	3,200	Upgrades of Victoria Road/Wharf Road intersection including additional turning lanes Additional through-lane on Marsden Road
Stage 1C	3,200	6,700	Further upgrades of Victoria Road/Wharf Road intersection <ul style="list-style-type: none"> - Full signalisation - Additional R turn lanes on Victoria Rd - 3 new lanes on southern Kissing Point Road approach - 4 new lanes on northern approach Kissing Point Road approach - New signalised pedestrian crossings

			Widening of Victoria Rd between Kissing Point Road and Wharf Road - Shuttle bus service to Meadowbank Station and increased frequency of public services throughout Stage 1
Stage 2	6,700	11,000	New bridge to Wentworth Point and PLR Stage 2 or bus equivalent Staged delivery of internal road network Increased public transport services

52. Stages 1A, 1B and elements of Stage 1C are being delivered as part of the redevelopment in the northern part of the precinct, which will enable the 6,700 dwelling capacity to be realised. In addition, the State Government has committed to providing the bridge to Wentworth Point to be utilised by public and active transport users. Although the bridge may not be delivered for several years and may not immediately accommodate light rail services, it is expected that the timing of construction being finished will coincide with the earlier stages of redevelopment of the precinct also being completed. The bridge to Wentworth Point is a significant undertaking and will allow residents on the North side of Parramatta River to access the Sydney Metro West Station at Sydney Olympic Park. This will provide considerable public transport benefits to future residents in Melrose Park and as well as those within the Ryde LGA.
53. The methodology and the assumptions and inputs used in the TMAP were presented to and endorsed by the project reference group in the early stages of the project and were considered appropriate to ensure the results would be an accurate reflection of the potential changes to the use and density of the Precinct. The outcomes of the TMAP testing were also supported by the project reference group prior to finalisation of the TMAP report.
54. Despite the TMAP being finalised in early 2019, it retains its relevancy and ability to provide direction for the precinct. Technical studies relating to large projects such as Melrose Park North are prepared at varying stages throughout the project's life and, it is not uncommon for the studies to precede the project's exhibition date given that they are used to inform the content that is ultimately placed on exhibition. In this instance, any change in inputs used for the modelling and assumptions is likely to not be significant and would have a negligible impact in the TMAP's results, particularly as the overall dwelling yields that have been modelled are not subject to change.
55. In response to concerns raised regarding local traffic impacts, especially on Andrew Street and Constitution Road West within the Ryde LGA, these areas were included in the TMAP's study area and therefore considered during the modelling phase. The TMAP does not identify a need for any specific upgrades or alterations to these roads as part of future works. However, traffic management solutions implemented on the roads within the southern precinct such as turning restrictions from the precinct into Andrew Street to discourage rat-running by drivers trying to avoid Victoria and Wharf Roads will be explored

in further detail at the development application stage. Traffic management measures can also be reviewed at any time regardless of whether they are associated with proposed redevelopment. Council's Traffic team will continue to monitor the functionality of the road network within the precinct as development progresses and after full redevelopment of the precinct has occurred to determine what measures will be required to address any traffic management concerns.

56. No change is recommended to the TMAP at this stage. The TMAP is still considered to be a relevant document for its intended purposes given the overall dwelling yields that have been modelled in the Precinct have not changed since the study delivered its initial recommendations. The infrastructure upgrades required to meet the density thresholds, many of which are to be delivered as part of redevelopment in the northern precinct, are considered to be sufficient to reasonably accommodate the proposed development. Solutions to manage potential commuter traffic behaviour into Andrew Street are not identified in the TMAP or the proponent's Traffic Assessment, however, will be explored in further detail at the development application stage.

Infrastructure Provision

57. Many submissions commented that the Planning Proposal and draft Planning Agreement do not provide sufficient infrastructure within the precinct nor propose any contribution towards funding new infrastructure or upgrades to existing infrastructure within the Ryde LGA.

Council Officer Response

58. The Melrose Park precinct is intended to be self-sufficient in providing for the daily recreation needs and in the provision of local retail/commercial facilities for incoming residents. Therefore, it is not considered that the majority of residents will regularly leave the precinct for these reasons. It is acknowledged however that the incoming residents to Melrose Park will potentially utilise some infrastructure such as roads and public open space located within the Ryde LGA. However, this is not expected to place a significant burden on this infrastructure. In return, residents within the Ryde LGA will likely utilise the new infrastructure within Melrose Park, such as new open space along the foreshore, the new playing field in the northern precinct, new retail services in the town centre and George Kendall Riverside Park. George Kendall Riverside Park provides for regional organised sporting facilities in addition to informal active recreation, which is similar in function to Meadowbank Park within the Ryde LGA. Incoming residents are expected to more readily utilise the facilities of George Kendall Riverside Park, which provides similar amenities to Meadowbank Park, due to its closer proximity.
59. With regards to increased road usage outside the precinct within the Ryde LGA, traffic modelling undertaken for this precinct as part of the TMAP indicates that a significant increase in the volume of traffic is not anticipated as a result of the redevelopment of the precinct. Extensive upgrades are proposed to Wharf Road and Victoria Road to increase efficiency at this intersection, and it is possible to incorporate traffic management measures as part of future development applications to discourage commuter vehicles from using Andrew

Street during peak times. It is not anticipated that the additional traffic on local roads within the Ryde LGA will significantly accelerate road deterioration.

60. Further, the introduction of light rail or alternative public transport service to the precinct will enable residents to connect to the new Sydney West Metro service at Sydney Olympic Park, resulting in fewer vehicles relying on the road network.

Character Loss

61. A high proportion of submissions raised concern regarding a loss of neighbourhood character that will result from the proposed redevelopment.

Council Officer Response

62. It is acknowledged that Melrose Park has an established character both as industrial within the Parramatta LGA and low density residential within the Ryde LGA. The proposed changes to the precinct within Parramatta are necessary because of the declining functionality of the existing industrial land, as evidenced in the Planning Proposal and within the 2016 Council Employment Lands Strategy, which was also confirmed in the 2020 revision. Further, Melrose Park is identified as a Local Centre within the LSPS and is therefore suitable for high density residential development as an identified Growth Precinct.
63. Whilst the introduction of high-density residential development will change the existing character, it is intended to revitalise the area and create a vibrant urban environment with improved amenities for residents within and adjacent to the precinct. This will occur through the introduction of new public open space, a new primary school (in the northern precinct), and 30,000m² of new retail and commercial facilities as part of the new town centre in the northern precinct. The precinct has been designed to minimise impacts on adjoining low density residential properties through the use of landscaped buffer zones along Wharf Road and lower building heights on the perimeter of the development.

SOUTHERN PRECINCT LANDOWNER SUBMISSIONS

Southern Precinct Landowner Group (Mecone)

64. A submission was received from a representative of multiple landowners within the southern precinct. The submission does not object to the redevelopment of the precinct but does comment on the proposed non-residential floor space provision, considering it to be insufficient, and raises concern regarding the proposed building height variation from the Southern Structure Plan and considers that a finer-grained approach should be applied in the LEP mapping.

Council Officer Response

65. The matters raised in this submission are noted. It is considered that they can be addressed through further discussion with the relevant landowners to determine potential future intentions for the respective sites to achieve the best possible outcome. A portion of the required non-residential floor space is being provided within the northern precinct as part of the new 30,000m² town centre,

which will serve many of the community's needs. With regards to the difference in building height per the Southern Structure Plan this is addressed under 'Building Heights and Amenity' above.

George Weston Foods

66. A submission was received from the landowner of a site currently occupied by large scale bread manufacturing operations. The submission raised no objection to the draft Planning Proposal, however raised concerns regarding the potential for land use conflicts between existing industrial uses and future high density residential uses, loss of employment, and the distribution of building height and FSR allocations.

Council Officer Response

67. It is acknowledged that the presence of contrasting land uses while the precinct undergoes redevelopment is a matter that will need to be carefully managed, however it is considered that the DCP and other applicable controls will ensure that any potential negative amenity impacts, and interface issues are minimised as the precinct transitions away from industrial uses. The loss of industrial employment will be largely offset by the introduction of retail and commercial employment principally within the town centre. Again, issues relating to building heights are addressed under 'Building Heights and Amenity' above.

AGENCY SUBMISSIONS

68. A total of seventeen (17) public and private agencies and organisations were notified as part of the public exhibition, with seven (7) submissions received. These submissions are briefly summarised and addressed below..

Transport for NSW (TfNSW) / Parramatta Light Rail (PLR)

69. The combined submission from TfNSW and PLR raises no objection to the Planning Proposal, but provides several comments as follows:
- a. The need for proponents in Melrose Park South to contribute to the infrastructure and services.
 - b. Suggestion that any amendment to PLEP 2011 for the southern precinct include similar provisions for the concurrence of the Planning Secretary as the northern precinct and that the proponent should enter into a Planning Agreement outlining the developer's contribution to delivering State infrastructure and services.
 - c. That the State Government has committed funding of some nearby major public transport initiatives including Sydney Metro West and a public and active transport connection across Parramatta River to accommodate the future Parramatta Light Rail Stage 2 and public bus operations.
 - d. That the timing of delivery of this State infrastructure may be after redevelopment of the precinct and it's therefore important that the early stages of development need to be supported by shuttle buses to nearby transport hubs provided by proponents.

- e. It is estimated that a 50% share of trips will be made by active and public transport by future residents of Melrose Park. It is therefore important that road reserves (carriageway and footways) can appropriately and safely accommodate public transport, freight, and active transport.
- f. That it is unclear whether the needs of the local road users have been fully considered, particularly in the areas adjacent to the proposed town centre.
- g. That it is unclear from the plans included in the DCP whether adequate space has been allocated along Hope Street to cater for future public transport services and active transport movements.
- h. That a provision relating to the operating length of any shuttle bus be inserted into the draft Planning Agreement.
- i. That land proposed for dedication along the PLR corridor be made clear in the Planning Agreement.

Council Officer Response

- 70. These matters are noted, and it is considered that they can be addressed as part of the post exhibition and finalisation processes of the Planning Proposal, DCP and Planning Agreement.
- 71. With regards to the recommendation for a provision for a shuttle bus to be inserted into the Planning Agreement, it is noted that a shuttle bus is proposed to serve all of Melrose Park as part of the draft Planning Agreement associated with the Melrose Park North Planning Proposal. It is insufficient for each developer to run their own respective shuttle bus service in this regard. The shuttle bus is expected to run until such time that Parramatta Light Rail (stage 2) or similar is provided in conjunction with the bridge (now committed to by the State government) connecting the precinct to Wentworth Point.

Department of Education / School Infrastructure NSW

- 72. The submission from School Infrastructure NSW raised no objection to the Proposal but does comment on several matters for consideration. These relate to the demand for educational facilities within the precinct, overshadowing and privacy impacts on the existing Melrose Park Public School, active transport and access and infrastructure contributions. The submission provided no clear direction on the provision of a secondary school within the precinct or within the catchment of the precinct.

Council Officer Response

- 73. The matters raised in the submission are noted. It is considered that potential overshadowing and privacy impacts on the existing school site as a result of the proposed redevelopment can be addressed in detail at the development application stage, as can active transport and access needs.
- 74. The matter of demand for educational facilities, in particular the provision of a secondary school facility, is an ongoing concern for Council officers which

requires an active and considered approach from School Infrastructure NSW as a priority to ensure that the education needs of the precinct can be met. School Infrastructure NSW has stated in its submission its commitment to ensuring public schools are supporting the community's needs and continue to be appropriately resourced to respond to student population changes. A provision for ensuring this matter is appropriately addressed by School Infrastructure NSW is proposed to be included in PLEP 2011 through the use of a concurrence clause that will require the Planning Secretary to be satisfied that State public infrastructure needs (including transport and schools) are met before development proceeds. With regards to the request for public schools to be exempt from paying development contributions, this matter will be considered by Council officers as part of ongoing reviews of Council's infrastructure contributions plans.

Western Sydney Local Health District

75. The submission from the Western Sydney Local Health District raised no objection to the Proposal but recommends that several matters be considered by Council officers relating to mosquito management in the foreshore area along the southern boundary of the precinct, potential outdoor recreation space use, and river front access after storm events.

Council Officer Response

76. The matters raised in this submission are noted. Council has an *Intertidal Management Plan* to manage mosquitos in urban areas and it is considered that riverfront access can be managed through existing procedures.

Environment, Energy and Science

77. The submission from Environment, Energy and Science (EES) raised no objection to the Proposal. Comment is made on the biodiversity value of the Ermington Bay Wetland and identified potential impacts from shadowing and sedimentation. Comment is also made on flooding considerations and recommendations for further flood studies to be undertaken.

Council Officer Response

78. The ecological significance of the Ermington Bay Wetland is known by Council and protection of this sensitive ecosystem is an essential element for the future development of the Melrose Park Precinct. It is considered that the potential overshadowing impacts and sediment control can be managed by careful design and layout of the buildings and though soil management strategies. These matters, including detailed flood modelling, will be further addressed at the development applications stage.

City of Ryde Council

79. The submission objects to the Planning Proposal and raises some concern regarding the proposed additional permitted use on the site of 'food and drink premises'. Comment is also made on the draft local Planning Agreement relating to the lack of contributions towards funding infrastructure upgrades within the Ryde LGA and concern around the proposed securities for some

items. Comment is also made on the application of Council's contributions plans and on the lack of proposed open space provision and road and traffic network impacts, considering them to be unacceptable.

Council Officer Response

80. The proposed zoning and the suite of potential uses that might be proposed are considered reasonable to ensure a vibrant precinct is delivered. Any impacts from other specific potential land uses that may become permissible as a result of the rezoning will be subject to a detailed assessment as part of a development application should such a use be proposed. This assessment process will include a further public exhibition period where input from the community will be sought. If proposed, any 'food and drink premises' must demonstrate that the potential amenity impacts from its operation are considered acceptable in order for it to be approved.
81. The draft Planning Agreement is between the City of Parramatta Council and the proponent. As indicated above, it is not considered that the anticipated population of Melrose Park will result in significant increases in demand on infrastructure within the Ryde LGA particularly given the recreational and active open space areas that will be provided within the Melrose Park Precinct, which will also be available for use by residents within the Ryde LGA to use if they wish. Therefore, no contributions are proposed to fund specific works within the Ryde LGA. The infrastructure to be delivered as part of this development and the broader redevelopment of the precinct has been identified in the INL and the requirements for each Planning Proposal are assessed using this list and on a merit basis to determine whether it is appropriate for additional infrastructure to be included in Planning Agreements.
82. Any proposed traffic management works required to be undertaken to reduce the impact on traffic flow within the Ryde LGA as a result of the proposed development can be addressed at the development application stage. Council officers will hold discussions with Ryde Council staff regarding appropriate solutions and traffic treatments to ameliorate any problems that should arise as the precinct redevelops.
83. In relation to the non-inclusion of clauses in the Planning Agreement regarding securities and defects periods, this was an unintentional omission and will be addressed prior to the Planning Agreement being executed. The proponent has agreed to the inclusion of such provisions. These provisions do not impact on the value of the items proposed to be delivered in the Planning Agreement.

Endeavour Energy

84. The submission received from Endeavour Energy raised no objection to the Proposal. The submission comments on the current capacity of the network and suggests that a new zone substation may be required within the precinct to ensure future demand can be met.

Council Officer Response

85. The comments raised in this submission are noted. Any future upgrades required to the network as part of the redevelopment will be addressed at the development application stage.

Community Housing Industry Association NSW

86. This submission supports the proposed inclusion of affordable rental housing units, however, does question why more units are not being provided given the proposed uplift. Comments are made on affordable rental housing strategies for Council's consideration to ensure adequate provision in future redevelopments.

Council Officer Response

87. The comments made in this submission are noted and the exploration of alternative options for securing the provision of affordable rental housing will always be pursued. The approach taken when negotiating the affordable rental housing provision as part of this Planning Proposal and Planning Agreement was that preference was given to securing affordable rental units in perpetuity in addition to securing other required infrastructure in the precinct. This is considered better than relying on the provision of affordable rental housing via the State Environmental Planning Policy (Housing) 2021 (Housing SEPP) which only guarantees the provision of said housing for a limited time period. The draft Planning Agreement does not preclude the provision of affordable rental housing under the Housing SEPP at the development application stage.

FINANCIAL IMPLICATIONS FOR COUNCIL

88. Any work to progress the finalisation of the Planning Proposal would be prepared by Council Officers and therefore within the existing City Planning and Design budget. Should this matter progress, a Planning Agreement delivering new public open space, social and community infrastructure to the value of \$37,246,825 will be entered into between Council and the applicant. Further, at development application stage, development contributions in keeping with the current rates contained in the former Parramatta Section 94A Development Contributions Plan (Amendment No. 5) 2017 will be applied to the development.

CONCLUSION AND NEXT STEPS

89. It is recommended that the Local Planning Panel support the Council Officer recommendation that the Planning Proposal be referred to the DPE for finalisation.
90. Council officers recommend that the Local Planning Panel support the Council Officer recommendation to finalise the draft DCP, which provides detailed design controls in support of the Planning Proposal.
91. Council officers recommend that the Local Planning Panel support the Council Officer recommendation to adopt the draft Planning Agreement.

92. Following Local Planning Panel consideration of the recommendations of this report, the outcomes of the exhibition period for the draft Planning Proposal, Draft DCP and draft Planning Agreement will be reported to an upcoming Council meeting along with the Panel's advice.








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ATTACHMENTS:

1		Table of Community Submissions	28 Pages
2		Responses to Issues Raised	20 Pages
3		Updated Planning Proposal	81 Pages
4		Site-Specific DCP (Melrose Park South)	102 Pages
5		Southern Structure Plan	4 Pages
6		Planning Agreement	90 Pages
7		TMAP	117 Pages

REFERENCE MATERIAL

Attachment 1 – Community Submissions Summary Table

Public Exhibition of the Draft Planning Proposal, Draft Site-Specific DCP and Draft Planning Agreement

Melrose Park South - 112 Wharf Road, 30-32 Waratah Street, Melrose Park and 82 Hughes Avenue, Ermington (Holdmark Sites)

This document summarises the **78** submissions received from **77** residents and individuals in response to the exhibition of the draft Planning Proposal, draft Development Control Plan, and draft Planning Agreement for 112 Wharf Road, 30-32 Waratah Street and 82 Hughes Avenue, Melrose Park. Each submission has been categorised by the submitter's stance towards the proposal, as nominated in their submission: Object, Support, Neutral, or Partially-support. Each submission has been allocated a unique number according to the date the submission was received by Council. The names and street numbers of submitters have been withheld.

Submitter Number and Address	Summary of Submission
Submitter from Carlingford Submission Number 1	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating it is too big and too tall. • Considers that the area near the river should be retained for the public and not full of units; that it should be green space and not developed.
Submitter from Ermington Submission Number 2	Partially-support <ul style="list-style-type: none"> • Submitter strongly objects to apartment blocks being 22 storeys high. • Raises concerns that the proposed height of buildings will result in view loss and loss of solar access for many of the surrounding residential properties. • Requests that Council reconsider the proposal.
Submitter from Ermington Submission Number 3	Object <ul style="list-style-type: none"> • Submitter considers that there are already high-rise developments being built as part of the first Melrose Park development phase and Melrose Park does not need more. • Considers that even if there will be future access to the other side of Parramatta River, there will still be major impact on Victoria Road. • Considers that the section between Marsden Road and West Ryde shops heading towards the city is already 'a nightmare' and the extra units will make it worse. • Suggests that two-storey townhouses would be more appropriate than high-rises and that the building of a 22-storey residence is incompatible for the small suburb of Melrose Park.
Submitter from North Ryde Submission Number 4	Object <ul style="list-style-type: none"> • Submitter considers that there is very limited waterfront land available in this city, and the sites should not be overdeveloped. Submitter names Meadowbank as an example of where this has happened, stating it was a missed opportunity to build something beautiful and instead looks like a ghetto. • Suggests that something should be built on the site that is desirable for future generations instead of squeezing in as many units on a parcel of land as possible. • Requests more public spaces, cafes, and services. • Considers that an aesthetic village design like Breakfast Point is an example of a development where people would actually want to live.
Submitter from Ermington Submission Number 5	Object <ul style="list-style-type: none"> • Submitter raises concerns that local infrastructure is not being improved as part of this development and other developments. States that it is difficult to travel out of the area as roads are gridlocked. States that there are 'huge lines' at Wharf Road at Victoria Road, and the sequencing of traffic lights at Trumper Street results in long wait times. States that the set of lights at Ermington shops are 'a disaster'. Notes that all roads

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	<p>are one lane in and out of these areas, including the Melrose Park North precinct.</p> <ul style="list-style-type: none"> • Considers that Ermington shops already does not have enough parking for current residents, not taking into account the current development. Considers it difficult to find parking at West Ryde shops. Considers that local train stations do not provide adequate parking for current residents. • Notes that in Melrose Park South there is no easy, direct transport to the train stations. Considers that light rail is an inefficient method of getting to a train station. • Requests that having construction for Melrose Park North, Melrose Park South, light rail, and the new bridge happen all at once should be reconsidered as it is unfair, especially for the school situated in the middle of the developments. • Submitter lives on the south side of Ermington and does not want to live with 'this much development'. • Regarding boat ramp at Ermington, submitter asks if consideration has been given to the boating community with this development, to ensure continued access and adequate parking for the boat ramp. Raises concerns that the area will be occupied by people from nearby apartments parking there in the future, with the boating community being unaccounted for. • Submitter does not support further overdevelopment of the Melrose Park area. • Submitter raises concerns that the development will not be free of defects, citing a case at Meadowbank, where residents are in dispute with the developer's parent company. • Questions what is being done about local sporting fields to accommodate increased growth in the North and South precincts. Notes that the recent rain, the George Kendall soccer fields are closed a majority of the weekends as the drainage is poor. Considers that the baseball grounds at George Kendall have worse drainage and are always underwater. Considers that these issues should be addressed before thousands of residents inhabit the area. Considers the upgrade to the Murdoch Street section of the park to be insufficient.
No Address Provided Submission Number 6	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers that there are too many units proposed and insufficient transport infrastructure in the area to support it. • Considers that new bus routes should be provided as a condition of the development. • Raises concerns regarding environmental impacts - in particular, with respect to the marshes, river, and soil erosion. • Considers that the development would substantially change the shoreline, and if it were to go ahead, the unit heights should be restricted to a maximum of five storeys, and the profile of the low-rise area should not be dramatically altered. • Considers that townhouses would be preferable.
Submitter from Melrose Park Submission Number 7	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers the overdevelopment of Meadowbank as proof that high density estates are beneficial to no one, and especially not the local community. • Considers that Melrose Park is already overdeveloped, with the large apartments at the top of Wharf Road, which are already causing traffic issues though not all buildings have been built. • Notes that only one secondary school is within reasonable distance from the site. • Considers that traffic cannot cope, and Victoria Road will be at a standstill 24/7. • Raises concerns that the development will harm the environment. • Suggests that only the Metro should be built - more residents and more shops are not needed when even the IGA in Meadowbank is struggling to survive.
Submitter from Melrose Park	<p>Object</p> <ul style="list-style-type: none"> • Submitter requests that developments be limited to mid-rises (i.e., a maximum of 8-storeys in height).

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Melrose Park South - 112 Wharf Road, 30-32 Waratah Street, Melrose Park and 82 Hughes Avenue, Ermington (Holdmark Sites)

Submission Number 8	<ul style="list-style-type: none"> • Submitter does not support high-rise buildings as this would congest the area, citing Rhodes and Wentworth Point as examples of where this has happened.
Submitter from Dundas Valley Submission Number 9	Partially-support <ul style="list-style-type: none"> • Submitter considers that the maximum building heights are too high. • Submitter lived in Rhodes in the past and recommends that the maximum heights be retained as per the north side of Parramatta River at Silverwater Road at Halvorsen Park, or up to 8-10 storeys maximum.
Submitter from Ermington Submission Number 10	Support <ul style="list-style-type: none"> • Submitter supports the proposal, stating it will revitalise the area and make better use of it, while noting it would require the delivery of the light rail.
Submitter from Lancaster Avenue, Melrose Park (same submitter as Submission #63) Submission Number 11	Object <ul style="list-style-type: none"> • Submitter considers that the proposal represents overdevelopment, and the area must be retained for green open space. • Considers that the development is for too many residents and will change the area from the peaceful green environment it is today. • Adds that the road between Meadowbank Park and Lancaster Avenue is not capable of supporting this level of foot traffic. Considers that there are already too many people crossing, littering, and being unsafe with dangerous recreational vehicles.
Submitter from Yeramba Place, Rydalmere Submission Number 12	Object <ul style="list-style-type: none"> • Submitter opposes large scale development in a location near the river, viewing it as being contrary to the goals of cleaning up the river and the harbour. • Considers that it should not be the responsibility of Council or State Government to bear the burden of providing infrastructure and community facilities in Melrose Park South, but rather, the developer's. • Considers that Council and/or the State Government should not consider any approvals for Melrose Park South until full commitments for the following are met: <ol style="list-style-type: none"> 1. A high school in Melrose Park or perhaps on Winbourne Street, West Ryde, where there is already a suitable site. 2. Enhanced public transport for the area, including light rail, pedestrian, and bus access across the river to Wentworth Point. 3. Major traffic upgrades including improved access on and off Victoria Road, such as overpasses or underpasses with entry and exit ramps, as more traffic at existing (or new) lights will just become a significant bottleneck.
Submitter from Ermington Submission Number 13	Object <ul style="list-style-type: none"> • Submitter considers that there are already multiple thousands of units being built on Wharf Road, where there is one road in and one road out. States that there are already traffic and noise issues, despite the development not yet being completed. Considers that the area lacks the transport and infrastructure to be able to support even more high-density development. • Considers that there are already multiple high-rise buildings in the area. • Considers that the area is in need of more public space – not less – and raises concerns that not a lot of public space is depicted on the plans. • Considers that for residents who live on the river side of Ermington, the eastern vista towards the city, Harbour Bridge and river will be blocked if more high rises are built.

Attachment 1 – Community Submissions Summary Table

Public Exhibition of the Draft Planning Proposal, Draft Site-Specific DCP and Draft Planning Agreement

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	<ul style="list-style-type: none"> Questions whether the affordable housing will be social housing and raises concerns that there are already crime and social problems associated with these dwellings; asks how these will be supported.
Submitter from Melrose Park Submission Number 14	<p>Neutral</p> <ul style="list-style-type: none"> Submitter considers that for the amount of revenue that would be raised from this 'overdevelopment', there appears to be minimal requirement for the developer to contribute to the community, i.e., through provision of green open space. States that the developer continues to advertise the utilisation of existing facilities and open space while contributing very little new additions. Considers that the height of the proposed buildings are unacceptable and driven by developer profit. Considers that much of the impact associated with the proposed development has gone unidentified due to the proposal being directly on the border of both Parramatta and Ryde council areas. Considers that the changing face of Melrose Park as a suburb is not appreciated by the many residents already residing there, nor do they appreciate the extent of infrastructure needed to support an enormous influx of new dwellings with their associated increase in population, motor vehicles, foot traffic, parking issues, and domestic pet requirements (such as the need for more green, open space). Submitter states that they are not against development but considers one of this size and nature to be 'completely out of character' for the area in which it is proposed. Considers that it would be beneficial if Council required an 'obligatory "quality over quantity" mantra' and looked beyond financial gain, instead prioritising the living standards and wellbeing of the entire community.
Submitter from Ermington Submitter Number 15	<p>Object</p> <ul style="list-style-type: none"> Submitter considers that Melrose Park is already going to be very overcrowded with the existing PAYCE estate. States that the school, roads, and community are not equipped for this level of growth. Considers that the additional traffic generated will have negative effects in the whole communities of Ermington, Melrose Park, and Meadowbank.
Submitter from Melrose Park Submitter Number 16	<p>Object</p> <ul style="list-style-type: none"> Submitter is displeased with the increased size and height of the Melrose Park South development. States that there are very limited transport links, roads are congested, and delivery of the light rail is far away. Considers that the development will irreparably damage the current area.
Submitter from Ermington Submitter Number 17	<p>Object</p> <ul style="list-style-type: none"> Submitter considers that high density development in this area will create additional human and traffic congestion on top of the upcoming Melrose Park town centre. Considers that this will not have a positive impact on climate change. Considers that there is a need to maintain the current natural environment of the neighbourhood, especially along the riverside, and to preserve the natural habitat and peaceful surroundings for the community.
Submitter from Ermington Submitter Number 18	<p>Partially-support</p> <ul style="list-style-type: none"> Submitter considers the number of units and the increase in height of the buildings on the western site to be excessive. Notes that one of the proposed buildings on Hughes Avenue appears to be the proposed 22 storeys in height. Considers that this building will overshadow private properties on Atkins Road and Trumper Street. Considers that it will also cause the area around it to become a 'sun-depleted concrete canyon'. Considers that access and traffic will also become major issues.

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Submitter from Ermington Submission Number 19	Object <ul style="list-style-type: none"> • Submitter states that the transport modelling is based on either old data or refers to uncommitted future aspirations, and that this development combined with Melrose Park North and the developments in Meadowbank and Epping will place unmanageable stress on roads and rail. • States that Council must ensure that transport links have been built before looking to add more residential development into Melrose Park.
Submitter from Ermington Submission Number 20	Partially-support <ul style="list-style-type: none"> • Submitter would like to see the provision of more commercial shopping and retail outlets in this area. • Considers that the suburb has limited retail areas and it is critical that this be provided, should the development proceed.
Submitter from Melrose Park Submission Number 21	Object <ul style="list-style-type: none"> • Submitter considers that insufficient infrastructure planning has been undertaken for a development of this scale. • Considers that firstly roads should be built to diversify the local traffic and support the increase of residents as part of the development. • Notes that Andrew Street is being used as an alternative route to bypass traffic on Victoria Road. • Raises concerns that the existing roads would not be able to support an increase in population. • Also raises concerns regarding the development's proposed location beside the wharf, water, and park land, reducing space for public recreation. • Raises concerns regarding a loss of views for residents on lower floors, given the proposed height of the development.
Submitter from Wharf Road, Melrose Park Submission Number 22	Neutral <ul style="list-style-type: none"> • Raises the following concerns regarding the proposed development: <ul style="list-style-type: none"> ○ That the development should have minimal impact on views from the west. ○ That, once completed, the development should have minimal noise impacts in the evening, so that residents are able to enjoy a sense of peace. ○ That the cycleways along the riverfront, which are heavily utilised, should not be negatively impacted by the development. ○ That the development should provide sufficient space for parking vehicles with a boat trailer along Wharf Road as the boat ramp is well-utilised during summer and the carpark at the boat ramp quickly becomes full. ○ That the development should take into account traffic impacts along Wharf Road. Specifically, that there is sufficient access to the East and West developments, so that residents are able to quickly get back on Victoria Road without having to use Wharf Road and Andrew Street. Submitter notes that the Melrose Park precinct at the top of Wharf Road has already experienced a significant increase in traffic, which is due to worsen when the next stages are completed, and which is a source of concern for Ryde Council residents living near Wharf Road at the top end. ○ That there is currently little information regarding the look and impact of the light rail, and in particular, the bridge across Parramatta River providing a connection to Sydney Olympic Park that largely benefits residents of Ermington, Rydalmere, and those towards the Parramatta CBD. Considers that the current positioning of the bridge should be changed as it would require the bulldozing of houses of Ryde Council residents.
Submitter from Melrose Park Submission Number 23	Object <ul style="list-style-type: none"> • Submitter considers that there is insufficient infrastructure to support this development, noting that Victoria Road is already very busy, and many people use Andrew Street to bypass this bottleneck. • Submitter also notes that the developer has completed the first stage of development at Wharf Road and provides a shuttle bus service from the new development to Meadowbank station and wharf; however, despite the small number of apartments completed, this service is "already

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	<p>full at all times".</p> <ul style="list-style-type: none"> • Submitter considers that if the development is to go ahead it should include some cafes and restaurants for people to enjoy the views of the river. • Submitter notes that there are also a number of recreational users in the area and the space should be "made more pleasant for them as well". • Submitter considers that the buildings beside the river should be much lower in height, citing Meadowbank as an example, where the buildings next to the river are only four storeys in height. • Submitter notes that more infrastructure has been planned for the future, such as the light rail, but raises concerns that prior to this being delivered and Victoria Road being improved, at present the area cannot support the number of extra apartments being proposed.
Submitter from West Ryde Submission Number 24	<p>Object</p> <ul style="list-style-type: none"> • Submitter opposes the development and considers the proposed height of buildings (22 storeys) to be inappropriate for the location, in close proximity to the foreshore, and raising concerns regarding the impacts of overshadowing on existing residents and the endangered marshlands. • Submitter also raises concerns regarding the negative impacts that the development will have on traffic, especially on back roads and Victoria Road intersections, and neighbouring public schools and general retail. • Submitter notes that only 24 affordable housing units are being proposed out of the total 1,925 units, and the day care centre will only have capacity for 80 children. • Submitter considers that there has been little consultation regarding Melrose Park Primary school. • Submitter considers that developers are being prioritised over community needs.
Submitter from West Ryde Submission Number 25	<p>Partially-support</p> <ul style="list-style-type: none"> • Submitter asks what percentage of the total dwellings will be for social housing.
Submitter from Ermington Submission Number 26	<p>Object</p> <ul style="list-style-type: none"> • Submitter does not support the construction of buildings which are to be up to 77 metres in height, stating it is incompatible with the character of the area and will block views towards the river. • Considers that the allocation of only 24 units out of 1,925 units for the purpose of affordable housing does not reflect current societal needs. • Raises concerns that there is currently insufficient provision of facilities and infrastructure to support the increased population that an additional 1,925 dwellings will bring, such as schools (both high school and primary school), medical facilities and road and transport infrastructure. • Considers that a development of this magnitude cannot be of any benefit to the local community.
Submitter from Ermington Submission Number 27	<p>Neutral</p> <ul style="list-style-type: none"> • Submitter is concerned largely regarding traffic and public transport infrastructure, stating that the area is at capacity. • Comments that it should not take the community up to 30 minutes to travel from one suburb to an adjacent suburb. • Raises concerns regarding provision of and access to childcare and schooling, stating that it is already difficult to enrol in good childcare centres and schools, and this is likely to worsen with an increase in the area's population. • Questions what is being done to address these issues.
Submitter from	<p>Object</p>

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Ermington Submission Number 28	<ul style="list-style-type: none"> • Submitter considers that a traffic management plan needs to be completed over a 7-day period as traffic banks up along Wharf Road and Marsden Road, making it difficult to enter and exit Winbourne Street. • Also notes that the intersection at Victoria, Wharf and Marsden Roads can be very slow to navigate. • Asks what plans are in place "for the movement of high school students", given that Marsden High School has now closed and moved to Meadowbank. • States that there is no other high density living in Ermington and it does not suit the area.
Submitter from Ermington Submission Number 29	Object <ul style="list-style-type: none"> • Submitter states that the infrastructure around the area does not support the density of population being proposed. • Considers that the proposed development "fails to keep the riverscape free of high rise" and is not keeping in character with the surrounding area. • Considers that coupled with the PAYCE development, the proposed development "places too much pressure on the area".
Submitter from Ermington Submission Number 30	Partially-support <ul style="list-style-type: none"> • Submitter considers that the proposed development should only be approved once the Parramatta Light Rail Stage 2 and Metro West projects are both guaranteed, stating that currently there is no guarantee Parramatta Light Rail Stage 2 will be constructed. Submitter states that without those two pieces of public transport infrastructure, this precinct and surrounding suburbs will be too congested and unable to cope with the additional population. • Considers that should construction of the light rail be guaranteed, higher density zoning to allow residential development would be appropriate on the northern side of Hope Street, Ermington, between Atkins Road and Hughes Avenue, noting that the southern side will likely already have considerable high-rise development opposite.
Submitter from Ermington Submission Number 31	Object <ul style="list-style-type: none"> • Submitter states that the Melrose Park development already has enough residential development and there is no need for additional housing that would impact Ermington.
Submitter from Sydney Olympic Park Submission Number 32	Partially-support <ul style="list-style-type: none"> • Submitter supports the plan to develop the land, considering it a "good move for the community" and an appropriate location for residential use. • Considers that "intensive housing is needed and provides cost effective options". • Considers that building to the height of 40+ metres will affect the "amenity value of the entire area". • Raises concerns regarding overshadowing of the existing boardwalk in the winter, preventing the sun reaching the mangrove and water's edge. Considers that the loss of natural sunlight to this area should be managed, and that Council should manage its environment with greater care. • Considers the location inappropriate for buildings over 40 metres in height and requests that Council review the District Plan and justify the change to allow for buildings of 22 storeys.
Submitter from Melrose Park Submission Number 33	Object <ul style="list-style-type: none"> • Submitter states that the proposal is not keeping with the current housing in Melrose Park and that the proposal for the current development (on the Victoria Road side) initially included houses, which have "disappeared from plans". • Considers that there are already too many units, leading to an increase in traffic and making it feel unsafe for their children to play on the street side of their home.

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	<ul style="list-style-type: none"> • Considers that the new proposed development on the riverfront will add to the traffic problems and impact the existing school. • Raises concerns that the proposed development would result in view loss for homeowners on the Ryde Council side of Melrose Park. • Submitter originally purchased in the area mainly due to the "village feel and the fact that it wasn't built up". • Submitter considers that the plans do not take the proposed light rail into account and does not acknowledge the apartments currently being built. • Considers that the current height control of 12 metres is the maximum height that would be compatible with the character of the neighbourhood. • Considers that Parramatta Council is only seeking financial benefits and not taking into account the extra cost and inconvenience borne by Ryde Council. • Considers that townhouses or duplexes would be better suited to the area.
Submitter from Melrose Park Submission Number 34	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers that the current height limit of 12 metres is an appropriate maximum height for the area and that an increase beyond this will block the skyline for existing residents, alter the suburb in a "highly detrimental fashion" and result in damage to the foreshore wetlands. • Considers that the proposed 25-77m height limit will not only alter surrounding suburbs, but it will devalue existing homes. • Raises concerns that the increased residential capacity will have negative impacts on traffic and exacerbate the increased traffic load resulting from the current Melrose Park high-density apartments being constructed on Wharf Road. • Considers that the proposed development will have two unacceptable negative impacts on Melrose Park Public School: the school will not be able to cope with an increased school-aged population in the neighbourhood and the school will be unable to expand due to the surrounding development. • Considers that the presence of 1,925 new apartments will lead to an influx of traffic, increasing risk to children travelling to and from the school, and which will also require penitentiary style fencing around the school to ensure student safety. • Considers that this will adversely impact the existing school culture and current, highly-positive learning environment.
Submitter from Rydalmere Submission Number 35	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers that such dense housing is inappropriate for an area that is already facing traffic and transport issues, and where local schools are at capacity. • Considers that the foreshores should be protected from overdevelopment and the influence of developers.
Submitter from Ermington Submission Number 36	<p>Object</p> <ul style="list-style-type: none"> • Submitter objects to the proposal as the traffic around this area is "already bad".
Submitter from West Ryde Submission Number 38	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers that the density of housing proposed is more than can be supported by the existing transport infrastructure. • Notes that there is limited public transport, meaning that most residents rely on car usage. • Considers that the surrounding streets leading east, west, and north are already inadequate for the current volume of traffic, which will only worsen when the proposed development is built. • Considers that even if the light rail is built there will be bad traffic congestion heading west onto Victoria Road and Wharf Road, James Street and east. • Raises concerns that siting 20+ storey residential development in such close proximity to the river will negatively impact the aesthetic

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	<p>appeal of the area.</p> <ul style="list-style-type: none"> • Raises concerns regarding negative environmental impacts caused by the development, specifically regarding the water runoff from the development into the sensitive native river wetlands and impacts on marine life habitats. • Considers that given the large-scale developments already taking place on Wharf Road, this proposed development places too great a strain on transport infrastructure and the environment.
No Address Provided Submission Number 39	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers that high rise and high-density developments should not be situated in close proximity to the river. • Also objects to the extent of development occurring in Wentworth Point.
Submitter from Ermington Submission Number 40	<p>Object</p> <ul style="list-style-type: none"> • Submitter objects to the proposal, raising concerns it would adversely impact the neighbourhood feel of the area. • Considers that the 3D image included in the exhibition material does not accurately show the impacts on solar access. • Considers that the location for the proposed development is inappropriate as it is not close to a significant public transport hub and the roads are already congested. Considers that a single light rail will not ease this pressure. • Notes that there does not appear to be an increase in the provision of green space. • Notes that the nearest high school has closed, meaning an increase in traffic congestion as parents are required to drive their children to school. • Considers that if high-rise developments are to be built, they should be situated along the heavy rail corridor. • Considers that the development goes against the government policy of situating jobs in the suburbs due to the removal of factories.
Submitter from Ermington Submission Number 41	<p>Object</p> <ul style="list-style-type: none"> • Submitter states that the only potentially positive aspect of the proposal is the provision of affordable housing - unless it is to house drug addicts, which cause great mess and disturbance. • Considers that traffic is already congested from Hope Street onto Wharf Road, and a roundabout should have been installed when the last upgrade was undertaken a few years ago. • Notes that there is already significant development occurring on the block from Victoria Road to Hope Street. • Considers that Meadowbank is an overdeveloped suburb, and no more is necessary.
Submitter from Westmead Submission Number 42	<p>Object</p> <ul style="list-style-type: none"> • Submitter objects to the proposal due to the scale and location of the development and its impacts on the riverine corridor and Upper Parramatta river corridor. • Submitter highlights points from the heritage study, which outline principles to: maintain an appropriate Heritage Curtilage, ensure no adverse impacts on ecological elements, undertake further investigations on potential Indigenous archaeology in the Wetlands, and to assess the significance of the historic private wharf within the wetlands, and preserve views and vistas towards the River and Wetlands. • Raises concerns that the development will visually dominate the river and wetlands and have significant negative visual impacts when viewed from land, and from the water. • Raises concerns that the proposed development is more intrusive and as damaging as the Ermington naval depot redevelopment, due to its close proximity to the river and disruption to the passive recreational value/tourist value of the river journey to Parramatta. • Raises concerns that the Melrose Park South proposal, if approved, will set a precedent for more of the same high-density and visually bulky buildings to be constructed.

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	<ul style="list-style-type: none"> • Considers that the site was selected as it is easy to convert light industrial land to mass high-rise development, leading to substantial windfall gains for all involved. • Considers that this comes at the cost of having a living city, as mandated under the Greater Sydney Commission's Metropolis of Three Cities, as it results in adverse visual and ecological impacts on the Parramatta River corridor. • Considers that the development could be modified to greatly lessen the impact, such as through the reduction to height and setbacks. • Considers that the existing recreation transport corridor will be negatively impacted by the scale and duration of the development as it is adjoining the site, and the associated road works will greatly decrease the safety and enjoyment of using the shared Parramatta River Cycleway. Considers that the impacts will occur not only during the construction period, but amenity will be impacted adversely with ongoing use, contrary to the studies provided.
Submitter from Coogee Submission Number 43	Object <ul style="list-style-type: none"> • Submitter objects to the proposal to change the planning controls on the site to enable a mix of high-density residential development (up to 22 storeys), retail/commercial uses and public open space. • Considers that the Development Control Plan will be ineffective to enable detailed design and planning controls for the precinct, especially given the State Government's Design and Place SEPP has been withdrawn. • Submitter considers that the proposed infrastructure per the planning agreement is insufficient and that given the housing crisis, 50% of the development should be allocated to affordable housing. • Submitter notes that no secondary high school is proposed and suggests that the development site should be returned to the public as open space and a high school site, as the area is "unable to cope with existing demands". • Considers this proposal to be poorly planned and that it does not uphold public interest.
Submitter from Ermington Submission Number 44	Object <ul style="list-style-type: none"> • Submitter considers that the amount of high-rise development going into the area will limit traffic flow in and out of the area, and parking is a concern. • States that they already struggle to find parking in their street, Hughes Avenue, without even more people and cars being present.
Submitter from Carlingford Submission Number 45	Object <ul style="list-style-type: none"> • Submitter considers that the size and bulk of the proposal is inconsistent with the character of the area and will adversely affect the river corridor. • Considers that the proposal to dedicate 24 affordable housing units to Parramatta Council is inappropriate, as Council is not and should not be in the business of providing social housing. Submitter also states it is unclear whether the units will be fit for purpose or whether they will be marketable. Considers that the proposal shifts the burden onto Council to assess who should benefit from these units, and to be responsible for ongoing maintenance. • Considers that there is potential for corruption and/or significant administrative costs. • States that typically affordable housing "turns out to be low-quality units with inadequate sunlight and limited access to fresh air", and all housing should be liveable. • Raises concern regarding the lack of a high school for primary school children to progress to. • Considers that the proposal appears to be solely focused on windfall gains, without regard to provision of infrastructure.
Submitter from Trumper Street, Ermington	Object <ul style="list-style-type: none"> • Submitter objects to the proposal and considers 77 metres to be too high.

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Submission Number 46	<ul style="list-style-type: none"> Considers the development proposes too many dwellings in an area that is increasing quickly without consideration for traffic flow and impacts to local streets and residents. Submitter lives on Trumper Street and has seen increased traffic as Victoria Road becomes congested and people divert through residential streets to Ermington, Melrose Park, and Meadowbank. Considers that these single lane roads will not be able to cope with the high-density living proposed and will cause significant delays during peak times, such as the school pick-up and drop-off, as parents travel to surrounding schools in Melrose Park and Meadowbank.
Submitter from Ermington Submission Number 47	<p>Object</p> <ul style="list-style-type: none"> Submitter objects to the proposal as it includes "too many units". Notes that some developments are high, which will impact privacy and solar access for residents on the other side of Atkins Road and beyond. Considers that there is insufficient infrastructure in the area to cope with the number of units proposed. Notes that a new primary school is proposed but not yet approved, and the local high school has been knocked down. Considers that the proposal should not be approved until the primary school is approved and a high school accounted for. Considers that improved public transport and wider roads are also needed in the area before any more units are approved. Notes that there are also a number of villas in nearby surrounds. Considers that the population is increasing without adequate regard for community infrastructure provision.
Submitter from Melrose Park Submission Number 48	<p>Object</p> <ul style="list-style-type: none"> Submitter considers that the planning proposal is inconsistent with the requirements of the Southern Structure Plan. Submitter outlines key principles from the Urban Design Report, including: that a human scale of generally 3-4 storeys be created at the street interface, and that the impact of buildings be reduced to by avoiding continuous walls of buildings. Submitter notes that these requirements are not met in the planning proposal, with a majority of street-interfacing buildings being 6-8 storeys high and no buildings under 4 storeys in height. Submitter states that most street-facing buildings consist of unbroken walls, examples being lots S13 and S14 where the U-shaped buildings of the structure plan are replaced by buildings with nearly enclosed courtyards with narrow openings onto Wharf Road. Submitter notes the plan also reduces the linear green space along Wharf Road from 20m as designated in the structure plan, to 17m. Submitter notes the effects of these changes are apparent in the East Site view (Figure 3.1 of the report), where the built form illustrates significant bulk and scale. Submitter also considers that the proposal provides insufficient community benefits. Submitter notes that the Community and Place Benefits Analysis identifies the need for two playgrounds and two long day care centres (with capacity for around 162 places) within the Holdmark sites. The planning proposal includes only one playground and one 80-place childcare centre. Submitter notes that the proposed cycleway and pedestrian access to the riverfront replaces existing facilities. Submitter notes that a new multipurpose community hub was also identified as a major opportunity, and that the proposed contributions table under the Voluntary Planning Agreement does not make any contribution to this hub unless there is approval for more than the currently proposed number of dwellings. Submitter considers that the developer is prescribing that any contribution is contingent on being permitted to build an even larger development. Submitter considers that the hub is therefore not likely to come to fruition noting that the Melrose Park North VPA makes minimal contribution and the remaining portions of Melrose Park South (i.e., those not owned by Holdmark) represent a relatively small component of the entire

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	site.
No Address Provided Submission Number 49	Object <ul style="list-style-type: none"> • Submitter does not oppose the development, considering it necessary, but states the density is too high and the buildings too tall. • Submitter would prefer fewer dwellings as the roads, schools and facilities are lacking and cannot support the proposed dwelling numbers.
Submitter from Ermington Submission Number 50	Object <i>No comments provided.</i>
Submitter from Ermington Submission Number 51	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating that 20- and 22-storey buildings are too high • Considers that it would result in too many new residents to the area, in addition to the northern development. States that schools and roads are already at capacity.
Submitter from Rydalmere Submission Number 52	Object <ul style="list-style-type: none"> • Submitter objects to the proposal due to the scale of the proposed development, stating the height is too tall and the infrastructure insufficient to accommodate the extra residents. • Considers that the roads, schools, and parking are congested, and this development will exacerbate this. • Considers it inappropriate, as a ratepayer, for Council to be contributing such a large amount of funding to this project, stating it should be the responsibility of the developer to provide all funding and green space. • Considers that the community "lost putt putt, so it's only right that they replace it with something for the community". • States that these high-rise developments will result in anti-social behaviour.
Submitter from Ermington Submission Number 53	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, citing environmental impacts of the development, such as potential damage to the mangroves, overshadowing and impediments to solar access for surrounding dwellings, which go against the objective of protecting the environment. • States there is insufficient infrastructure in place to support the additional number of cars on local roads, and there is also a need for a high school in the area to support the extra children who will reside in the area. • Considers that more planning and the implementation of basic services are needed before this proposal is approved.
Submitter from Ermington Submission Number 54	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating that the proposed buildings are too tall, resulting in adverse bulk and scale and traffic congestion, and impacts upon local character.
Submitter from Ermington Submission Number 55	Object <ul style="list-style-type: none"> • Submitter raises concerns that the building heights are too high and raises concerns regarding overshadowing. • Submitter raises concerns regarding parking congestion as they live adjacent to the site and already struggle to move their car out of the driveway due to the narrow street and parked cars. The proposal will exacerbate these issues. • Submitter requests that Council ensures development takes place within reason and without overpopulating the area and overburdening infrastructure.
Submitter from	Object

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Ermington Submission Number 57	<ul style="list-style-type: none"> • Submitter states that Ermington, Melrose Park, and Meadowbank cannot sustain that many residents, raising concerns regarding overcrowding and traffic congestion. • Considers that there are not enough schools locally. • Considers that the proposal shouldn't be approved as it will result in the removal of jobs and put small businesses out of work. • Considers that the area is lacking entertainment given the removal of putt putt golf. • Considers that if one wants to help the local area, an increase in housing should be a last resort and Council should instead listen to what locals have to say.
Submitter from West Ryde Submission Number 59	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating that adding more high-density dwellings will overpopulate the area. • States that Wharf Road and Andrew Street and connections to Victoria Road are already busy during peak hour. • Considers that there is also insufficient street parking in the area. Raises concerns regarding safety as the volume of cars parked on the street reduce visibility from the driveway, potentially leading to a dangerous car accident.
Submitter from Ermington Submission Number 60	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating that the building heights are excessive. • Raises concerns regarding overshadowing of properties on Atkins Road, should building heights be raised from 12 metres to 68 metres. • Raises concern that they will no longer be able to enjoy the sunrise from their home of 21 years. • Raises concern that they would receive sunlight in their front yard only after 11am and be limited to three hours. • Considers that they should not lose their vistas. • Notes that many recently opened units in the Shepherd's Bay precinct are unoccupied. • Submitter enjoys that their local environment is quiet, with no through-traffic and no busy roads to pose a threat to children and pets. • Considers that the proposed development will impact privacy and that the traffic volumes will result in noise and congestion, with reduced on-street parking. • Raises concerns that apartment dwellings are only allocated one car space and will therefore park in Atkins Road, obstructing the roadway and creating safety hazards. • States that the hardcopy proposal documents provided at Ermington Library did not provide detailed information about the project, such as building heights and number of apartments proposed, making it difficult for elderly residents without internet access to make an informed response to the proposal. • Submitter notes that the gum trees opposite their house are home to a family of kookaburras and magpies. Raises concerns that the development proposal does not acknowledge these established trees and the wildlife they support, stating these trees should not be cut down.
Submitter from Ryde Submission Number 61	Support <ul style="list-style-type: none"> • Submitter supports the proposal, stating that appropriate transport and infrastructure should accompany the project.
Submitter from Melrose Park Submission Number 62	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating that the proposed height is too high. • States that there are too many dwellings compared to the provision of green space and questions how traffic congestion is being addressed, noting existing congestion will be exacerbated. • Raises concerns that the proposal will affect the character of Melrose Park.

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Submitter from Lancaster Avenue, Melrose Park (same submitter as Submission #11) Submission Number 63	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating they do not feel this development is in keeping with the character of the area and will impact environmental values. • Raises concerns regarding building height and the lack of green space. • Submitter lives on Lancaster Avenue and states they have not seen any traffic analyses undertaken for this street, noting the street is already utilised by a significant number of cyclists and pedestrians en route to Ermington Wharf and vice versa. • Considers that the introduction of additional residents will increase the traffic on this road, along with littering. • Considers the proposal to be overdevelopment, requesting Council to stay vigilant against significant commercial interest. • Remarks that Council should work in the community's interest and that the development doesn't align with the residents' desires for the area.
Submitter from Ermington Submission Number 64	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating that a 20-storey building in this area is excessive. • Considers that there is no suitable public transport, roads are already congested, and the Melrose Park North development hasn't been completed. • States that cars are parked everywhere on Wharf Road, making it unsafe to reverse in and out of driveways. • Considers that Councils should learn from the other developments in the area, highlighting Shepherds Bay, Rhodes, and Meadowbank as examples of overdevelopment resulting in traffic hazards and lack of parking. • Considers Melrose Park an inappropriate location for increased density as train stations are not within walking distance and bus services are irregular and too infrequent to be considered a viable transport option. • Submitter might be comfortable with a smaller development that provides additional parking; however, any building over 6 storeys is not supported. • States that this development is not what residents want.
Submitter from Gregory Street, Ermington Submission Number 65	Neutral <ul style="list-style-type: none"> • Submitter lives on Gregory Street beside the proposed development site and is not totally opposed to the development but has several concerns. • Raises concerns regarding the proposed building heights, noting that the structure plan for the southern precinct establishes a maximum height of 58/64 metres, while this plan proposes some buildings of 77m, which is likely to pose negative impacts to solar access for existing residences around the development site. • Considers that developments near so many individual houses should not exceed 5 storeys in height. • Considers that additional transport infrastructure is required to support increased density and the level of community infrastructure to be provided is insufficient. • States that the local primary school is set to grow from 200 to 1,000 students due to the many developments in the area, and furthermore, there are no high schools near Ermington and no provisions have yet been made for one. • States that the setback from Atkins Road is insufficient. • Raises concerns regarding potential negative impacts of the development on the mangroves and Parramatta River, and the need for storm water management and other infrastructure to mitigate impacts. • Considers that the developer should contribute more, financially, than what has been proposed. • States that their home, local school, and primary aged children are all affected by the development and is not confident that the impacts have been sufficiently considered.

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Submitter from West Ryde Submission Number 66	Object <ul style="list-style-type: none"> • Submitter objects to the proposal, stating that the change in zoning to allow building heights of 77m is a significant increase from the current maximum height of 12m and would set an undesirable precedent. • Considers that any height increase that more than doubles existing provisions will impact the character of the area. • Considers that the amount of affordable housing proposed is inadequate. • Raises concerns that there are 24 affordable housing units proposed, with a minimum of 34 bedrooms, meaning that more than half may be one-bedroom units. • Raises concerns that the development will provide a windfall for developers but does not provide sufficient affordable housing.
Submitter from Ermington Submission Number 68	Neutral <ul style="list-style-type: none"> • Submitter asks what the ratio of parkland to built environment is, stating that if FSR is being increased, so should the requirements for deep soil landscaping and native plantings. • Questions how the development is improving the ecology of the existing area, stating that the Ecological Assessment report identifies 95 threatened species, but offers no suggestions for protection of flora and fauna other than building setbacks. • Asks, assuming there is an increase of recreational activities on the Parramatta River, what Council will implement to ensure the safety and cleanliness of the Parramatta River. • Asks, with an additional 1,500 units being introduced, how Council will ensure there are sufficient schools and childcare centres.
Submitter from West Pennant Hills Submission Number 70	Object <ul style="list-style-type: none"> • Submitter objects to the development, stating that the proposed development would shade a significant part of the saltmarsh, which is an important habitat for many species of migratory shorebirds, therefore reducing the amount of foraging habitat these birds depend on. • States that the development will impact threatened flora and fauna. • States that mangroves are particularly important to a healthy ecosystem, oxygenating the water and protecting fish breeding, and they are liable to be damaged in the building and occupation of the proposed development. • Considers that development should not threaten remaining pockets of natural habitat, especially during this time of climate change.
No Address Provided Submission Number 71	Object <ul style="list-style-type: none"> • Submitter strongly objects to the proposal's scale in its current form, stating that development should improve the area for residents and not be about a significant windfall for developers and Council. • Submitter does not have issues with rezoning and development in principle, but considers that the scale of the interface between the residential development on the Atkins Road and Wharf Road side has not been given due consideration. Considers that the proposal documentation does not adequately consider the Atkins Road side of the development and associated impacts. • Submitter states that the scale of this redevelopment is incompatible with surrounding low-density dwellings, and the proposed heights are unsympathetic. • Considers that the height and setbacks on Atkins Road should be reviewed, with the setback increased and height reduced to provide a more sympathetic transition and interface with the existing neighbourhood. • Raises concerns regarding the loss of morning sun and overshadowing in winter on residences on the western side along Atkins Street and on the Wharf Road side in the afternoons. • Raises concerns regarding loss of privacy as the proposed heights will enable direct views into residents' houses and yards. • Considers that improved public transport infrastructure should be in place before redevelopment is considered or approved. • Considers the bridge across the river and additional ferry stops to be essential upgrades, in addition to the proposed light rail.

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	<ul style="list-style-type: none"> • Considers that the significant population increase across the North and South precincts will place too great a strain on public services and the existing road infrastructure in Melrose Park, which is already beyond capacity. • Raises concerns that this development will not be of high quality (like in Meadowbank). • Raises concerns regarding the little increase in green space and the sensitive ecosystem along the river. • Considers that Council should hold the developer to a higher standard regarding low-cost housing and publicly accessible and useable space compared to what has been proposed. • Considers it unsympathetic to existing Parramatta and Ryde ratepayers for a developer to build up to 75 metres high in an area surrounded by existing residential. • Cites Wentworth Point as an example of a suburb where local roads and infrastructure were not designed for the increase in population. • Submitter would welcome further consultation with residents.
No Address Provided Submission Number 72	<p>Object</p> <ul style="list-style-type: none"> • Submitter questions the validity and impartiality of the independent reports provided by the developer as part of this proposal, since Council will be using these reports in its decision making. • Submitter raises concerns on behalf of the Melrose Park Resident Action Group regarding the number of heritage-listed and other mature trees identified for removal in Melrose Park North. • Submitter raises concerns that the Ecological Assessment Report and photos for the development ignore the 12 significant and mature trees on the southern boundary adjacent to Waratah Street. • Submitter suggests that an independent report by suitably qualified individuals be undertaken to identify the species of significant trees on the entire site and indicate their true ecological and climate benefit to the local community and wildlife. • Submitter raises concerns regarding the Heritage Report, stating it is factually incorrect. Suggests that a new Heritage Report be written to accurately reflect and include the history of the original Melrose Park (Ryde LGA). • Raises concerns that the TMAP does not have any factual basis, given that there is already traffic congestion on local roads, particularly during peak hours, due to the increase in residents from the Victoria Road site and other drivers. • Raises concerns that the infrastructure needs list is inadequate for both the northern and southern precincts, and it does not take into consideration the potential impacts on Ryde LGA infrastructure and residents. • Raises concerns regarding the quality of the developer. • Considers that the community consultation phase is not a central part of the planning proposal assessment process. • Cites Wentworth Point as an example of poor planning outcomes and lack of infrastructure that should not be repeated.
Submitter from Gregory Street, Ermington Submission Number 73	<p>Object</p> <ul style="list-style-type: none"> • Submitter is a local resident of Gregory Street, which is quiet, narrow, and does not facilitate high volumes of traffic. Considers that the proposed development at George Kendall Reserve will already contribute to an increase in traffic movement and activity. • Raises concerns regarding Gregory Street being extended into the proposed Melrose Park site, resulting in an increase in traffic and movement, making it a busy road, and increasing risk to children and animals in the park and contributing to noise pollution. Raises potential movement issues due to the narrow street and proximity to the edge of the water. • Raises concerns regarding the proposed development's proximity to the water, raising concerns regarding pollution, water impacts, water displacement, water seepage into the site and collection of water (draining from Parramatta River). • Considers the proposed height of the development to be excessive given that the neighbouring and existing properties are all low-rise. States that the excessive height inhibits existing views. • Raises concerns regarding the impacts of overshadowing and solar access for neighbouring streets and properties.

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	<ul style="list-style-type: none"> • Submitter objects to the provision of low-rent housing and suggests it should be mixed, so that the issues are diluted. • Raises concerns regarding the potential noise pollution and pollution to the area and into the river. Notes that existing properties should be dismantled with care to prevent further leaching into the Parramatta River, and that chemicals and toxins should be managed effectively. • Raises concerns regarding the density and height of the development, and that it will include affordable housing. Considers that this poses socioeconomic issues, which will impact an already vulnerable community. Cites anti-social issues at Ermington shops and in neighbouring streets as examples of this. • Considers that appropriate provision of parking should be planned for so that there is no spill-over into neighbouring streets; the site should accommodate all the parking that is required. Considers that the new George Kendall upgrade will result in limited parking in neighbouring streets, which should not be responsible for accommodating the parking needed for the development site. • States that the concerns raised in this submission echo the concerns of other residents in Gregory Street.
Submitter from Eric Street, Eastwood Submission Number 75	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers the proposed number of new residents and building heights to be inappropriate, and that the proposal should not be permitted. • Concerns with removal of employment opportunities, and that the number of proposed retail sites do not compensate. • Considers that suggesting people travel to other industrial centres instead only serves to further compound traffic problems in Sydney. • Notes that this proposal is in addition to many other redevelopments in Melrose Park that have increased population and resulted in cleared vegetation, and there will be further future developments. • Considers that proposals in general are completed in stages to avoid any consideration of cumulative impacts. • Considers that population density is increasing, while existing trees, natural vegetation and open space is being removed. • Considers there is insufficient infrastructure to support the population increase, including roads and schools (noting closure of Marsden High School). • Considers that the river in the south makes it difficult for people to enter and leave, which will remain an ongoing problem with the volume of people living there. • Considers that the development sites should instead be used for the provision of other facilities and infrastructure. • Considers that the site's current use has minimal impacts on the wetlands, helping to preserve the high ecological value of the area. • Considers that the site's current use as a light industrial area to be more beneficial for environmental conservation (providing a buffer) and provision of employment opportunities, compared to residential development. • Considers it unsustainable to remove sources of local employment while increasing population density in the area, which leads to increased demand on road infrastructure and additional challenges commuting to places of employment noting there are limited public transport options available. • Considers that the developer is seeking to make profit at the expense of residents and endangered ecological areas. • Considers the scale of development should be decreased and the buffer zone between the development and roads, wetlands, and other natural areas be increased. • Considers that inadequate consideration has been given to the negative impacts of the development on the wetlands, including the coastal saltmarsh and mangrove forest, and threatened migratory bird species. • Considers that inadequate consideration has been given to the development's proximity to the Newington Nature Reserve on the other side of the river. • Considers that the current buildings on the site are low-rise and do not pose the same negative impacts that high-rise towers would have on the waterway.

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	<ul style="list-style-type: none"> • Submitter questions why such an inappropriate scale of development is permitted near the wetlands, which have been identified as being of high ecological significance. Notes that the Ecological Assessment report recommends mitigation measures of a buffer zone, which is to be replanted around the coastal saltmarsh and the Foreshore Buffer Zone, and that this recommendation appears to have been largely ignored, considering the proposal of a road extension through the buffer zone area. • Notes that the Ecological Assessment states that the development may impact additional threatened species, which is likely given the additional infrastructure works required by increased population. • With reference to the deferred sites in Melrose Park South, the development, being done in stages, therefore does not consider the cumulative impacts of the overall area. • Considers the development will threaten ecosystems and lessen the enjoyment of the natural area by other residents, e.g., the Ermington Bay Nature Trail. • Considers that the natural areas may be contaminated by toxic materials during the construction process. • States that the ecological areas might be accidentally cleared during works. The recommendations of the Ecological Assessment have been ignored. E.g., the buffer zone is not being followed as recommended – Mary Street is proposed to go in the buffer zone instead. • Considers that towers of 22 storeys in height will be visible and light up the area at night, disturbing adjacent ecosystems, migratory birds, and wildlife due to the artificial light/light pollution and effects on temperature and the micro-climate of the area. The buildings will overshadow the ecosystems during the day and will also reflect heat. • Considers that the tallest towers should be situated at the back of the complex, rather than near the wetlands. • The Mary St extension will significantly damage remaining natural vegetation, coastal saltmarsh, and Ermington Bay Nature Trail. • Also notes that the exact position of the Mary Street road extension appears to differ across the various maps in the supplied documents. Notes that the Mary Street extension is depicted in relation to a local landmark, an electric pylon; however, this pylon is often not shown in indicative models of the proposed development, which may have associated logistical issues. • Raises concerns that the negative impacts from the Mary Street extension will be compounded when the "deferred" site is also developed into high-density residential in the future. • Raises concerns that there will be almost no vegetation left between the road and the Ermington Bay Natural Trail, with no appropriate buffer provided between the road extension and existing natural vegetation. • Raises concerns, based on the road extension routes in the Planning Agreement, that the proposed roads will go through the area identified as a buffer zone in the Ecological Assessment, meaning that the coastal saltmarsh will end up directly adjacent to the proposed Mary Street and Waratah Street extensions without any buffer zone. • Raises concerns that it appears there will be a significant clearing of natural vegetation on both proposed development sites, based on the depictions on page 80 of the Draft Planning Agreement document. Raises concerns that this will result in degradation of the local ecosystems and lessen public enjoyment of the area. • Suggests that the Mary St extension be rerouted further north to preserve natural vegetation, and a further buffer zone be created around the saltmarsh and other vegetation. Alternatively, deleting this road extension altogether should be considered. • States it is unclear whether the pedestrian walkway depicted in the VPA is the Ermington Bay Nature Trail – there appears to be significant vegetation clearing proposed along this walkway per the VPA. • Raises concerns about the extent of vegetation clearing within the site, and that the proposed parks and replacement vegetation is an insufficient compromise. • Raises concerns that the negative impacts on the Waratah Street coastal saltmarsh and other natural areas will be compounded by the light rail extension as part of the Parramatta Light Rail stage 2, while also reducing the amount of new parkland proposed. • Recommends that the East site proposal should not be approved until more detailed plans for the light rail are available, so that the
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	<p>cumulative impacts on the area can be better known. Notes that the NSW Government has stated that the Parramatta Light Rail stage 2 Environmental Impact Statement should be completed by the end of 2022.</p> <ul style="list-style-type: none"> • Considers that the proposal does not consider the possible routes for Parramatta Light Rail stage 2, also raising concerns that the light rail and redevelopment can both be accommodated by the Melrose Park area without additional negative impacts. Considers that the area south of the East site should be reserved for light rail, rather than for the proposed residential towers to avoid land needing to be claimed from elsewhere, destroying natural vegetation, parks, or other houses in the process. • Raises concerns regarding the impacts of the light rail on the wetlands and remaining park near Ermington Wharf. • Suggests that the East site be used instead for the light rail or as green space adjacent to it. Raises concerns regarding the interface of the East site with the light rail, specifically how the light rail will be accessed. • Raises concerns that the public will not be able to access the shared cycleway along Waratah Street during the construction period, and that the area will be less pedestrian and cyclist-friendly once the development is built, due to cars entering and leaving the residential complexes and compounded by the light rail, which is also proposed to go along Waratah Street. Considers these pedestrian walkways to be essential, providing access to public transport services at Meadowbank. The walkways could be damaged during construction. • Raises concerns that no provisions have been made to require developers to protect the natural vegetation during and after construction. • Suggests the decision be deferred until any impacts associated with the light rail extension along Waratah St is better known.
Submitter from Ermington Submission Number 76	<p>Object</p> <ul style="list-style-type: none"> • Submitter is a resident in Ermington and does not support this proposal. • Considers that the area does not need apartments of this size since there is insufficient infrastructure in the area to support it. • Considers that the roads will become congested and raises concerns regarding overshadowing of houses in the local area. • Considers that most people will likely drive instead of taking public transport, resulting in more parked cars and more traffic. • Considers that there does not seem to be any plans for commercial facilities, which the area needs, such as cafes, restaurants, and shops, rather than high rise apartments (like in Meadowbank). • Considers that there should be greater housing diversity so that there are a mix of terraces and units, rather than all units. • Considers that the area is near the river and has significant potential. • Considers that this proposal would impact the character of the area.
Submitter from Melrose Park Submission Number 77	<p>Object</p> <p><u>General</u></p> <ul style="list-style-type: none"> • Submitter comments that a reply was not received to their submission relating to DA/261/2022, and therefore has little confidence in the consultation process. • Comments that the Proposal and draft DCP highlight issues in several of the independent reports and that the effect these inaccuracies is that the history, identity, and residential locale of the original Melrose Park is being overlooked and the presence of significant local and mature trees ignored. <p><u>Ecological Assessment</u></p> <ul style="list-style-type: none"> • Considers that the Ecological Report and photos ignore the stand of significant and mature trees on the southern boundary adjacent to Waratah Street. States that the trees are a significant source of nectar for native fauna and for the continuum of the green corridor down Wharf Road. States they have formed part of the local landscape for over 40 years. • Considers that the removal of these trees in combination with those removed in the northern precinct will impact on nectar sources and aesthetic disruption. Trees of this size play an important role in carbon absorption and are inconsistent with efforts to minimise climate

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	<p>change.</p> <ul style="list-style-type: none"> Considers that an independent arborist/botanist/apiarist report be prepared to identify significant tree species on the site and their ecological and climate benefit. <p><u>Heritage Report</u></p> <ul style="list-style-type: none"> Considers the Heritage Impact Assessment to be factually incorrect and that it attempts to overlay the history of the original Melrose Park with that of the new Melrose Park. Notes that the report incorrectly states that the Samuel Marsden Estate on the western side of Wharf Road was part of Melrose Park and not Ermington in 1792-1892 despite the suburb's boundary expansion not occurring until 2005. Considers that the report should be updated to reference the correct suburb. Claims the error is misleading and non-compliant with the Geographical Names Board's policy. <p><u>Community and Public Benefit Analysis Report</u></p> <ul style="list-style-type: none"> Considers the statement within the report identifying the location of the precinct to be incorrect and that it damages the original Melrose Park from 1928 suburb and its residents. Considers that the report should be updated to reference the correct suburb and its history. Claims the error is non-compliant with the Geographical Names Board's policy. <p><u>Environmental and Aesthetic Disruption</u></p> <ul style="list-style-type: none"> Comments that fully matured trees provide essential nectar and pollen sources for bees and other wildlife. Removal and disruption of the corridor will have a devastating, if not fatal, impact on bees and wildlife that has become dependent on these food sources. Considers the concept of replacing these trees with newly planted 'mature' trees is not a worthy compromise. Comments that the plight of bees is internationally known and the impact of the decline and diversity in bee populations places food security at risk and that the destruction of natural habitats is contributing to the declining numbers and diversity of bees. Comments that it has been confirmed that many of the trees proposed to be removed are important and relied upon nectar or pollen sources for bees. The replacement trees will not compensate for this loss. Comments that the removal of the trees disrupts the aesthetic appearance of Wharf Road and Waratah Street. Considers that all mature trees be identified and preserved by realigning internal road and other infrastructure. <p><u>TMAP</u></p> <ul style="list-style-type: none"> Considers that all community credibility for the TMAP is lost by claiming that the additional traffic demands as a result of the redevelopment on the surrounding road network fall within acceptable capacity thresholds. Comments that long-term residents in the area consider the traffic to the east of the subject site to be currently over capacity. States that at 6.30am on weekdays it can take four (4) sets of traffic lights to enter Victoria Road turning right from Adelaide Street or Wharf Road, and this is similar on weekends between Victoria Road and Wharf Road and the West Ryde shops. States that advice received from the NSW Traffic Management Centre (TMC) is that this section of Victoria Road has the most concentrated number of traffic signals along Victoria Road. This is not mentioned in the TMAP. Considers that the TMAP be rewritten to include a more objective and actual observation of the traffic issue that currently exist east of the subject site. Considers that solutions be identified that will specifically address both current and future demands.
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	<p><u>Infrastructure Needs List Report</u></p> <ul style="list-style-type: none"> • Questions why there is no allocation of the total infrastructure amount to Melrose Park east of the subject site. • Considers that the Infrastructure Needs List budget needs to be revised to adequately provide financial allocation for infrastructure needs with the Ryde LGA. <p><u>Comparison with neighbouring areas</u></p> <ul style="list-style-type: none"> • The identified 11,000 new dwellings and over 25,000 people is more residents than the 2114 postcode areas, which includes West Ryde, Meadowbank, Denistone, and Melrose Park, however the requisite sized infrastructure such as schools and shopping areas to accommodate the population are not provided.
Submitter from Wharf Road, Melrose Park Submission Number 78	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers the infrastructure needs list to be inadequate for the North and South precincts, given that there could be 25,000+ new residents on local streets. • Considers that the infrastructure identified also ignores the impacts on Ryde LGA's infrastructure and residents. • States that the TMAP appears to be based on assumptions with no factual foundation, considering there are already traffic problems on local roads, especially during peak times, due to the increase in residents from the Victoria Road site and other drivers. • Raises concerns regarding the number of heritage-listed and other mature trees identified for removal in Melrose Park North. • States that the Ecological Report and images for the development ignore the 12 significant and mature trees on the southern boundary adjacent to Waratah Street. Requests an independent report be produced by suitably qualified arborists, botanists, or apiarists, who are engaged to identify the species of significant trees on the proposed development site and assess their true ecological and climate benefit to the local community and wildlife. • Submitter would like to see the plans of the proposed light rail in conjunction with the development plans and the planned bridge, to understand how it would impact current residents of Melrose Park.
No Address Provided Submission Number 79	<p>Object</p> <ul style="list-style-type: none"> • Submitter considers the proposed height of 22 storeys to be inappropriate. • States that the marshland habitat and waterways should be considered. • States that the roads are already congested and the drive to get from Ermington to West Ryde is set to worsen with an additional 5,000 cars on the road. • Notes that some bus routes to the city were cut, so public transport already takes longer. • Raises concerns around logistics for accommodating and transporting an additional 5,000 people. • Raises concerns regarding school infrastructure, specifically regards to location of the high school and primary school and the capacity. Submitter also raises the overhead bridge for children to safely cross Victoria Road, which they thought was meant to have already been delivered. • Submitter questions whether consideration has been given to medical services, such as GP clinics, to help service the increase in population. States that wait times for an appointment in the area is already a week or more. • Hopes the facade will be nicer than the existing ones on Victoria Road. Suggests that consideration be given to how it fits into the landscape and suggests use of sandstone. • Suggests that parks should incorporate elements for all ages, such as water play, shading, tables, trees, toilets, bike lanes for children and adults, and perhaps a dog park.

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Submitter from Cobham Avenue, Melrose Park Submission Number 80	Object <ul style="list-style-type: none"> • Submitter raises concerns regarding the 12 heritage listed trees identified for removal, stating these were not accounted for in the Ecological Assessment Report. • Considers that there is no real infrastructure to address traffic volume or pollution in Melrose Park or surrounding suburbs. • Raises concerns that there is no guarantee that Parramatta Light Rail Stage 2 will be realised. • Considers that neither Parramatta nor Ryde Council want to admit liability in creating pollution and traffic volume in surrounding suburbs. • Considers that the proposal demonstrates no care for fauna and birds. • Considers high rise development of 22-25 storeys to be inappropriate.
Submitters from Wharf Road, Melrose Park Submission Number 81	Object <ul style="list-style-type: none"> • Submitters support and echo the concerns of the Melrose Park Residents Action Group and other community members. • Submitters have little confidence in the public consultation process. • Submitters state that there are issues in several of the independent reports relied on by Council in assessing the proposal, which have resulted in the history, identity and residential locale of the original Melrose Park being overlooked. • Submitters raise concerns regarding the 12 significant and mature trees on the southern boundary adjacent to Waratah Street, noting they appear to not have been identified in the Ecological Assessment Report. Submitters consider these trees to be an important food source for native insects, birds and bees and state that trees of this size are consistent with climate change minimisation efforts. Submitters recommend an independent report be undertaken by suitably qualified individuals to ascertain the trees' ecological and climate benefit. • Submitters consider the Heritage Report to be incorrect regarding the historical boundaries of Melrose Park. Submitters recommend the Heritage Report be rewritten to reflect and include the history of the original Melrose Park (Ryde LGA) circa 1928. • Submitters raise concerns regarding the Executive Summary of the Community and Public Benefit Analysis Report, recommending it be rewritten to reflect and include the history of the original Melrose Park (Ryde LGA) circa 1928. • Submitters against replacing trees with newly planted mature trees and instead recommend all significant mature trees be identified and preserved by realigning internal roads and other infrastructure. • Submitters raise concerns with the TMAP, specifically regarding the statement that additional traffic demands resulting from development on the surrounding local road network fall within acceptable capacity thresholds. Identifies that traffic is already congested when entering Victoria Road from Adelaide Street or Wharf Road, and on Saturday mornings there are similar traffic issues on Victoria Road between Wharf Road and West Ryde shops. Notes that traffic is also congested when there are major sporting events at Meadowbank Park. Submitters recommend the TMAP be rewritten to include more objective and accurate observations of the traffic issues that currently exist east of the development site, along with solutions that will address current and future traffic demands to the east. • Submitters recommend that the Infrastructure Needs List budget be revised to adequately provide for infrastructure needs to the east of the development site. • Submitters consider that the new development will account for an additional 25,000+ residents; however, the requisite infrastructure to support such a population, e.g., schools and shopping areas, are not being provided.
Submitter from Cobham Avenue, Melrose Park Submission Number 82	Object <ul style="list-style-type: none"> • Submitter states that the Holdmark East component of the Draft Planning Proposal for the Melrose Park South Precinct, the Draft Site-Specific Development Control Plan and the Draft Planning Agreement should be deferred until the planning process for Parramatta Light Rail Stage 2 has been completed. • Raises concerns regarding the lack of sufficient commercial floor space to compensate for the loss of employment lands. • Raises issues associated with the Transport Assessment Report submitted with the Planning Proposal, which relies on the TMAP, stating it is

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	<p>a document whose transport modelling was based on a different transport and road network scenario than what is now proposed.</p> <ul style="list-style-type: none"> • States that the Planning Proposal does not comply with a number of requirements specified in the DPE's "Guide to preparing planning proposals". • States that the minimum amount of non-residential floor space of 1,000m² proposed in the Planning Proposal is inadequate and needs to be significantly increased. • States that pubs and small bars should not be permitted on the land to which the Planning Proposal applies. • States that the 17m-wide proposed RE1 Public Recreation zone along the Wharf Road frontage of the Holdmark East site should be increased to 20m to be consistent with the Gateway Determination. • Raises concerns regarding the proposed RE1 Public Recreation zone along the Wharf Road and Waratah Street frontages on the Holdmark East site, for the area south of the "Andrews Street view corridor". • Raises concerns regarding the "Andrews Street view corridor", stating the trees should be preserved. • Raises concerns regarding the location of Proposed Road NSR3B/Waratah Street and suggests an alternative location option for that road. • States that the land proposed to be zoned RE1 Public Recreation in the Holdmark West site should extend to Atkins Road and include land in the southwestern portion of the site. • States there are issues associated with Proposed Road EWR10 in the Holdmark West site. • States that the Proposed Road EWR8 in the Holdmark West site should be relocated further to the north to ensure the retention of significant trees. • Raises concerns that the road corridor width of Mary Street does not support having one lane of traffic in each direction. • States that the density and scale of development proposed, specifically the proposed floor space ratios of 2.74:1 for the Holdmark East site and 2.46:1 for the Holdmark West site, are too high given the context in which the sites are located. • States that the Height of Building (HOB) controls proposed are excessive and inappropriate for the sites immediately adjoined by low density residential development to the east (the Holdmark East site) and to the west (the Holdmark West site). • States that the amount of Residential Gross Floor Area proposed is excessive and does not comply with the respective FSR development standard proposed for the Holdmark East site and the Holdmark West site. • Recommends provisions be included in the PLEP 2011 to ensure that the dwelling thresholds and dwelling caps identified within the TMAP aligns with the delivery of required infrastructure. • Raises concerns relating to the provision of affordable housing in the precinct, including the planning mechanism proposed to be used and the amount of affordable rental housing proposed. • Raises concerns that the <i>City of Parramatta (Outside CBD) Development Contributions Plan 2021</i> would not apply to the subject site(s). • States that in exercising its functions under the Local Government Act, a Council is required to act "fairly, ethically and without bias in the interests of the local community". Contends that by endorsing the Council Officers' recommendation to give delegation to the CEO to draft the Planning Agreement, Council would not be exercising its functions under the Local Government Act or in accordance with Council's current development contributions policy. • States that the community should be entitled to a much greater share of the increased value of the land resulting from the zoning uplift than what is proposed in the draft Planning Agreement on exhibition. • Raises issues relating to Section 7(a) and Section 8 of the Draft Planning Agreement.
Submitter from Taylor Avenue, Melrose Park Submission Number 83	<p>Object <u>Consultation process</u></p> <ul style="list-style-type: none"> • A number of residents within the affected area were not notified.

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	<ul style="list-style-type: none"> • The consultation process is not a fundamental part of the detailed assessment. • Little regard to the impacts these developments will have on the adjoining communities. • 7 Taylor Avenue did not receive a notification. • No reply to submission on DA/261/2022 means there's little confidence in public consultation. • PP and DCP highlight issues of the independent reports that are relied upon in making a true and accurate assessment of the application. • Considers the history, identity, and residential locale of the "original" Melrose Park c 1928 is being overlooked and the presence of significant local and mature trees being ignored. • Requests that the process be halted, and a public meeting held with all affected residents on both sides of the development. <p><u>Ecological Assessment</u></p> <ul style="list-style-type: none"> • Ecological report and photos within ignore the stand of significant and mature trees on the southern boundary adjacent to Waratah St, and other mature trees notes as being "low constraint". • Senversa report's aerial images indicate these trees are 40+ years old. • Consider trees could be retained with proper engineering and aboriginal ameliorations. • Proposed native tree replacements will take 40 years to reach the size of the existing trees. • Removal of trees plus those in the northern precinct will make nectar sources scarce and remove the buffer between the residents and development. • These trees play a role in absorbing carbon and their removal is inconsistent with efforts to minimise climate change. <p><u>Andrew Street view corridor</u></p> <ul style="list-style-type: none"> • Looking west from Andrew St towards the view corridor through the site. These trees are not considered in the ecological report but are an important part of the local environment and the view corridor. Contribute toward the character and urban tree canopy. • Council officers did not support the built form outcome of Holdmark's proposed density increase on the East Site as part of the Structure Plan as it would compromise the view corridor. • The trees should be retained to preserve the amenity of the area to protect the biodiversity value of trees as per the aims of Biodiversity SEPP. • Recommends an independent report be prepared to identify significant trees on the site and their true ecological, aesthetic and climate value. <p><u>TMAP</u></p> <ul style="list-style-type: none"> • Flawed and outdated document. • Uses same vague assumptions and one-line assessments of the effect these developments will have on the community. • City of Ryde Traffic Committee and staff consider the TMAP does not adequately assess the impacts these developments will have on the local communities. • Shortcomings: <ul style="list-style-type: none"> ○ Proposed dwelling yield and population will dwarf the existing Melrose Park suburb (approx. 1,500 residents) and is more than the 2114 postcode area (Melrose Park, West Ryde, Meadowbank, and Denistone). ○ Required school and retail infrastructure to support the population is not provided. ○ TMAP was paid for by the developers.
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	<ul style="list-style-type: none"> ○ TMAP was not peer reviewed but was overseen by a project reference group, which did not include local residents or representatives from Ryde Council. ○ Uses questionable assumptions such as doubling the rate on non-car travel and fundamental shifts in predominant directions of travel. ○ Pays little attention to existing Melrose Park suburb within the Ryde LGA road infrastructure beyond blanket assurances that the scale of development presents 'significant but manageable challenges' with additional traffic demand seen as falling within 'acceptable capacity thresholds'. ○ Makes assumptions on the provision of additional on and off-street parking spaces. Will result in an undersupply within the development and put pressure on existing local streets surrounding the precinct. ○ Ryde Council has disputed the assertions, stating that there will be significant increases in traffic volume on Andrew Street, Wharf Road, and Constitution Road. Has also expressed major concern regarding serious adverse effects on the amount of traffic flowing unto the low-density area as the result of rat-runs, on Taylor and Cobham Avenues. ○ Identified need for new bridge to Wentworth Point but did not provide any details about the location of the bridge, land take and impacts on existing dwellings. ○ Modelling of the traffic and transport impacts don't relate to the current development scenario i.e., school, playing field, changes to non-residential component and road network. ○ No mention of the timing of construction of the Kissing Point Road/Victoria Road intersection. ○ Shortcoming of process and assumptions have resulted in a very limited and inadequate set of recommended transport improvements. The only new public transport link will be the light rail (or equivalent) which has no detailed funding commitment for construction. <p><u>Transport Assessment – light rail bridge location</u></p> <ul style="list-style-type: none"> • Document relies on assumptions and inconsistencies of the TMAP and makes broad assumptions on the effect the development will have on the adjoining Melrose Park community. • <i>Given that the TMAP determined that the trip generation of the Holdmark Sites (and broader Melrose Park) could – further to the works and strategies identified in the TMAP Implementation Plan – be appropriately accommodated by the future road network, it is therefore inherently the case that the Planning Proposal can be supported in consideration of traffic conditions.</i> – What about the existing residential road network? No mention in the document of that apart from listing what road designation some of them are. • <i>Parking across the Holdmark Sites will be provided in accordance with the maximum parking rate recommendations detailed in the TMAP; while noting the parking may be provided at higher (average) rates in the short term, the maximum parking further to the completion of development will not exceed 1,514 parking spaces.</i> – How is this calculated and how do they come to this conclusion when we already see overflow on street parking on Wharf Road from the completed unit blocks close to Victoria Road? • <i>Given that the TMAP determined that the trip generation of the Holdmark Sites (and broader Melrose Park) could – further to the works and strategies identified in the TMAP Implementation Plan – be appropriately accommodated by the future road network, it is therefore inherently the case that the Planning Proposal can be supported in consideration of traffic conditions.</i> – These are again only assumptions with no justification or evidence to support such claims. Concerns that there was no consultation with the City of Ryde Traffic Department.
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	<ul style="list-style-type: none"> There is no mention in the document of traffic issues on Cobham, Taylor and Lancaster Aves or rest of the Melrose Park area. It should not be assumed that people will not drive through these streets to access the Melrose Park South development. Process should be halted until Ryde Council and local residents are fully informed of the traffic implications and allowed to make comment. <p><u>Light rail bridge location</u></p> <ul style="list-style-type: none"> Questions about the location of the proposed bridge and effects on local community. Concerns have been raised by the community and Federal MP Jerome Laxale. A recent letter to Geoff Lee MP raised these concerns: Potential for compulsory acquisition of residential properties on Wharf Road. Unreasonable to displace residents who have invested significant funds to make their homes wheelchair accessible. No formal notification or consultation has been given to affected owners. Submitter states that no alternate location has been explored because this will impact profits and the level of development contributions received by Council. HV power lines should be undergrounded at the developer's expense. Removal of transmission towers at Louise Sauvage pathway and adjacent to the boat ramp and undergrounding of high voltage power lines would provide more options in relation to the location of the bridge and help address the community's concerns. If high voltage power lines are not undergrounded, then the existing 132kv electricity tower adjacent to the boat ramp should be relocated. <p><u>Conclusion</u></p> <ul style="list-style-type: none"> Not one point from previous submissions has led to amendment to the various proposals. Flagrant disregard for the concerns of the community. Asserts that the points in this submission will be ignored for the sake of expediency and agreement with the developers. Will turn this area into a high-rise infrastructure deficient development with antisocial behaviour. Existing residents don't matter, and money Council will collect outweighs the community's concerns. Exacerbated because the majority of affected residents don't live within Parramatta LGA. Residents have lost faith in the impartiality and transparency of the approval process for these developments. Lack of genuine consideration to concerns by Council.
Submitter from Melrose Park Submission Number 84	<p>Object <u>General</u></p> <ul style="list-style-type: none"> Considers the proposal to have major ramifications for current residents in the area. Comments that it needs to be acknowledged that the detail of the Proposal is complicated for the general public unless they have qualification/experience in Town Planning/development. Notes the submission made by two other residents and that the issues raised in these submissions are supported. Notes that many within the Melrose Park Community are questioning the value of commenting on these proposals based on the lack of consideration given to community concerns over the Melrose Park North Development. Concern is expressed that the commitment given by Parramatta Council to residents within the area as many residents did not receive notification of this Proposal, or it arrived late and therefore did not give sufficient time for people to provide feedback. Considers it

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	<p>disappointing that individuals had to apply for an extension when a better solution would have been for Council to honour its commitment to notify all residents, and simply extend the consultation period.</p> <p><u>Destruction of trees</u></p> <ul style="list-style-type: none"> • Questions why there is no mention of the stand of 12 significant and mature trees on the southern boundary adjacent to Waratah Street. • Raises concern about the removal of these trees, in addition to those proposed in the north, and impacts on fauna, carbon uptake and the local landscape. • Considers planting seedling and mature trees will negate environmental impacts. • Considers that an independent report should be prepared (not funded by developers) to identify the species of significant trees on the site and indicate their true ecological and climate benefit to the local community and wildlife. <p><u>Scale of development</u></p> <ul style="list-style-type: none"> • Comments that no funding has been given to Ryde Council to provide infrastructure in the Ryde LGA that will be used by Melrose Park residents. • Considers that before any more apartments are built in both North and South, a firm financial commitment (along with timelines that must be adhered to) should be established for appropriate infrastructure. • Considers it imperative that a repeat of Wentworth Point's inadequate infrastructure does not occur as a result of Melrose Park/Ermington developments. <p><u>Community and Public Benefit Analysis Report</u></p> <ul style="list-style-type: none"> • Considers the statement within the report identifying the location of the precinct to be incorrect and misleading and that it damages the original Melrose Park from 1928 suburb and its residents. • Considers that the report should be updated to reference the correct suburb and its history. Claims the error is misleading and non-compliant with the Geographical Names Board's policy. <p><u>TMAP</u></p> <ul style="list-style-type: none"> • Comments that the community has long questioned the factual basis of the TMAP document, as well as its independence from the developers, and that residents who have lived in the area well before the developments commenced know the traffic to the East of the site is over capacity. • Considers that the TMAP needs to be rewritten to include a more objective and actual observation of the traffic issue that currently exist east of the subject site. • Considers that solutions be identified that will specifically address both current and future demands in the area particularly east of the development. • Comments that the City of Ryde Traffic Committee and staff have stated that the TMAP does not assess the impacts these developments will have on the local residential communities and questions the credibility of the TMAP. • Concerned that Ryde Council as a major stakeholder was not included in the TMAP process and project group. <p><u>Transport Assessment Report – parking</u></p> <ul style="list-style-type: none"> • Considers the reliance of this report on the inaccuracies of the TMAP is a major concern for many reasons including its independence. • Comments that there is currently a parking overflow into adjoining local streets. Questions what measures will be implemented to ensure local
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	streets and the boat ramp car park won't be impacted by overflow parking.
	<u>Parramatta Light Rail Stage 2 and bridge</u> <ul style="list-style-type: none"> • Comments that it is a critical piece of infrastructure but an issue that is causing angst for local residents. Considers that the impacts of the bridge location on current residents is being ignored. • Considers that no development should be approved until the bridge is a reality. • Comments that it is disappointing that no one from outside the Parramatta LGA was appointed to the Parramatta Light Rail Advisory Group. • Comments that as the location of the bridge is not confirmed, residents cannot understand on what basis it was decided the light rail stage 2 and associated bridge did not impact on anyone outside of the Parramatta LGA. • Questions how the proposed street scheme and hierarchy can be developed to integrate with PLR2 if the State Government hasn't completed the planning process. • Considers that the Proposal, DCP and VPA should be deferred until the PLR2 planning process has been completed.

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The following section provides responses to issues raised during the community consultation period for the exhibited Planning Proposal, draft Development Control Plan and draft Planning Agreement. The responses are presented under commonly raised themes.

Building Height, Density, and Local Character

Building Height

1. As noted in the main report, it is acknowledged that there are some differences between the proposed building heights identified in the Southern Structure Plan, however they are considered to be consistent with the envisaged approach for the precinct. The proposed height variation on the East Site ranges between an additional 7m to 10m above those identified within the Southern Structure Plan. On the West Site, the height variation ranges between an additional 10m and 19m above that identified in the Southern Structure Plan.
2. The proposed buildings heights identified on the subject sites in the Proposal have been informed by those identified in the Southern Structure Plan, which was a high-level guiding document intended to inform any future Planning Proposal in the Precinct. Although urban design testing was undertaken as part of the development of the Southern Structure Plan to determine appropriate height and FSR controls, it was acknowledged that these would be subject to further, detailed testing and refinement at the Planning Proposal stage.
3. As a result of detailed testing and discussions between Council officers and the proponent as part of the Planning Proposal and Development Control Plan (DCP) work, some variations to building height are considered appropriate to produce a better built form outcome and to take into account the prevailing topography. These height variations do not result in an increase in the gross floor area (GFA) identified on these sites in the Southern Structure Plan. Additionally, the core principles of the Southern Structure Plan have been retained, which include:
 - ensuring that the taller buildings are located within the centre of the site and away from existing low-density residential development surrounding the precinct;
 - ensuring that each building has a courtyard width greater than that is required by the Apartment Design Guide;
 - that solar access within and outside of the two development sites is maximised;
 - maintaining key view lines outside the precinct to minimise the perception of density; and
 - maintenance of the 17m landscaped buffer along Wharf Road.

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4. While the variations may not appear to be minor, they have enabled better utilisation of lower building heights on the perimeter of the site and improve the interface to surrounding lower density areas. The draft DCP shows buildings of four (4) storeys can be achieved in certain areas on the West Site because of the heights increasing elsewhere. Council officers consider that lower perimeter heights are preferred even if it results in the taller building in the centre of the site. These amended heights have been tested and comply with solar access and other Apartment Design Guide (ADG) requirements.
5. Residential properties on the western interface with the subject site for the most part face north and do not directly address Atkins Road. This, coupled with the fact that the current industrial built form on this part of the site presents as a 3-4 storey wall to Atkins Road means that the impacts to the west as a result of the proposed development will not be significantly worse than the current situation. The industrial interface to properties facing Wharf Road on the eastern site presents as a much lower scale and residential properties in this location directly face the site. Therefore, the proposed open space buffer along Wharf Road and the width of the road reserve will provide a significant separation from the higher density development on the site to the lower scale properties to the east. Future development applications will also be required to demonstrate compliance with the objectives of the relevant solar access controls.
6. Concern was also expressed that a single building height control is being set for development lots that also accommodate lower heights. The Local Environmental Plan (LEP) building height approach utilised in this Planning Proposal was applied in consultation with the Department of Planning and Environment (DPE) as it is not practicable to identify the full extent of the proposed building heights on the LEP map. The lower scale building heights such as the 4 storeys identified on the perimeter block of the West Site will be delivered in keeping with the proposed DCP controls. It will not be possible for the development to achieve complete site coverage to the extent of the maximum building heights identified on the LEP map on each development lot as this would greatly exceed the applicable Floor Space Ratio (FSR) standards.
7. The issues raised in relation to the height of buildings are therefore not considered sufficient justification to warrant a reduction in the proposed building heights on the site. Extensive urban design testing has been undertaken by Council officers to demonstrate that the proposed heights can be achieved without significant and unmanageable impacts being experienced by future or surrounding residents and this is consistent with the core principles of the adopted Southern Structure Plan. It is therefore recommended that the provisions be retained as exhibited.

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Density

8. Some submissions contend that the proposed density (in particular, the FSR controls) of the Planning Proposal is too high given the context in which the sites are located. The proposed density was subject to detailed testing from both a traffic management and design perspective and is reflective of Council's adopted Local Strategic Planning Statement (LSPS) and the Transport Management and Accessibility Plan (TMAP) (dealt with in more detail below). The building envelopes identified in the Southern Structure Plan (that informed the Planning Proposal) in addition to the FSRs and buildings heights were carefully tested as part of developing the structure plan to ensure that the proposed density could be achieved on the development lots and still produce a good design outcome. The Southern Structure Plan identifies gross FSRs which include the roads and any other land not considered to be developable. These have been converted to net FSRs using only the developable land area for the purposes of the Planning Proposal. As a result of the reduced lot sizes, the FSR increases. It is considered that by identifying the net FSRs on the lots in the Planning Proposal and accompanying FSR map it provides a more accurate depiction of what can be achieved on the East and West Sites. Regardless of whether the gross or net FSR is used, the same density and number of dwellings can be achieved.
9. Concern was also noted in relation to the potential for the overall dwelling numbers in the Precinct to exceed the proposed dwelling caps. During the drafting of Amendment 59 to the Parramatta Local Environmental Plan 2011 (PLEP 2011), being the Melrose Park North Planning Proposal, Council officers suggested the inclusion of provisions in PLEP 2011 relating to density thresholds, however this was not supported by DPE. There is, however, a clause that requires concurrence by the Planning Secretary for all residential development applications that must demonstrate that the appropriate State infrastructure is in place to support the proposed density. It is proposed that a similar provision will be included in PLEP 2011 as part of the amendment relating to this Planning Proposal requiring concurrence by the Planning Secretary for all development applications that must demonstrate that the appropriate State and social / education infrastructure is in place.
10. In addition, the draft DCP includes objectives and controls relating to built form, which specify requirements such as building setbacks, building separation, the distribution and allocation of floor space on a block-by-block basis, and tower design and slenderness. These controls are intended to ensure that the perception of the building heights within the precinct is minimised at street level.
11. The width of the buffer area has been questioned in a submission noting that the Planning Proposal endorsed by Council identified a 20m landscaped strip

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along Wharf Road. The proposed landscaped strip identified as RE1 Public Recreation along Wharf Road is 17m wide, however, combined with the landscaped public verge within the Wharf Road road reserve, it is 20m wide. The area proposed to be zoned RE1 Public Recreation is identified on the Land Reservation Acquisition map as it will be dedicated to Council. The land within the Wharf Road carriageway is already in Council's ownership and is therefore not required to be identified on this map.

12. Development on the eastern site will be setback a significant distance from the foreshore and sensitive mangrove area to the south and will not encroach beyond existing property boundaries containing the current industrially zoned land. Development on the eastern site will also be further setback to the north of Andrew Street and because of the proposed light rail corridor that will run down the length of Waratah Street. Similarly, development on the western site will be setback from the foreshore through the creation of the RE1 Public Recreation zone along the southern boundary.

Local Character

13. A change to the planning provisions of the nature proposed will change the character of the area from one that is characterised by industrial development to one of high density residential development. This change will be coupled with the provision of supporting infrastructure throughout Melrose Park including additional open space, transport and social infrastructure, and commercial and retail facilities to service the incoming population. This change is in keeping with the Local Strategic Planning Statement (LSPS) that has been adopted by both Council and the State Government and the proposed development is in keeping with the dwelling projections adopted for the Melrose Park Precinct as a whole. The future design of buildings will be assessed in greater detail at the development application phase.

Traffic impacts, parking, and Transport Management and Accessibility Plan (TMAP)

14. With any development of the nature proposed in Melrose Park, both on the subject sites and that already approved in the Northern Precinct, there will be some impact upon the local road network and to a lesser extent, the wider regional network.
15. A TMAP was prepared in response to a Gateway Determination condition relating to the Melrose Park North Planning Proposal. The aims of the TMAP were to understand the existing traffic behaviour, road network capacity and public transport services and identify improvements to public transport and the road infrastructure that would be required to support the proposed redevelopment of the Melrose Park precinct at each stage of its redevelopment.

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The TMAP was subject to extensive review and consultation by the TMAP reference group, which comprised stakeholders from Council and State Agencies, including Transport for NSW (TfNSW), DPE, and applicants from the northern and southern precincts of Melrose Park. The TMAP was signed off and endorsed for exhibition by TfNSW.

16. The TMAP is required to be utilised for all Planning Proposals within Melrose Park in addition to site-specific traffic studies for each Planning Proposal. While not involved in the TMAP reference group, Ryde Council officers were briefed on the TMAP, and their input was provided as part of the exhibited Planning Proposal for the Melrose Park North Precinct. Should a review of the TMAP be required, further input from Ryde Council will be sought to ensure any additional concerns have been addressed.
17. The TMAP is an informing document to the Proposal and provides a comprehensive analysis of the potential traffic and parking impacts and includes required mitigation measures that future redevelopment must deliver to ensure the traffic and transport network can accommodate the proposed increase in density on the site. It also provides a Staging Plan for the delivery of required road upgrades and public transport infrastructure to service the precinct as well as recommended parking rates. As outlined in the report, refer to the table below for a summary of the staging plan and dwelling thresholds. As development progresses, the applicant will need to demonstrate that the required infrastructure will also be delivered as identified in the TMAP's staging plan.

TMAP infrastructure staging plan

STAGE	INFRASTRUCTURE TRIGGER POINT (DWELLINGS)	YIELD SUPPORTED (DWELLINGS)	KEY INFRASTRUCTURE REQUIRED
Existing network	NA	1,100	Nil
Stage 1A	1,100	1,800	Wharf Road widening south of Victoria Road Left in/left out access from Victoria Road to NSR2
Stage 1B	1,800	3,200	Upgrades of Victoria Road/Wharf Road intersection including additional turning lanes Additional through-lane on Marsden Road
Stage 1C	3,200	6,700	Further upgrades of Victoria Road/Wharf Road intersection - Full signalisation - Additional R turn lanes on Victoria Rd

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			<ul style="list-style-type: none"> - 3 new lanes on southern Kissing Point Road approach - 4 new lanes on northern approach Kissing Point Road approach - New signalised pedestrian crossings - Widening of Victoria Rd between Kissing Point Road and Wharf Road - Shuttle bus service to Meadowbank Station and increased frequency of public services throughout Stage 1
Stage 2	6,700	11,000	New bridge to Wentworth Point and PLR Stage 2 or bus equivalent Staged delivery of internal road network Increased public transport services

18. Stages 1A, 1B and elements of Stage 1C are being delivered as part of the redevelopment in the northern part of the precinct, which will enable the 6,700 dwelling capacity to be realised. In addition, the State Government has committed to providing the bridge to Wentworth Point to be utilised by public and active transport users. Although the bridge may not be delivered for several years and may not immediately accommodate light rail services, it is expected that the timing of construction being finished will coincide with the earlier stages of redevelopment of the precinct also being completed. The bridge to Wentworth Point is a significant undertaking and will allow residents on the north side of Parramatta River to access the Sydney Metro West Station at Sydney Olympic Park. This will provide considerable public transport benefits to future residents in Melrose Park and as well as those within the Ryde LGA.
19. The methodology and the assumptions and inputs used in the TMAP were presented to and endorsed by the project reference group in the early stages of the project and were considered appropriate to ensure the results would be an accurate reflection of the potential changes to the use and density of the Precinct. The outcomes of the TMAP testing were also supported by the project reference group prior to finalisation of the TMAP report.
20. Despite the TMAP being finalised in early 2019, it retains its relevancy and ability to provide direction for the precinct, and new transport modelling as requested in some submissions is not considered necessary for the purposes of informing the Planning Proposal at this stage. Technical studies relating to large projects such as Melrose Park North are prepared at varying stages throughout the project's life and it is not uncommon for the studies to precede the project's exhibition date, given that they are used to inform the content that is ultimately placed on exhibition. In this instance, any change in inputs used for the modelling and assumptions is likely to not be significant and would have a negligible impact in the TMAP's results, particularly as the overall dwelling yields that have been modelled are not subject to change.

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21. In response to concerns raised regarding local traffic impacts, especially on Andrew Street and Constitution Road West within the Ryde LGA, these areas were included in the TMAP's study area and therefore considered during the modelling phase. The TMAP does not identify a need for any specific upgrades or alterations to these roads as part of future works. However, traffic management solutions implemented on the roads within the southern precinct, such as turning restrictions from the precinct into Andrew Street to discourage rat-running by drivers trying to avoid Victoria and Wharf Roads, will be explored in further detail at the development application stage. Traffic management measures can also be reviewed at any time regardless of whether they are associated with proposed redevelopment. Council's Traffic team will continue to monitor the functionality of the road network within the precinct as development progresses and after full redevelopment of the precinct has occurred to determine whether what measures will be required to address any traffic management concerns.
22. In addition, the changes to the road network that have occurred as a result of the progression of PLR2 design work and refinement of the road hierarchy around the new primary school site in the northern precinct are the result of ongoing discussions with School Infrastructure NSW (SINSW). These changes are not considered to have a significant impact on the road network and traffic volumes modelled as part of the TMAP. The provision of an educational establishment within the Melrose Park Precinct will likely have a positive effect on traffic as the majority of students will be located within walking distance of the school. Nevertheless, further assessment of the impacts on the road network as a result of PLR2 will be undertaken as part of the ongoing planning process conducted by TfNSW.
23. It has also been noted that the connecting east/west road between the two sites is not being fully delivered by the proposal and therefore new traffic modelling should be undertaken to address this development scenario. The new east/west road, known as the foreshore road, that connects Atkins Road on the western side of the precinct to Wharf Road on the eastern side of the precinct will be delivered as part of a staged approach, due to the road traversing sites under multiple ownership. Only the sections of this road located within the East and West Sites are proposed to be delivered as part of this redevelopment. This is an interim arrangement, with the remaining sections to be delivered as the respective sites are redeveloped to eventually provide a through-road connecting both sides of the precinct. This is not an unusual approach in staged redevelopment of a precinct. Therefore, new transport modelling is not considered necessary at this time.
24. No change is recommended to the TMAP at this stage. The TMAP is still considered to be a relevant document for its intended purposes given the overall dwelling yields that have been modelled in the Precinct have not

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changed since the study delivered its initial recommendations. The infrastructure upgrades required to meet the density thresholds, many of which are to be delivered as part of redevelopment in the northern precinct, are considered to be sufficient to reasonably accommodate the proposed development. Solutions to manage potential commuter traffic behaviour in Andrew Street are not identified in the TMAP or the proponent's Traffic Assessment, however, these will be explored in further detail at the development application stage.

25. A number of submissions make comment on the existing traffic conditions in and around the Melrose Park Precinct, noting that there is existing congestion and that all roads in this area are one lane in and one lane out. However, as noted above significant road and transport upgrades are required in order for any further development in Melrose Park for high density residential purposes to progress. This includes additional traffic lanes on Wharf Road and on the approaches to Kissing Point Road.
26. It is noted that the developer (PAYCE) in the North Precinct provides a shuttle bus service to Meadowbank Station and is required to continue to do so until the light rail or an equivalent public transport service is available to connect residents to Sydney Olympic Park. The developer of the subject Planning Proposal is not required to provide a similar service due to the inefficiencies of multiple developers providing multiple services to the same locations. Notwithstanding, the provision of public transport services is the principle responsibility of Transport for NSW who regularly monitor the levels of public transport provision and can adjust services accordingly to meet changes in demand.
27. Submissions also note that there are parking issues at nearby centres including Ermington and West Ryde. Parking issues at these centres is beyond the scope of the current Planning Proposal, however a 30,000sqm commercial centre is proposed to the immediate north of the subject sites within the Melrose Park North Precinct that will cater to the demand generated by the future residents of Melrose Park and will provide parking in accordance with the DCP controls. This will ensure that the daily retail and commercial needs of future residents can be met within the Melrose Park Precinct itself. The centre will also provide an alternative retail and commercial offer for existing residents of nearby areas.
28. In terms of impacts on the Ermington boat ramp, the Planning Proposal is outside of this area, and will not impact the wharf area as such. The State Government is undertaking investigative works regarding the future provision of light rail and the public and active transport bridge over the Parramatta River to Wentworth Point, and any impacts on the operation of the boat ramp will be a consideration for the State Government as part of that process.

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29. Some submissions specifically reference the potential impacts of the bridge over Parramatta River to Wentworth Point. While the bridge will facilitate a greatly improved public transport link to Sydney Olympic Park and the future Metro West Station that will benefit both existing and future residents in this area, the detailed investigative work regarding the bridge is a matter for the State Government and beyond the scope of this Planning Proposal. The exact location of the proposed bridge from Melrose Park to Wentworth Point is yet to be decided, and any depiction of the bridge location is based on the information available at the time. Nevertheless, there will be a separate consultation phase conducted by the State Government for the future connection, and Council and the community can provide input into the proposed bridge when that consultation phase occurs. However the timing of this is a matter for the State Government.
30. Some concern has also been expressed in relation to the impacts on the cycle network throughout the Precinct. Ensuring quality active transport links are provided as part of the development of the entire Melrose Park Precinct is a key element of the proposed planning controls. To this end, the draft DCP has an objective to (Part 3.1 O.01):

Provide a safe, efficient, and generous network of pedestrian, bicycle, and vehicular movements for a precinct of this density.

31. Detailed controls are also provided that ensure the active transport needs of the community will be met as a result of the redevelopment of the Precinct.
32. A submission contends that Waratah Street/NSR3B is proposed as a private road and is referred to as the new east/west road. This is not the case, and the portion of this road that will not ultimately be required by PLR2 should be dedicated to Council along with all other roads within the East and West Sites. The proposed NSR3B/Waratah Street is not intended to be part of the new east/west foreshore road. This road is identified as EWR8/Mary Street in Appendix 7 – Street Hierarchy within the draft DCP. The location of this road is considered appropriate and important in ensuring the road network is functional on the East Site. The submission also notes that Mary Street should be a minimum of 20m to serve its intended purpose, and as also noted in Appendix 7, the width of Mary Street is in fact 20m.

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Infrastructure Provision

33. The Melrose Park precinct is intended to be self-sufficient in providing for the daily recreation needs and in the provision of local retail/commercial facilities for incoming residents. Therefore, it is not considered that the majority of residents will regularly leave the precinct specifically for these reasons. It is acknowledged however that the incoming residents to Melrose Park will potentially utilise some infrastructure such as roads and public open space located within the Ryde LGA. However, this is not expected to place a significant burden on this infrastructure. In return, residents within the Ryde LGA will likely utilise the new infrastructure within Melrose Park, such as new open space along the foreshore, the new playing field in the northern precinct, new retail services in the town centre and George Kendall Riverside Park. George Kendall Riverside Park provides for regional organised sporting facilities in addition to informal active recreation, which is similar in function to Meadowbank Park within the Ryde LGA. Incoming residents are expected to more readily utilise the facilities of George Kendall Riverside Park, which provides similar amenities to Meadowbank Park, due to its closer proximity.
34. With regards to increased road usage outside the precinct within the Ryde LGA, traffic modelling undertaken for this precinct as part of the TMAP indicates that a significant increase in the volume of traffic is not anticipated as a result of the redevelopment of the precinct. Extensive upgrades are proposed to Wharf Road and Victoria Road to increase efficiency at this intersection, and it is possible to incorporate traffic management measures as part of future development applications to discourage commuter vehicles from using Andrew Street during peak times. It is not anticipated that the additional traffic on local roads within the Ryde LGA will significantly accelerate road deterioration.
35. Further, the introduction of light rail or alternative public transport service to the precinct will enable residents to connect to the new Sydney West Metro service at Sydney Olympic Park, resulting in fewer vehicles relying on the road network. It has also been noted that the Environmental Impact Statement (EIS) for Parramatta Light Rail Stage 2 (PLR2) and the extent of any land acquisition is yet to be released and the planning process for delivery of PLR2 is still some time away. This is noted and Council will be providing feedback on the EIS during the formal consultation period which will be undertaken by Transport for NSW (TfNSW). However, this process is not contingent upon the current Planning Proposal. Council officers have consulted with TfNSW and specifically the PLR2 design team during the drafting of the DCP for the southern precinct, particularly in relation to the Waratah Street section of the proposed PLR2 corridor. This will ensure that the PLR2 team are fully aware of the proposed planning provisions when finalising the transport corridor alignment.
36. It has also been proposed in a submission that the planning process should be deferred until the PLR2 planning process is complete. However, as noted, the

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completion of the Planning Proposal is not contingent upon the completion of any design work associated with PLR2. The Planning Proposal is required to meet the deadlines that have been set by the State Government, and under the Gateway Alteration issued by the Department of Planning and Environment (DPE) on 12 September 2022, the Planning Proposal is required to be submitted to DPE for finalisation by 24 December 2022.

37. It is raised that the bridge is a key item of infrastructure that is required for the Melrose Park Precinct to meet its full development potential and this will have a profound effect on the character of the Precinct, and therefore the construction and operational impacts of the bridge need to be addressed. This is noted and agreed, however the work associated with the detailed design of the bridge, its specific location and impacts on the existing electricity transmission infrastructure and the like is outside the scope of the subject Planning Proposal. The design and location of the bridge and any necessary alterations to existing infrastructure in the precinct is being managed by TfNSW in consultation with Council, relevant utility providers and the community.
38. As noted in the response to the submission from School Infrastructure NSW (SINSW), the demand for educational facilities, in particular the provision of a secondary school facility, is an ongoing concern for Council officers which requires an active and considered approach from School Infrastructure NSW as a priority to ensure that the education needs of the precinct can be met.
39. Ryde Council have recently publicly exhibited a planning proposal to change the zoning of the former Marsden High School site from SP2 Infrastructure (Educational Establishment) to part RE1 Public Recreation to facilitate the conversion of that site to a netball facility. While having land available for recreational needs is important to ensure local and regional demand can be met, in this instance the need to retain land zoned for educational uses is considered an equal, if not greater priority.
40. The development in the Melrose Park Precinct is located less than 1km from the Marsden High School site, and this site would be able to meet the demand for a secondary school that has been widely anticipated since the rezoning process for the Precinct began in 2016. As part of this assessment process, Council has been engaging extensively with the Department of Education (DoE) and SINSW to ensure educational needs are met for the incoming population. DoE/SINSW have advised that to meet the demand generated by the proposed population increase, a new primary school and new secondary school are required either within, or close to, the Melrose Park precinct, in addition to the existing Melrose Park Public School located in the southern part of the precinct. A new primary school site is being provided in the northern part of the precinct on the corner of Hope Street and Wharf Road that will have a capacity for 1,000 students. It will also be supported by a playing field and other

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small-scale recreational facilities on-site. Despite ongoing discussions and concerns raised by Council with DoE/SINSW, no location has been confirmed for a secondary school.

41. These provisions will necessitate proper consideration of the need for educational facilities (and other key pieces of state infrastructure) in order for development to occur in this area. It is still Council officers' preference that the site of the former Marsden High School be utilised to meet the demand for a secondary school that will be generated from Melrose Park as this site has already been demonstrated as fit for purpose for a high school. Nevertheless, it will be incumbent upon SINSW to ensure the need can be met within the available sites within Melrose Park should the Marsden High School site not be available.
42. Notwithstanding the above, SINSW has stated in its submission its commitment to ensuring public schools are supporting the community's needs and continue to be appropriately resourced to respond to student population changes. In order to ensure that this commitment is realised, and to ensure that proper consideration is given to the provision of transport infrastructure, it is proposed that the legal drafting of the Planning Proposal, should it be approved include a concurrence provision similar to the one included in the LEP amendment for the Melrose Park North Precinct. Such a provision will require the concurrence of the Planning Secretary before development consent is granted for any development within the subject sites. In determining whether concurrence will be provided, the Planning Secretary must consider the impact on and demand for 'designated public infrastructure'. This will likely be defined as follows:

designated State public infrastructure means public facilities or services of the following kinds, provided or financed by the State or, if provided or financed by the private sector, to the extent of the financial or in-kind contribution by the State—

- (a) State and regional roads,
- (b) bus interchanges and bus lanes,
- (c) light rail infrastructure,
- (d) regional open spaces,
- (e) social infrastructure and facilities, including schools, hospitals, emergency services and justice facilities.

43. Some submissions also contended that there is a lack of affordable housing being provided as part of the Planning Proposal and that Council has not considered the relevant State policies when addressing the need for affordable housing. As noted in the response in the report to the submission from the Community Housing Industry Association NSW, the exploration of alternative options for securing the provision of affordable rental housing will always be pursued as part of the development of precincts of this nature. The State Environmental Planning Policy (SEPP) No. 70 - Affordable Housing (Revised

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Schemes) 2002 and superseding SEPP (Housing) 2021 were considered during the assessment of the Planning Proposal and Planning Agreement negotiations. However, the approach taken when negotiating the affordable rental housing provision as part of this Planning Proposal and Planning Agreement was that preference was given to securing affordable rental units in perpetuity in addition to securing other required infrastructure in the precinct. This is considered better than relying on the provision of affordable rental housing via the SEPP (Housing) 2021 which only guarantees the provision of this type of housing for a limited time period. The draft Planning Agreement does not preclude the provision of additional affordable rental housing under the SEPP (Housing) at the development application stage.

Environmental Impacts

44. A number of submissions have raised concern about the potential environmental impacts associated with the proposed development in particular in relation to the marshland and river to the south of the site and potential impacts from soil erosion as well as tree removal, and related impacts to fauna, birds and insects.
45. Environmental impacts are a critical consideration for any development of this nature and any development application seeking to develop any part of the subject sites in accordance with the proposed uses will need to follow the environmental objectives of the PLEP 2011, (including those relating to biodiversity and water protection) and in particular the sustainability provisions in the exhibited draft DCP. In addition, existing trees will be retained where possible and additional green space is being provided as part of the Planning Proposal whereby development lots will be required to provide additional trees in deep soil areas that will help to sustain fauna populations and provide habitat for birds and a source of nectar for bees. Any development application for the site will also need to address the provisions of State Environmental Planning Policy (Biodiversity and Conservation) 2021 that states (Part 10.19):

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).

Therefore, there are also opportunities at the development application stage to ensure deep soil requirements are being met, and that appropriate plant species are selected that enhances the existing ecology.

46. The sustainability provisions in the draft DCP provide a comprehensive suite of controls to ensure the proposed development will be consistent with the overall objectives of the draft DCP that include the following:

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O.04 Facilitate sustainable resilient buildings that address climate, topography, energy consumption, urban heat, pedestrian scale, and internal amenity.

O.05 Protect and improve the natural environment and biodiversity.

47. The sustainability provisions in the draft DCP include detailed controls relating to (among other things):
 - Energy and water efficiency
 - Recycled water
 - Electric vehicle charging infrastructure
 - Urban heat
 - Green roofs and walls
 - Building form and wind mitigation
 - Ecology
48. These controls represent a best practice approach to address the change in density and built form that will result from the Planning Proposal, and further detailed environmental justification will need to be provided by the developer in order for any such development application to be approved.
49. The Ecological Assessment Report submitted with the Planning Proposal is considered to cover the appropriate level of detail at this stage of the process. It is not considered necessary for an arborist report to be provided at the Planning Proposal stage. A detailed assessment of the vegetation on-site will be undertaken at the development application stage and should the outcomes of this assessment indicate a refinement to the built form layout would be beneficial, it can be undertaken at this stage.
50. Concerns were also raised regarding the application of the RE1 Public Recreation zone along Wharf Road and opposite Andrew Street and the implications for existing trees. As noted, trees will be retained where possible as part of any development that is to occur in this area, and the application of the RE1 Public Recreation zone will assist this outcome. Given the size of the Precinct and the application of the RE1 Public Recreation zone, there will be parts of the zone required for road connections as detailed in the exhibited material. This is considered a reasonable and functional approach to development of this nature.
51. An amendment to the street network was also undertaken subsequent to the adopted of the Southern Structure Plan due to the desire to retain the significant trees located on the northern portion of the West Site. Initially a road was proposed to be located along the northern boundary of the West Site, however this has now been converted to a pedestrian and active transport connection to allow these mature trees to be retained. Any potential impacts to existing trees along Waratah Street will be investigated further as part of the

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ongoing PLR2 design work and be identified at the development application stage of the redevelopment of the adjacent lots. Every effort will be made to retain existing mature trees where possible.

52. A submission requested the RE1 zoning on the West site be extended to the north, however, it is considered that an appropriate buffer is provided between the proposed development and the river foreshore area with the proposed zoning. The built form in this location (Lot S16) has been carefully modelled to ensure significant overshadowing of the mangrove area does not occur. Should the RE1 Public Recreation zone be increased and the size of Lot S16 reduced, then the building heights would need to be increased to offset the loss of developable land (to meet the growth identified in the LSPS), which is not desirable as it would result in a poorer built form outcome and would potentially overshadow more areas to the south.

Heritage Impacts

53. Some submissions have raised concerns about the heritage impacts of the proposed development. However, as noted in the heritage impact assessment and heritage impact statement prepared by Tropman and Tropman Architects the proposed development will not have any significant impacts on nearby heritage items.
54. More specifically, the proposed RE1 Public Recreation zone between the heritage listed Parramatta River Wetlands and the proposed development sites creates an appropriate buffer zone as part of the heritage curtilage of the heritage item. In addition, on the West site, the proposed development has minimal impact on the heritage listed former Bulla Cream Dairy site near the corner of Hughes Avenue and Hope Street as it is not immediately adjoining this item.
55. While Heritage NSW was notified of the Planning Proposal as noted in the report, no submission was received. While not confirmed, this would indicate that Heritage NSW do not have significant concerns for the development of the subject sites on heritage grounds, and the supporting documentation is sufficient to allow the development to proceed. This opinion has been confirmed by Council's Heritage Adviser and has raised no concerns with the findings of the Heritage Assessment or Planning Proposal from a heritage perspective.

Consultation Process

56. A small number of submissions contend that there were a number of residents who were not notified of the Proposal and have therefore expressed concern about the veracity of the consultation process. The Planning Proposal was subject to a comprehensive consultation process and extensive notification. In

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addition, a number of submitters requested additional time beyond the completion date of the exhibition period to provide their comments and such extensions were granted on every occasion. It is noted that Council officers relied on residential addresses provided by City of Ryde Council for residents residing within the Ryde LGA. As noted in the report, notification methods used in the exhibition included:

- Letters to landowners within a 1km radius of the site, including those within the Ryde LGA (over 6,400 letters in total);
- Dedicated exhibition page on Council's Participate Parramatta website;
- Advertisement on Council's website;
- Hard copies of the draft documents and supporting information provided at Council's Customer Contact Centre, Parramatta Library and Ermington Branch Library;
- Geo-targeted social media campaigns on Council's Facebook and Instagram platforms; and
- Advertisement in Parra News.

57. Concerns with the notification process and information contained in the exhibition material have led to a request for the progression of the Planning Proposal to be halted and a public meeting to be held with all affected residents. However, as indicated above, the Planning Proposal was subject to a comprehensive community consultation process that exceeded all statutory requirements for a public exhibition, therefore the process undertaken and the supporting information provided is considered to be appropriate. Members of the public are able to attend both the Local Planning Panel Meeting and the subsequent Council meeting in order to express their concerns with the process associated with the community consultation period as well as any information included in the exhibition material, and it is therefore not recommended that any further public meeting be held in relation to this matter.

Strategic Merit

58. Some submissions have questioned the strategic merit of the proposal and suggest that the matter should not proceed as a result. It has been noted that the District Plan has objectives to *attract advanced manufacturing and innovation in industrial and urban services land* and this should take precedence over any other strategic document. However, and as included in the Planning Proposal, the Employment Lands Strategy (ELS) 2016 and Review and Update 2020 is an adopted Council Policy that is currently with DPE for endorsement. The ELS sets the direction preferred by Council for the Melrose Park precinct and is used to assess the strategic merit of all planning proposals relating to land within Melrose Park. The DPE has supported this position by issuing Gateway determination for planning proposal within the precinct to date, considering that the rezoning of the land from industrial uses to high density residential, commercial/retail and public open space to be appropriate.

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59. The ELS provides detailed justification as to why the industrial land in Melrose Park can turn over to predominantly residential uses. This includes the relocation of multiple pharmaceutical manufacturing facilities offshore or to larger business parks within the greater Sydney area, which has led to large purpose-built buildings being unable to be repurposed for other manufacturing uses, lack of major arterial road connection such as motorways and growing incompatibility with the surrounding low density residential land uses. This position has been reinforced by the Review and Update of the ELS that was undertaken in 2020 which reiterates the broader vision for Council's employment lands precinct in the Local Strategic Planning Statement (LSPS) – City Plan 2036. The LSPS specifically identifies the Melrose Park Precinct as a Growth Precinct that will accommodate in the region of 10,000 dwellings subject to the appropriate provision of infrastructure.
60. A submission also contends that the amount of non-residential gross floor area provided in the Planning Proposal is insufficient. However, as part of the redevelopment of the northern precinct, 30,000m² of non-residential floor space is being provided in the new town centre on the northern side of Hope Street, which will serve a large proportion of the daily retail needs of the community. The proposed provision of 1,000m² of non-residential floor space across the East and West Sites is considered sufficient and is intended to provide a supporting role to the town centre, enabling small scale retail and commercial operations.
61. It has also been noted that the ELS requires any new development on the land to provide an equivalent number of jobs that could be achieved under the current zoning. The ELS does have an objective to retain comparable employment numbers in the Precinct and states that there be no net job loss on site as a result of redevelopment. At the time of finalising the ELS in 2016, there were approximately 2,546 employees in the precinct in total, however this has subsequently reduced as a result of further relocations of tenants. The ELS does not provide a breakdown of the number of employees in the northern and southern precincts individually.
62. An Economic Impact Assessment (EIA) was submitted with the Planning Proposal that identifies a minimum 1,000m² of non-residential floor space be provided on site comprising 600m² for the purposes of food and other local retail and commercial services and 400m² for child care. According to HillPDA, this floor space would have the potential of providing approximately 160 new jobs on the site in addition to 1,841 direct construction jobs and a further 5,552 indirect jobs.
63. The EIA indicates that there will be a net loss of jobs on the Holdmark sites as a result of the redevelopment but that this needs to be assessed within the

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context of the broader precinct, which is a position supported by Council officers. As mentioned previously, the northern precinct will incorporate a new town centre (located on the north side of Hope Street) that will provide 30,000m² of non-residential floor space and generate between 1,538 to 1,932 new jobs alone and provide for the majority of the employment generating uses in the precinct. It is not considered to be economically feasible for the East and West Sites of the subject Planning Proposal to provide additional non-residential floor space above that proposed as it would potentially result in an oversupply of commercial and retail spaces and would result in a fragmented distribution of this space across the precinct.

64. It is considered that the Planning Proposal is also consistent with all relevant Section 9.1 Ministerial Directions including *1.1 Business and Industrial Zones* as it is facilitating job opportunities in an appropriate location relevant to the broader context of the precinct.
65. A submission also contends that Planning Proposal does not comply with the DPE “*Guide to preparing planning proposals*” document. The Planning Proposal is in keeping with this Guide as evidenced by the fact that a Gateway determination was issued permitting the Planning Proposal to proceed to public exhibition on 17 August 2021. If DPE did not consider the Planning Proposal to be prepared in accordance with the Guide, then the Gateway determination would not have been issued enabled the Planning Proposal to progress to public exhibition.

Delegations/Probity Matters

66. A submission contends that the Council delegations were not followed as part of the approval of the Proposal to be publicly exhibited and that the provisions of the Local Government Act were not adhered to when reporting this matter to Council. Based on this supposition, the submission alleges that the Proposal does not meet the community expectations of probity, transparency and accountability. The inference that there has been a contravention of any Act, policy or guideline as a result of this Proposal is false. All relevant legislation and policies have been followed in relation to this matter.

Planning Agreement

67. A submission has noted that the exhibited Planning Agreement did not include sufficient consideration of securities and defects periods for items to be provided by the developer. This is acknowledged and will be addressed prior to the Planning Agreement being executed. The proponent had previously agreed to the inclusion of such provisions, and they do not impact on the value of the items proposed to be delivered in the Planning Agreement.

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68. A submission has also suggested that the non-application of the current Outside CBD Contributions Plan as part of the Planning Agreement means that the community benefits as a result are poor. Therefore, the current contributions rates should be applied to the proposed development. The proposed Planning Agreement provides the best possible value to Council as if the current contributions rates are to be applied to the development, the proponent would not agree to the Planning Agreement as exhibited. It is estimated that the Holdmark Planning Agreement as exhibited will deliver \$37,246,825 of community benefit. The 1% s94A/7.12 contributions levy (estimated at \$5,000 per dwelling) that has been agreed to apply instead of the current rates equates to approximately \$9,625,000. The total value of the Planning Agreement will be \$46,871,825.
69. By contrast, the Outside CBD contributions plan (estimated at \$17,060 per dwelling) would deliver approximately \$32,840,500. This clearly demonstrates that the proposed approach results in a financially better outcome (+\$14,031,325) for Council and the community.
70. A submission also notes that Council's Planning Agreements Policy has not been followed as the Planning Agreement does not provide evidence of seeking to achieve 50% of the land value uplift. It is noted that the former Department of Planning, Industry and Environment Planning (DPIE) Agreements Practice Note (February 2021) seeks to move away from value capture towards an infrastructure needs approach to negotiating Planning Agreements. Under the City of Parramatta Planning Agreements Policy (adopted 26 November 2018) "*Council will consider, as a matter of public interest, whether satisfactory arrangements have been or will be made for the provision of community infrastructure, given the likely increase in demand for services and infrastructure*" (clause 2.5.2). The Planning Agreement exhibited is consistent with Council's Planning Agreements Policy and the former DPIE practice note as it seeks to facilitate the provision of infrastructure. Therefore, Council officers no longer seek the 50% land value uplift as part of determining the value of a Planning Agreement due to the shift in position from the State Government.

Other Matters

71. A submission has suggested that the proposed additional permitted use 'food and drink premises' on the sites is not appropriate and would allow for more than just restaurants and cafes as noted in the exhibition material. It is suggested that only 'restaurants and cafes' be permitted as additional permitted uses. It is considered that the proposed additional permitted use of 'food and drink premises' is appropriate for this location to encourage street activation. The exact uses within the non-residential floor space will be detailed as part of a future development application for appropriateness. In addition to a development application process, should a use such as a small bar or pub be

Attachment 2 – Council Officer Responses to Issues Raised

Public Exhibition of the Draft Planning Proposal, Draft Site-Specific DCP and Draft Planning Agreement

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proposed then it will also be subject to additional licensing requirements enforced by Liquor and Gaming NSW. The community will be provided the opportunity to comment on the proposed use/s as part of the public exhibition of any development application.

72. A concern was raised in a submission relating to the indicative gross floor area map contained at Figure 2 on page 14 of the draft DCP, and the distribution of non-residential gross floor area between the East Site and West Site. Figure 2 only provides for a maximum residential gross floor area and does not include the minimum 1,000m² non-residential gross floor area that is required by the draft LEP provisions. Council officers have since confirmed that Figure 2 included the residential and non-residential gross floor area as part of the residential gross floor area figure. Therefore, it is recommended that the legend be updated to refer to the combined residential and non-residential gross floor area (refer to Figure below). The distribution of residential and non-residential gross floor area will be considered further at the development application stage.



Updated Figure 2 in the DCP referring to combined residential and non-residential GFA



PLANNING PROPOSAL

Holdmark Sites

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Holdmark Sites

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Planning Proposal drafts

Proponent versions:

No.	Author	Version
1.	City Plan	11 May 2020

Council versions:

No.	Author	Version
1.	City of Parramatta Council	Report to Local Planning Panel and Council on the assessment of planning proposal
2.	City of Parramatta Council	Submission to DPIE for Gateway determination
3.	City of Parramatta Council	Public Exhibition
4.	City of Parramatta Council	Finalisation

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INTRODUCTION

The Precinct

This planning proposal explains the intended effect of, and justification for, the proposed amendment to *Parramatta Local Environmental Plan 2011*. It has been prepared in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* and the Department of Planning and Environment (DP&E) guides, 'A Guide to Preparing Local Environment Plans' (August 2016) and 'A Guide to Preparing Planning Proposals' (August 2016) and 'Guidance for merged councils on planning functions' (May 2016).

Background and context

In December 2019, the City of Parramatta Council adopted the Southern Structure Plan for Melrose Park. The Structure Plan intends to act as a guide for future development in the precinct and is based on the recommendations of Council's Employment Lands Strategy (adopted July 2016) and is consistent with the Employment Lands Strategy – Review and Update (2020), which identifies the Melrose Park Precinct as being suitable for redevelopment for non-industrial uses.

The Melrose Park South precinct comprises of land bounds by Hope Street to the north, Wharf Road to the east, Parramatta River to the south and Atkins Road to the west. The eastern boundary is shared with the City of Ryde Council.

The Site

The sites subject to this Planning Proposal are located in the western and western side of the southern precinct and comprise of eight (8) allotments in total (refer to **Table 1**). The eastern site, which relates to the 112 Wharf Road, 30 and 32 Waratah Street is approximately 42,694m² (4.2ha) in area located to the south of Melrose Park Public School. The western site was formerly owned by Glaxo Smith Kline and is approximately 51,607m² (5.1ha) and bound by Hughes Avenue to the east, Parramatta River to the south, Atkins Road to the west and 71 Atkins Road and 80 Hughes Avenue along the northern boundary. For the purposes of clarity, these sites will be referred to as "East" and "West" respectively in this Proposal.

The sites are currently largely heavily developed and occupied by a variety of industrial premises. The East site includes pharmaceutical, engineering and manufacturing uses. The West site include purpose-built pharmaceutical manufacturing buildings.

Surrounding land uses include low density residential in both the Parramatta and Ryde LGAs to the east and west, Parramatta River to the south and industrial land between both sites. The sites are shown in **Figure 1**, below.

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Figure 1 – Sites at 112 Wharf Road, 30 & 32 Waratah Street Ermington (East site) and 82 Hughes Avenue (West sites subject to the planning proposal

Under *Parramatta Local Environmental Plan 2011* the sites:

- are zoned IN1 General Industrial;
- have a maximum building height of 12 metres;
- have a maximum floor space ratio (FSR) of 1:1

An extract of each the above maps is provided in Part 4 – Mapping; specifically, Section 4.1 Existing controls.

Table 1. Subject sites' property addresses and legal descriptions

PROPERTY ADDRESS	LEGAL DESCRIPTION
East Site	
112 Wharf Road	Lots 1-3 DP 127049 & Lot 7 DP 511531
30 Waratah Street	Lot 100 DP 853170
32 Waratah Street (also known as 1 Mary Street)	Lot 1 DP 519737 & Lot 6 DP 511531
West Site	
82 Hughes Avenue	Lot 3 DP 602080

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PART 1 – OBJECTIVES OR INTENDED OUTCOMES

The objective of this planning proposal is to amend the *Parramatta Local Environmental Plan 2011* (PLEP 2011) to enable the redevelopment of the subject sites for residential, public recreation and small-scale retail/commercial uses, in an areas identified for urban renewal by Council's Employment Lands Strategy, Local Housing Strategy and Local Strategic Planning Statement. This will be achieved by rezoning the sites to R4 High Density Residential and RE1 Public Recreation which will facilitate approximately 1,925 new dwellings, over 25,700m² of new public open space and introduce a minimum of 1,000m² of non-residential floor space which will provide for approximately 160 permanent jobs on the site.

The objectives of the Planning Proposal are to:

- Support a Greater Parramatta (and metropolitan area) through the urban renewal of the Site to create a vibrant mixed use development and increase public amenity to and along Parramatta River;
- Encourage and support future employment generation on the Site to increase the number of employees and provide for higher employment densities to respond to market trends in the pharmaceutical industry;
- Provide development which responds to the government investment in public transport infrastructure;
- Provide high quality urban renewal including a range of residential housing dwellings;
- Provide improved and expanded public open space areas, community facilities and roads; and;
- Provide a suitable buffer and separation distance from any development and the Parramatta River and sensitive vegetation.

The intended outcomes of the Planning Proposal are:

- Provide a diversity of residential typologies within the locality through the development of approximately 1,925 new dwellings;
- Provide adequate services and infrastructure to accommodate the increase in residential population expected within the precinct;
- Provide a minimum of 1,000m² of non-residential floor space, to promote job creation whilst addressing the changing employment characteristics of the precinct; and
- Dedicate approximately 26,033m² of land for new areas of public open space and 18,930m² of the site for new roads
- Ensure that the rate of redevelopment occurs in accordance with the provision of required infrastructure as per the thresholds and dwelling caps identified within the TMAP.

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PART 2 – EXPLANATION OF PROVISIONS

This planning proposal seeks to amend *Parramatta LEP 2011 (PLEP 2011)* in relation to the zoning, height and floor space ratio controls. It is also proposed to amend Schedule 1 of PLEP 2011 to permit 'food and drink premises' in the R4 High Density Residential zone.

In order to achieve the desired objectives, the following amendments to the *PLEP 2011* would need to be made:

- Insert a site-specific provision in Part 6 *Additional local provisions* – generally to ensure:
 - a) That design excellence provisions be applicable to buildings with a height of 55m and above and appoint a Design Excellence Panel to provide design advice for all development applications within the subject sites. Floor Space Ratio and height of building bonuses are not to be awarded on any development lot.
 - b) A minimum of 1,000m² of non-residential floor space is to be provided across the East Site and West Site to serve the local retail and commercial needs of the incoming population.
- Amend Schedule 1 *Additional permitted uses* to permit 'food and drink premises' in the R4 High Density Residential zone.
- Amend the zone in the **Land Zoning Map** (Sheet LZN_018) to rezone 112 Wharf Road, 32 Waratah Street, Melrose Park and 82 Hughes Avenue, Ermington from IN1 General Industrial to part R4 High Density Residential and part RE1 Public Recreation. Refer Figure 12 in Part 4 of this planning proposal.
- Amend the zone in the **Land Zoning Map** (Sheet LZN_018) to rezone 30 Waratah Street, Melrose Park from IN1 General Industrial to RE1 Public Recreation. Refer Figure 12 in Part 4 of this planning proposal.
- Amend the maximum building height in the **Height of Buildings Map** (Sheet HOB_018) from 12 metres to a combination of heights from 25 metres, 31 metres, 34 metres, 68 metres and 77 metres which equates to approximately 6, 8, 20 and 22 storeys respectively. Refer Figure 13 in Part 4 of this planning proposal which shows the maximum proposed height across the sites of 77m.
- Amend the maximum FSR in the **Floor Space Ratio Map** (Sheet FSR_018) from 1:1 to 2.74:1 on the East site and 2.46:1 on the West site. Refer Figure 14 in Part 4 of this planning proposal.

Notes

The proposed changes to the planning controls on these sites are generally consistent with those identified in Council's adopted Southern Structure Plan.

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- Amend the **Additional Local Provisions Map** (Sheet ALP_018) to include the subject sites to represent the design excellence competition and minimum non-residential floor space provisions.
- Amend the **Land Reservation Acquisitions Map** (Sheet LRA_018) to reflect areas of open space to be dedicated to Council.
- Insert provisions into the *Parramatta Local Environmental Plan 2011* to ensure that the number of dwellings approved at the development application stage aligns with the required infrastructure identified by Council in the Transport Management and Accessibility Plan (TMAP).
- Insert provisions into the *Parramatta Local Environmental Plan 2011* requiring the Planning Secretary to be satisfied that all State public infrastructure needs (including schools) are met before development can proceed.
- Insert provisions into *Parramatta Local Environmental Plan 2011* to ensure that the new planning controls do not take effect on the subject sites prior to the local infrastructure identified in the local Planning Agreement being secured by way of an executed Planning Agreement between Council and the Applicant.
- Amend Schedule 1 *Additional Permitted Uses of Parramatta Local Environmental Plan 2011* to permit 'food and drink' premises in the R4 High Density Residential zone as identified on the new **Additional Permitted Uses Map** (Sheet APU_018).

Further, Council resolved at its meeting of 12 August 2019 to stage the delivery of dwellings subject to traffic and transport infrastructure being in place to serve the incoming population as identified in the TMAP that has been prepared for the precinct. In particular, Council endorsed the following implementation plans that should be incorporated into the LEP amendment for the purposes of achieving the following outcome:

- Implementation Plan A – Provides up to 11,000 dwellings over the north and south precincts subject to identified road and traffic works, the bridge to Wentworth Point with light rail or equivalent bus service and Sydney West Metro being delivered. Implementation Plan A will facilitate an FSR 1.85:1 for the northern part of the precinct with and an appropriate development potential in the southern precinct.*
- Implementation Plan B – Should there be no State Government commitment towards Sydney West Metro, the bridge to Wentworth Point and associated light rail or bus service then only 6,700 dwellings can be accommodated within the precinct. Accordingly, a 40% reduction in yield will be applied to the development in Melrose Park to ensure both north and south precincts are treated equitably.*

Council seeks to include concurrence clauses in the PLEP 2011 to ensure the level of density in the precinct does not exceed the available infrastructure.

Other relevant matters

Voluntary Planning Agreement

The applicant has indicated a willingness to contribute towards infrastructure provision within

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the precinct, including affordable rental housing. A letter of offer with a contribution of \$37,246,825 towards the delivery of local infrastructure and community benefits has been submitted. A draft Planning Agreement and accompanying Infrastructure Services Delivery Plan (ISDP) have been prepared and for the purposes of exhibition. The ISDP is a supporting document and has been provided to the public to view as part of the exhibition; however, it is not open for feedback.

A Planning Agreement between the proponent and the State Government will be required to be entered in to between the proponent and the State Government to ensure an appropriate contribution towards the delivery of the required State infrastructure is provided.

It is anticipated that a concurrence clause will be inserted into PLEP 2011 relating to the timing of development and State infrastructure delivery such as significant road works and schools. This approach was taken for the Melrose Park North Planning Proposal

The draft local Planning Agreement includes a staging plan in the Infrastructure Services Delivery Plan identifying at which stage of redevelopment the identified infrastructure items are required to be delivered.

In addition, Council's officers propose that a provision be inserted into PLEP 2011 that specifies a date to which the new controls come into effect. This approach was taken with the Melrose Park North Planning Proposal to ensure the local Planning Agreement is finalised and registered before any redevelopment of the site seeking to utilise the new controls could occur.

Draft Site-Specific Development Control Plan

A site-specific Development Control Plan (DCP) is proposed to be prepared for the southern precinct of Melrose Park after submission of this Planning Proposal for Gateway determination. The DCP will include provision relating to, but not limited to, the following:

- Site levels
- Street and block layout
- Relationship of building to the street and block pattern
- Building typologies
- Desired future character
- Public domain, open space and landscaping
- Site access, circulation and connectivity
- Transport and parking
- Environmental sustainability
- Storm water management
- Solar access
- Transition areas to surrounding development

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PART 3 – JUSTIFICATION

This part describes the reasons for the proposed outcomes and development standards in the planning proposal.

Section A - Need for the planning proposal

This section establishes the need for a planning proposal in achieving the key outcome and objectives. The set questions address the strategic origins of the proposal and whether amending the LEP is the best mechanism to achieve the aims on the proposal.

Is the planning proposal a result of an endorsed local strategic planning statement, strategic study or report?

Parramatta Employment Lands Strategy (ELS)

The ELS was adopted by Council in July 2016 and provides recommendations for the future direction of all “employment lands” within the Parramatta LGA. Employment lands include those with a land use zone of either IN1 – General Industrial, IN2 – Light Industrial, IN3 – Heavy Industrial, B5 Business Development and B6 – Enterprise Corridor.

Within the Strategy, employment lands are separated into precincts, each with their own recommendations. Melrose Park is Precinct 11 within the ELS and has previously accommodated a large concentration of large-scale pharmaceutical manufacturing companies and warehousing / distribution centres. However, this precinct is undergoing change and the restructuring of this industry has affected the viability of the precinct to continue operating for the purposes of industrial uses.

In addition to providing recommendation for each precinct, the ELS identifies a number of key actions that are aimed at ensuring employment generating uses are retained within the precinct and incorporated into future redevelopments. The two actions in relation to the planning proposal are:

- A3 – Rezoning to zones that facilitate higher employment densities
- A11 – Proposed rezoning must be supported by an Economic Impact Study

Over the past 10-15 years, the following remnant industrial lands have transformed into waterside communities:

- Former AGL Gasworks at Breakfast Point
- Former Union Carbide Site and Allied Feeds Site at Rhodes
- Former industrial and reclaimed lands at Wentworth Point
- Former industrial and employment lands at Shepherds Bay, Meadowbank
- Ermington Naval Stores
- The City of Parramatta Council Depot Site, Parramatta

In addition, the following current industrial / employment Sites have been identified for future urban renewal by the State Government:

- Former industrial lands at Camellia
- Cumberland Hospital, North Parramatta

It is acknowledged that the current employment and industrial lands at Camellia, Rydalmere and Silverwater are strategically important employment precincts due to their size and location to key transport corridors. The Camellia Precinct has been targeted for urban renewal and is currently under investigation by the State Government in collaboration with

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The City of Parramatta Council and major landowners. This precinct is expected to retain significant employment land and likely to retain large areas for general industrial uses to meet demand in the sub-region.

A requirement of the ELS is that any new development in the precinct must provide the equivalent number of jobs that could be achieved under the current zoning (2,456). Under the Proposal, it is estimated that the new land uses will provide approximately 160 jobs in the southern part of the site, which equates to approximately 6% of the overall job number target for the precinct. The above figures appear low in comparison to the 1,538 – 1,932 (65% to 75%) jobs proposed to be provided in the northern precinct. However, given the northern precinct is a significant portion of the overall precinct, it is expected that more jobs would need to be provided as part of the northern redevelopment than the southern redevelopment. In addition, the employment generating uses proposed in the southern precinct are intended to provide a supporting role to that provided in the northern precinct and Council officers consider this reasonable given the major town centre for the precinct is located in the northern precinct and therefore the retail/commercial uses in the south should not be in competition with the north. It is also acknowledged that it may not be practicable for the total 2,546 job number requirement identified in the ELS to be matched. Instead, it is considered that the key requirement is for the precinct to be able to adequately service the needs of the incoming population and reduce the requirement for residents to travel outside the precinct for retail/commercial purposes and therefore a lower job number provision is considered acceptable.

This Planning Proposal is considered to be consistent with the ELS 2016 and Review and Update 2021 in that it will facilitate opportunities for 160 permanent jobs across the two sites through the provision of 1,000m² of retail/commercial floor space, and that it is proposing to rezone the land to facilitate the transition from an industrial to mixed use precinct.

Local Strategic Planning Statement (LSPS)

Council's adopted Local Strategic Planning Statement (LSPS) provides strategic direction on how the City of Parramatta is planning for the next 20 years and draws together the needs and aspirations of the community and identifies priorities for jobs, home and infrastructure. The LSPS contains actions and priorities to help Parramatta achieve the vision of the State Government's Greater Sydney Region Plan and Central City District Plan and highlights its important role as the Central River City. In addition to being identified as a Growth Precinct in the LHS, the LSPS identifies it as a proposed Local Centre and one which could provide for over 2,000 jobs once fully redeveloped. The LSPS also identifies the need for improved public transport and demonstrates its importance through Planning Priority 3 which relates Council's policy directions on improving connectivity to the Parramatta CBD and surrounding district through staging of development in alignment with delivery of PLR Stage 2 (or equivalent) and Sydney Metro West. As Melrose Park is identified as a Growth Precinct and the Proposal will help deliver the housing and infrastructure needed, it aligns with the vision of the LSPS. This consistency is highlighted in **Table 2**.

Table 2. Consistency with LSPS

Priority/Direction/Action	Response
Planning Priority 2 Policy Direction P4 Stage rezoning and Planning Proposal in Growth Precincts in Granville, Parramatta East, Camellia, Melrose Park and Westmead based on the timing of transport infrastructure.	Consistent. This Planning Proposal applies to approximately 49% of the southern precinct and is consistent with the Southern Structure Plan adopted by Council in December 2019. Infrastructure will be provided in accordance with the requirements of Council and the State government and is proposed to be

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Action A4 Continue to work with the State government to bring forward the Parramatta Light Rail Stage 2 delivery to service the Carter Street, Camellia, Melrose Park and Parramatta East precincts.	funded via a variety of mechanisms such as developer contributions and planning agreements.
Planning Priority 3 Policy Direction P4 Stage rezoning and Planning Proposal in Growth Precincts in Granville, Parramatta East, Camellia, Melrose Park and Westmead based on the timing of transport infrastructure.	Consistent. This Planning Proposal will enable the planning controls on two sites within the southern precinct to be amended to facilitate non-industrial redevelopment. The precinct is identified in Council's LSPS as a 'Growth Precinct'.
A5 Continue to implement the first stages of rezoning and potential Planning Proposals within the Growth Precincts at Parramatta East (excluding WSU site) and Melrose Park (up to 6,700 dwellings).	As part of the planning of the northern precinct, implementation options to release density equitably throughout the entire Melrose Park precinct are proposed which are based on the delivery of identified transport infrastructure.
Planning Priority 5 Policy Direction P4 Stage rezoning and Planning Proposal in Growth Precincts in Granville, Parramatta East, Camellia, Melrose Park and Westmead based on the timing of transport infrastructure.	Consistent. The Planning Proposal enables a staged approach to the rezoning of the southern precinct. As outlined above, density will be equitably distributed across the entire precinct as the transport infrastructure is delivered.

Local Housing Strategy (LHS)

The Planning Proposal is consistent with the City of Parramatta Local Housing Strategy (LHS), which provides direction at the local level about when and where future housing growth will occur and how it aligns with the broader NSW-government strategic planning framework. The LHS identifies Melrose Park as a Growth Precinct and forecasts that approximately 6,330 new dwellings will occupy the precinct by 2036. The LHS also highlights the importance of ensuring that infrastructure delivery is aligned with housing growth and that growth precincts need to be aligned and effectively sequenced with State-driven transport delivery and to ensure targeted local infrastructure programs. The Proposal is consistent with this approach in that it is located within the announced Parramatta Light Rail (PLR) Stage 2 corridor and the TMAP for the precinct includes a staging plan for the delivery of the necessary road upgrades and public transport to support the future population of the precinct.

Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

This Planning Proposal is considered the best means of achieving the desired outcomes for the precinct as envisaged in Council's LSPS and LHS. Redevelopment of the precinct for non-industrial uses cannot occur without a Planning Proposal to amend the applicable planning controls within PLEP 2011.

Section B – Relationship to strategic planning framework

This section assesses the relevance of the Planning Proposal to the directions outlined in key strategic planning policy documents. Questions in this section consider state and local government plans including the NSW Government's Plan for Growing Sydney and subregional strategy, State Environmental Planning Policies, local strategic and community plans and applicable Ministerial Directions.

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Will the planning proposal give effect to the objectives and actions of the applicable regional, or district plan or strategy (including any exhibited draft plans or strategies)?

A Metropolis of Three Cities

In March 2018, the NSW Government released the *Greater Sydney Region Plan: A Metropolis of Three Cities* ("the GSRP") a 20-year plan which outlines a three-city vision for metropolitan Sydney for to the year 2036.

The GSRP is structured under four themes: Infrastructure and Collaboration, Liveability, Productivity and Sustainability. Within these themes are 10 directions that each contain Potential Indicators and, generally, a suite of objective/s supported by a Strategy or Strategies. Those objectives and or strategies relevant to this planning proposal are discussed below.

Infrastructure and Collaboration

An assessment of the planning proposal's consistency with the GSRP's relevant Infrastructure and Collaboration objectives is provided in Table 3a, below.

Table 3a – Consistency of planning proposal with relevant GSRP Actions – Infrastructure and Collaboration

Infrastructure and Collaboration Direction	Relevant Objective	Comment
A city supported by infrastructure	O1: Infrastructure supports the three cities	The proposed development will promote urban renewal and the use of alternative modes of transportation, including walking, cycling and the use of the proposed Parramatta Light Rail, which runs through the precinct and the proposed metro station at Sydney Olympic Park, which will be accessible via the proposed new public/active transport bridge over the Parramatta River.
	O2: Infrastructure aligns with forecast growth – growth infrastructure compact	
	O3: Infrastructure adapts to meet future need	
	O4: Infrastructure use is optimised	The applicant intends to contribute towards the delivery of required State infrastructure and discussions with relevant State agencies will occur to confirm an appropriate contribution.

Liveability

An assessment of the planning proposal's consistency with the GSRP's relevant Liveability objectives is provided in Table 3b, below.

Table 3b – Consistency of planning proposal with relevant GSRP Actions – Liveability

Liveability Direction	Relevant Objective	Comment
A city for people	O6: Services and infrastructure meet	The Planning Proposal aligns with

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	communities' changing needs	<p>this Direction by providing:</p> <ul style="list-style-type: none"> • Small scale retail/commercial floor space to meet the local needs of the community and provide a supporting role to the major town centre proposed in the northern precinct • Community facilities • Open space/parks • Active transport provision • Dedication of land for open space. <p>The proposal aims to address not only the infrastructure demands arising from the proposal but also provide a vibrant place for a diverse range of people to live, work, and play.</p>
	O7: Communities are healthy, resilient and socially connected	
	O8: Greater Sydney's communities are culturally rich with diverse neighbourhoods	
	O9: Greater Sydney celebrates the arts and supports creative industries and innovation	
Housing the city	O10: Greater housing supply	<p>The Planning Proposal aligns with this Direction as it will</p> <ul style="list-style-type: none"> • deliver approximately 1,925 new dwellings and provide mix of high density housing (1/2/3 bedders). • Satisfies the criteria for 'urban renewal' given the strategic direction set out in Council's Employment Lands Strategy, its location along a regional transport link with connections to walking and cycling routes.
	O11: Housing is more diverse and affordable	
A city of great places	O12: Great places that bring people together	<p>The Planning Proposal aligns with this Direction by:</p> <ul style="list-style-type: none"> • increasing provision of open space • providing new non-residential floor space and contribution towards community facilities • providing a mix of land uses and activities that provide opportunities for social connection within the public domain and open space.
	O13: Environmental heritage is identified, conserved and enhanced	<p>The sites subject to the Planning Proposal is adjacent to an item of local heritage significant, being item 11 Ermington Bat Wetland. Appropriate measures will be</p>

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		taken to ensure that the significance of this vegetation is not negatively impacted as a result of the redevelopment.
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Productivity

An assessment of the planning proposal's consistency with the GSRP's relevant Productivity objectives is provided in Table 3c, below.

Table 3c – Consistency of planning proposal with relevant GSRP Actions – Productivity

Productivity Direction	Relevant Objective	Comment
A well connected city	O14: The plan integrates land use and transport creates walkable and 30-minute cities	<p>The Planning Proposal aligns with this Direction as follows:</p> <ul style="list-style-type: none"> the site is within walking distance of the Victoria Road transport corridor and can be integrated with the Parramatta Light Rail Stage 2 Corridor (if it proceeds) the site connects into existing and provides additional cycleway and pedestrian pathways contributes to the outcome of population within 30minute public transport access to the metropolitan cluster of Parramatta
	O15: The Eastern, GOPP and Western Economic Corridors are better connected and more competitive	
Jobs and skills for the city	O19: Greater Parramatta is stronger and better connected	<p>The Planning Proposal aligns with this Direction as follows:</p> <ul style="list-style-type: none"> it provides for an appropriate renewal of existing industrial and urban services land that are currently undergoing transition by providing commercial and retail employment opportunities to support the Town Centre in the northern precinct. it provides for a new centre for people to live and work it supports the continued economic development and diversity of Greater Parramatta
	O21: Internationally competitive health, education, research and innovation precincts	
	O22: Investment and business activity in centres	
	O23: Industrial and urban services land is planned, retained and managed	
	O24: Economic sectors are targeted for success	

Sustainability

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An assessment of the planning proposal's consistency with the GSRP's relevant Sustainability objectives is provided in Table 3d, below.

Table 3d – Consistency of planning proposal with relevant GSRP Actions – Sustainability

Sustainability Direction	Relevant Objective	Comment
A city in its landscape	O25: The coast and waterways are protected and healthier	The Planning Proposal aligns with this Direction as it provides for significant areas of new open space, landscaping and provision of urban vegetation including street tree planting.
	O27: Biodiversity is protected, urban bushland and remnant vegetation is enhanced	
	O28: Scenic and cultural landscapes are protected	
	O29: Environmental, social and economic values in rural areas are protected and enhanced	
	O30: Urban tree canopy cover is increased	
	O31: Public open space is accessible, protected and enhanced	
	O32: The Green grid links Parks, open spaces, bushland and walking and cycling paths	
An efficient city	O33: A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change	The Planning Proposal aligns with this Direction as follows: <ul style="list-style-type: none"> the site is in close proximity to major transport corridors (Victoria Road and proposed Gateway Bridge and is supported by a TMAP which includes measures to reduce high dependence on private vehicle travel ESD to reduce waste and energy usage will be incorporated at detailed design at later stages.
	O34: Energy and water flows are captured, used and re-used	
	O35: More waste is re-used and recycled to support the development of a circular economy	
A resilient city	O36: People and places adapt to climate change and future shocks and stresses	The Planning Proposal aligns with this Direction as redevelopment of the site can be designed to adapt to the impacts of urban and natural hazards. Appropriate deep soil provision is provided within
	O37: Exposure to natural and urban hazards is reduced	

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	O38: Heatwaves and extreme heat are managed	the proposed parks and as part of the footway which are also to be planted seeks to address urban heat issues. This will be set out and provided for as part of a future Site Specific DCP.
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Implementation

An assessment of the planning proposal's consistency with the GSRP's relevant Implementation objectives is provided in Table 3d, below.

Table 3d – Consistency of planning proposal with relevant GSRP Actions – Implementation

Implementation Direction	Relevant Objective	Comment
Implementation	O39: A collaborative approach to city planning	Discussions are ongoing with the applicant regarding the delivery of infrastructure. This will continue to be carried out between the applicant and relevant State Agencies to confirm provision of this infrastructure through State and Local Infrastructure VPAs to ensure that Masterplan for the site can be realised and more importantly creates a vibrant place for future residents to live/ work and play.

Central City District Plan

In March 2018, the NSW Government released *Central City District Plan* which outlines a 20-year plan for the Central City District which comprises The Hills, Blacktown, Cumberland and Parramatta local government areas.

Taking its lead from the GSRP, the *Central City District Plan* ("CCDP") is also structured under four themes relating to Infrastructure and Collaboration, Liveability, Productivity and Sustainability. Within these themes are Planning Priorities that are each supported by corresponding Actions. Those Planning Priorities and Actions relevant to this planning proposal are discussed below.

Infrastructure and Collaboration

An assessment of the planning proposal's consistency with the CCDP's relevant Infrastructure and Collaboration Priorities and Actions is provided in Table 4a, below.

Table 4a – Consistency of planning proposal with relevant CCDP Actions – Infrastructure and Collaboration

Infrastructure and Collaboration Direction	Planning Priority/Action	Comment
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<p>A city supported by infrastructure</p> <p>O1: Infrastructure supports the three cities</p> <p>O2: Infrastructure aligns with forecast growth – growth infrastructure compact</p> <p>O3: Infrastructure adapts to meet future need</p> <p>O4: Infrastructure use is optimised</p>	<p>PP C1: Planning for a city supported by infrastructure</p> <p>A1: Prioritise infrastructure investments to support the vision of <i>A metropolis</i></p> <p>A2: Sequence growth across the three cities to promote north-south and east-west connections</p> <p>A3: Align forecast growth with infrastructure</p> <p>A4: Sequence infrastructure provision using a place-based approach</p> <p>A5: Consider the adaptability of infrastructure and its potential shared use when preparing infrastructure strategies and plans</p> <p>A6: Maximise the utility of existing infrastructure assets and consider strategies to influence behaviour changes to reduce the demand for new infrastructure, supporting the development of adaptive and flexible regulations to allow decentralised utilities</p>	<p>The Planning Proposal provides the following contributions towards infrastructure:</p> <ul style="list-style-type: none"> • New roads and intersections • Public open space. <p>Discussions are ongoing between the applicant and Council regarding a future planning agreement to deliver the necessary infrastructure in the precinct.</p>
<p>O5: Benefits of growth realized by collaboration of governments, community and business</p>	<p>PP C2: Working through collaboration</p> <p>A7: Identify prioritise and delivery collaboration areas</p>	<p>The Planning Proposal is a result of many years work in collaboration with Council and State Agencies, resulting in an adopted structure plan for the southern precinct and TMAP for the broader Melrose Park Precinct.</p> <p>The applicant and Council will work collaboratively with Council, TfNSW, RMS and other State agencies, community and other stakeholders as required.</p>

Liveability

An assessment of the planning proposal's consistency with the CCDP's relevant Liveability Priorities and Actions is provided in Table 4b, below.

Table 4b – Consistency of planning proposal with relevant CCDP Actions – Liveability

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Liveability Direction	Planning Priority/Action	Comment
A city for people O6: Services and infrastructure meet communities' changing needs	PP C3: Provide services and social infrastructure to meet people's changing needs A8: Deliver social infrastructure that reflects the need of the community now and in the future A9: Optimise the use of available public land for social infrastructure	<p>The Planning Proposal proposes to provide the following social infrastructure to meet the changing needs of future residents:</p> <ul style="list-style-type: none"> • Provision and embellishment of new public open space • Provision and contribution towards community facilities <p>These items will be formalised as part of future VPA negotiations with the development.</p>
O7: Communities are healthy, resilient and socially connected O8: Greater Sydney's communities are culturally rich with diverse neighbourhoods O9: Greater Sydney celebrates the arts and supports creative industries and innovation	PP C4: Working through collaboration A10: Deliver healthy, safe and inclusive places for people of all ages and abilities that support active, resilient and socially connected communities by (a-d). A11: Incorporate cultural and linguistic diversity in strategic planning and engagement. A12: Consider the local infrastructure implications of areas that accommodate large migrant and refugee populations. A13: Strengthen the economic self-determination of Aboriginal communities by engagement and consultation with Local Aboriginal Land Council's. A14: Facilitate opportunities for creative and artistic expression and participation, wherever feasible with a minimum regulatory burden including (a-c). A15: Strengthen social connections within and between communities through better understanding of the nature of social networks and	<p>Council will continue discussions with the applicant and relevant State Agencies to confirm provision of this infrastructure through State and Local Infrastructure VPAs.</p>

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	supporting infrastructure in local places	
Housing the city O10: Greater housing supply O11: Housing is more diverse and affordable	PP C5: Providing housing supply, choice and affordability, with access to jobs, services and public transport A16: Prepare local or district housing strategies that address housing targets [abridged version] A17: Prepare Affordable Rental housing Target Schemes	<p>The Planning Proposal will deliver approximately 1,925 dwellings with a dwelling mix as specified in the current Parramatta DCP 2011 to facilitate an appropriate mix of 1/2/3 bedroom units.</p> <p>Currently there is no provision of affordable housing in the planning proposal, however Council will continue discussions with the applicant to ensure the required number of dwellings is provided.</p>
A city of great places O12: Great places that bring people together O13: Environmental heritage is identified, conserved and enhanced	PP C6: Creating and renewing great places and local centres, and respecting the District's heritage A18: Using a place-based and collaborative approach throughout planning, design, development and management deliver great places by (a-e) A19: Identify, conserve and enhance environmental heritage by (a-c) A20: Use place-based planning to support the role of centres as a focus for connected neighbourhoods A21: In Collaboration Areas, Planned Precincts and planning for centres (a-d) A22: Use flexible and innovative approaches to revitalise high streets in decline.	<p>The Planning Proposal aligns with this Direction by:</p> <ul style="list-style-type: none"> • increasing provision of open space • providing non-residential floor space to support the proposed new Town Centre in the northern precinct and contribution towards community facilities • providing a mix of land uses and activities that provide opportunities for social connection within the public domain and open space. <p>The Planning Proposal is just one part of the planning mechanism to facilitate the above outcomes, further detail will need to be developed as part of the SSDCP supplement the LEP amendment.</p>

Productivity

An assessment of the planning proposal's consistency with the CCDP's relevant Productivity Priorities and Actions is provided in Table 4c, below.

Table 4c – Consistency of planning proposal with relevant CCDP Actions – Productivity

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Productivity Direction	Planning Priority/Action	Comment
A well-connected city O19: Greater Parramatta is stronger and better connected	PP C7: Growing a stronger and more competitive Greater Parramatta A23: Strengthen the economic competitiveness of Greater Parramatta and grow its vibrancy [abridged] A24: Revitalise Hawkesbury Road so that it becomes the civic, transport, commercial and community heart of Westmead A25: Support the emergency services transport, including helicopter access A26: Prioritise infrastructure investment [abridged] A27: Manage car parking and identify smart traffic management strategies A28: Investigate opportunities for renewal of Westmead East as a mixed use precinct	<p>The Planning Proposal is considered to be representative of the District Plans' goal of transitioning from industrial to a mixed use urban renewal precinct.</p> <p>The redevelopment of the site will provide housing opportunities for a residential population within 30 minutes of the Parramatta CBD.</p>
Jobs and skills for the city O15: The Eastern, GOP and Western Economic Corridors are better connected and more competitive	PP C8: Delivering a more connected and competitive GOP Economic Corridor A28: Investigate opportunities for renewal of Westmead East as a mixed use precinct PPC8 A29: Prioritise public transport investment to deliver the 30-minute city objective for strategic centres along the GOP Economic Corridor A30: Prioritise transport investments that enhance access to the GOP between centres within GOP	<p>The site is close to the GOP Economic Corridor.</p> <p>The proposal is considered to improve connections to and the competitiveness of the corridor. A new transport bridge to Sydney Olympic Park is also proposed to ensure well connected places.</p>
O14: The plan integrates land use and transport creates	PP C9: Delivering integrated land use and transport planning and a 30-minute city	<p>The Planning Proposal:</p> <ul style="list-style-type: none"> • Supports the 30 minute city as detailed in the TMAP • Improves access to local jobs

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walkable and 30 minute cities	<p>A32: Integrate land use and transport plans to deliver a 30-minute city</p> <p>A33: Investigate, plan and protect future transport and infrastructure corridors</p> <p>A34: Support innovative approaches to the operation of business, educational and institutional establishments to improve the performance of the transport network</p> <p>A35: Optimise the efficiency and effectiveness of the freight handling and logistics network by (a-d)</p> <p>A36: Protect transport corridors as appropriate, including the Western Sydney Freight Line, North South train link from Schofields to WS Airport as well as Outer Sydney Orbital and Bells Line of Road-Castlereagh connections</p>	<ul style="list-style-type: none"> Provides walking and cycling connections.
O23: Industrial and urban services land is planned, retained and managed	<p>PP C10: Growing investment, business opportunities and jobs in strategic centres</p> <p>A37: Provide access to jobs, goods and services in centres [abridged]</p> <p>A38: Create new centres in accordance with the principles for Greater Sydney's centres</p> <p>A39: Prioritise strategic land use and infrastructure plans for growing centres, particularly those with capacity for additional floorspace</p>	<p>This Planning Proposal is consistent with the direction of Council's ELS, LSPS and LHS which identify this precinct as a growth area and suitable for redevelopment for non-industrial uses. This precinct is no longer considered suitable for industrial uses given the changing nature of the pharmaceutical manufacturing industry and relatively poor access to major arterial roads.</p> <p>Objective 23 Industrial and urban services land is planned, retained and managed.</p> <p>The Parramatta Employment Lands Strategy which was adopted by Council on 11 July 2016 (and the subsequent Employment Lands Strategy – Review and Update which was adopted by Council on 13 July 2020) found that given the poor location of some of the LGA's employment lands, some precincts presented an opportunity to be rezoned for</p>
O23: Industrial and urban services land is planned, retained and managed	<p>PP C11: Maximising opportunities to attract advanced manufacturing and innovation in industrial and urban services land</p> <p>A49: Review and manage industrial and urban service land, in line with the principles for managing</p>	

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	<p>industrial and urban services land, in the identified local government area</p> <p>A51: Facilitate the contemporary adaption of industrial and warehouse buildings through increased floor to ceiling heights</p> <p>A52: Manage the interfaces of industrial areas, trade gateways and intermodal facilities by land use activities (a-e) and transport operations (f-g) [abridged]</p>	<p>residential or mixed-use purposes. Melrose Park (including its southern precinct) was one of the precincts identified, based on this criterion, and has since had a structure plan endorsed by Council to accommodate mainly residential development, given the following:</p> <ul style="list-style-type: none"> • The location is in high demand for residential uses because of its waterfront position and proximity to major employment centres and amenities. • It is in an industrial precinct dominated by pharmaceutical companies. The precinct's pharmaceutical cluster is currently undergoing a major restructuring which has seen manufacturing components increasingly move offshore, leaving only the commercial aspects of the business which do not require industrial floorspace. • The precinct is 1km from a major arterial road and is accessed via a residential area and school zone (which are not compatible uses with industrial zones). • The Planning Proposal for the northern precinct, has since been gazetted (and development for residential uses has commenced for the sites closer to Victoria Road), therefore the southern precinct will eventually be surrounded by high-density residential uses to the north. <p>The Planning Proposal needs to be considered as part of the wider precinct. The main supporting document that provided the base to Council's employment lands strategy was the Parramatta Employment Lands Study 2013 prepared for Council by Cox Richardson Architects & Planners, Jones Lang LaSalle and Strategic Economics. The study found that</p>
<p>O24: Economic sectors are targeted for success</p>	<p>PP C12: Supporting growth of targeted industry sectors</p> <p>A53: Facilitate health and education precincts by (a-d) [abridged]</p> <p>A54: Provide a regulatory environment that enables economic opportunities created by changing technologies</p> <p>A55: Consider the barriers to the growth of internationally competitive trade sectors, including engaging with industry and assessing regulatory barriers</p> <p>A56: Protect and support agricultural production and mineral resources by preventing inappropriate dispersed urban activities</p> <p>A57: Consider opportunities to implement place-based initiatives to attract more visitors, improve visitor experience and ensure connections to transport at key tourist attractions</p> <p>A58: Consider opportunities to enhance the tourist and visitor economy in the district, including a coordinated approach to tourism activities, events and accommodation</p>	

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	<p>A59: When preparing plans for tourism and visitation consider (a-g) [abridged]</p>	<p>if existing lands are well utilised and aligned with demand Parramatta's employment precincts could manage a net reduction of 10-15% of existing zoned employment lands over the long term.</p> <p>The following justifications were provided for the reduction:</p> <ul style="list-style-type: none"> • Parramatta has strong drivers for growth around the Parramatta CBD, the adjacent Rydalmere campus of University of Western Sydney and the Westmead Health Precinct. The dynamics of economic growth, combined with the relative accessibility to Sydney's major employment and cultural destinations, is spurring faster than expected population growth. This is increasing demand for housing and better utilisation of existing land resources • Employment projections indicate that employment will continue to decline in some traditional manufacturing industries resulting in some surplus lands • Some existing employment lands are poorly located, surrounded by residential activities and not located on arterial roads <p>The Planning Proposal proposes to rezone industrial land for mixed use purposes in a waterfront location. The majority of the subject sites will be developed largely for housing (with the exception of 1,000sqm of employment floor space), which is consistent with the land uses and building envelopes envisaged under the approved southern precinct structure plan and also Council's Employment Lands Study, which identified Melrose Park as suitable to support urban renewal.</p>
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Sustainability

An assessment of the planning proposal's consistency with the CCDP's relevant Productivity Priorities and Actions is provided in Table 4d, below.

Table 4d – Consistency of planning proposal with relevant CCDP Actions – Sustainability

Sustainability Direction	Planning Priority/Action	Comment
A city in its landscape O25: The coast and waterways are protected and healthier	PP C13: Protecting and improving the health and enjoyment of the District's Waterways A60: Protect environmentally sensitive areas of waterways A61: Enhance sustainability and liveability by improving and managing access to waterways and foreshores for recreation, tourism, cultural events and water based transport A62: Improve the health of catchments and waterways through a risk based approach to managing the cumulative impacts of development including coordinated monitoring of outcomes A63: Work towards reinstating more natural conditions in highly modified urban waterways	Not applicable
O26: The coast and waterways are protected and healthier	PP C14: Creating a Parkland City urban structure and identity, with South Creek as a defining spatial element A64: Implement South Creek Corridor Project and use the design principles for South Creek to deliver a cool and green Western Parkland City	

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<p>O27: Biodiversity is protected, urban bushland and remnant vegetation is enhanced</p> <p>O28: Scenic and cultural landscapes are protected</p>	<p>PP C15: Protecting and enhancing bushland, biodiversity and scenic and cultural landscapes</p> <p>A65: Protect and enhance biodiversity by (a-c) [abridged]</p> <p>A66: Identify and protect scenic and cultural landscapes</p> <p>A67: Enhance and protect views of scenic and cultural landscapes from the public realm</p>	<p>The site has been used extensively for employment purposes historically, is largely developed and does not contain areas of biodiversity that would warrant protection.</p>
<p>O30: Urban tree canopy cover is increased</p> <p>O32: The Green grid links Parks, open spaces, bushland and walking and cycling paths</p>	<p>PP C16: Increasing urban tree canopy cover and delivering Green Grid connections</p> <p>A68: Expand urban tree canopy in the public realm</p> <p>A69: progressively refine the detailed design and delivery of (a-c) [abridged]</p> <p>A70: Create Greater Sydney green Grid connections to the Western Sydney Parklands</p>	<p>The Planning Proposal incorporates substantial tree planting across the site, improved public domain, increased setbacks and increased areas for street trees and more efficient use of open space.</p>
<p>O31: Public open space is accessible, protected and enhanced</p>	<p>PP C17: Delivering high quality open space</p> <p>A71: Maximise the use of existing open space and protect, enhance and expand public open space by (a-g) [abridged]</p>	<p>New public open space areas are proposed as part of the planning proposal and will be zoned accordingly.</p>
<p>An efficient city</p> <p>O33: A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change</p> <p>O34: Energy and water flows are captured, used and re-used</p> <p>O35: More waste is re-used and recycled to support the</p>	<p>PP C19: Reducing carbon emissions and managing energy, water and waste efficiently</p> <p>A75: Support initiatives that contribute to the aspirational objectives of achieving net-zero emissions by 2050</p> <p>A76: Support precinct-based initiatives to increase renewable energy generation and energy and water efficiency</p> <p>A77: Protect existing and identify new locations for</p>	<p>It is considered that future development will be able to incorporate appropriate responses to these issues. ESD principles will be considered as part of a future site specific DCP as well as being important requirement for any design excellence competition scheme to be addressed.</p> <p>Further, future ground levels will be developed also as part of the SSDCP stage which will ensure appropriate conveyance of flood waters (including overland</p>

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development of a circular economy	<p>waste recycling and management</p> <p>A78: Support innovative solutions to reduce the volume of waste and reduce waste transport requirements</p> <p>A79: Encourage the preparation of low carbon, high efficiency strategies to reduce emissions, optimise the use of water, reduce waste and optimising car parking provisions where an increase in total floor in 100,000sqm</p>	flooding) to identified detention or storage areas within the precinct.
<p>O36: People and places adapt to climate change and future shocks and stresses</p> <p>O37: Exposure to natural and urban hazards is reduced</p> <p>O38: Heatwaves and extreme heat are managed</p>	<p>PP C20: Adapting to the impacts of urban and natural hazards and climate change</p> <p>A81: Support initiatives that respond to the impacts of climate change</p> <p>A82: Avoid locating new urban development in areas exposed to natural and urban hazards and consider options to limit the intensification of development in existing areas most exposed to hazards</p> <p>A83: Mitigate the urban heat island effect and reduce the vulnerability to extreme heat</p> <p>A84: Respond to the direction for managing flood risk in Hawkesbury-Nepean Valley</p> <p>A85: Consider strategies and measures to manage flash flooding and safe evacuation when planning for growth in Parramatta CBD</p>	

Will the planning proposal give effect to a council's endorsed local strategic planning statement, or another endorsed local strategy or strategic plan?

The following local strategic planning documents are relevant to the planning proposal.

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Parramatta 2038 Community Strategic Plan

Parramatta 2038 is a long term Community Strategic Plan for the City of Parramatta and it links to the long-term future of Sydney. The plan formalises several big and transformational ideas for the City and the region.

The planning proposal is considered to meet the strategies and key objectives identified in the plan including the creation of a new commercial and retail centre, improved public transport connections and services, new open space and infrastructure upgrades to support the incoming population.

Parramatta Employment Lands Strategy

Refer to Section 3.1.1 above

Parramatta Local Strategic Planning Statement

The Local Strategic Planning Statement (LSPS) outlines that Melrose Park should be rezoned for mixed use (commercial/residential) development. It also outlines that there should not be any reduction in employment floor space.

As outlined in the Economic Impact Assessment (**Appendix 7**), the site is not suitable for significant employment generating land uses, given its location along the waterfront and away from any arterial roads. Any additional employment generating land uses on the site, will also be inconsistent with the modelling undertaken as part of the TMAP process, and will impact the viability of the new local centre proposed within the North Precinct. There are further opportunities to provide additional employment uses, on other landholdings within the South Precinct, this however would be subject to separate PPs. Refer to Section 7.3.3 for further detail.

Table 5 outlines consistency with the priorities, directions and actions of the LSPS.

Priority/Direction/Action	Response
Planning Priority 2 - Policy Direction P4 Stage rezoning and Planning Proposals in Growth Precincts at Granville, Parramatta East, Camellia, Melrose Park and Westmead based on the timing of transport infrastructure. Action	Consistent. This PP enables approximately 50% of the South Precinct to be rezoned, consistent with Council's approved Structure Plan for the precinct. It is anticipated that infrastructure will be provided in accordance with the requirements of Council and other state agencies and will be funded via a several different mechanisms, including a developer contribution plan, to be prepared by Council.
Planning Priority 3 Policy Direction	Consistent. This PP will enable 2 significant sites within the precinct to be rezoned. The precinct is
P4 Stage rezoning and Planning Proposals in newer Growth Precincts at Granville, Parramatta East, Camellia, Melrose Park and Westmead based on the timing of transport infrastructure (Figure 21). Action	identified in the LSPS as a "growth" and "residential" precinct. As part of the North PP, Council has included implementation options, to release density (equitably across both North and South precincts) based on the availability of transport infrastructure. A

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A5 Continue to implement the first stages of rezoning and potential Planning Proposals within Growth Precincts at Parramatta East (excluding WSU site) and Melrose Park (up to 6,700 dwellings).	similar provision is proposed as part of this proposal.
Planning Priority 5 Policy Direction P4 Stage rezoning and Planning Proposals in newer Growth Precincts at Granville, Parramatta East, Camellia, Melrose Park and Westmead bases on the timing of transport infrastructure (Figure 21).	Consistent. The PP enables the staged rezoning of the South Precinct. As outlined in the priority above, density will be equitably released within both north and south precincts as transport infrastructure becomes available.

Parramatta Local Housing Strategy

The Planning Proposal is consistent with the City of Parramatta Local Housing Strategy (LHS), which provides direction at the local level about when and where future housing growth will occur and how it aligns with the broader NSW-government strategic planning framework. The LHS identifies Melrose Park as a Growth Precinct and forecasts that approximately 6,330 new dwellings will occupy the precinct by 2036. The LHS also highlights the importance of ensuring that infrastructure delivery is aligned with housing growth and that growth precincts need to be aligned and effectively sequenced with State-driven transport delivery and to ensure targeted local infrastructure programs. The Proposal is consistent with this approach in that it is located within the announced Parramatta Light Rail (PLR) Stage 2 corridor and the TMAP for the precinct includes a staging plan for the delivery of the necessary road upgrades and public transport to support the future population of the precinct.

Is the planning proposal consistent with the applicable State Environmental Planning Policies?

The following State Environmental Planning Policies (SEPPs) are of relevance to the site (refer to Table 5 below).

Table 6 – Consistency of planning proposal with relevant SEPPs

State Environmental Planning Policies (SEPPs)	Consistency: Yes = ✓ No = x N/A = Not applicable	Comment
SEPP 19 – Bushland in Urban Areas	✓	This SEPP applies to urban remnant bushland, seeking to appropriately protect and preserve bushland and habitat. The sites are not currently zoned open space. Some vegetation outside the boundary of the site is of significance, however, will not be impacted upon by the proposed development.

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SEPP 33 – Hazardous and Offensive Development	✓	The subject site is within proximity of a high pressure oil pipeline. Any relevant requirements regarding redevelopment close to the pipeline will be addressed at the development application stage. A Hazard Analysis Report has been prepared to address the potential implications of this pipeline on the precinct. Refer to Appendix 11 .
SEPP No 55 Remediation of Land	✓	A Phase 1 preliminary contamination investigation report for the subject site has been prepared. Council is satisfied the site can be made suitable for residential purposes with a Phase 2 to be prepared at the DA stage.
SEPP 60 – Exempt and Complying Development	N/A	This SEPP is not applicable to the subject land under Clause 1.9 of the Parramatta LEP 2011.
SEPP 64 – Advertising and Signage	N/A	Not relevant to proposed amendment. May be relevant to future DAs.
SEPP No 65 Design Quality of Residential Flat Development	✓	Detailed compliance with SEPP 65 will be demonstrated at the time of making a development application for the site facilitated by this Planning Proposal. During the design development phase, detailed testing of SEPP 65 and the Residential Flat Design Code was carried out and the indicative scheme is capable of demonstrating compliance with the SEPP.
SEPP (Affordable Rental Housing) 2009	N/A	The Planning Proposal is subject to Council's <i>Planning Agreements Policy</i> 2018, which requires 10% of the value uplift to be provided as affordable rental housing. While not provision of affordable rental housing is included in the Planning Proposal, this matter will be discussed further as

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		part of future planning agreement negotiations.
SEPP (BASIX) 2004	N/A	Detailed compliance with SEPP (BASIX) will be demonstrated at the time of making a development application for the site facilitated by this Planning Proposal.
SEPP (Exempt and Complying Development Codes) 2008	✓	May apply to future development of the site.
SEPP (Infrastructure) 2007	✓	<p><i>SEPP (Infrastructure) 2007</i> aims to facilitate the effective delivery of infrastructure across the State. This includes by identifying matters to be considered in the assessment of development adjacent to types of infrastructure development, and providing for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing.</p> <p>Many of the provisions relate to development by the Crown and exempt development of certain development by on behalf of the Crown, which is not relevant to the Proposal.</p> <p>Clause 104 of Division 17 identifies the capacity or size of developments that should be referred to Roads and Maritime Services (RMS). Consultation has been undertaken with the RMS and Transport for NSW as part of the preparation of the Transport Management and Accessibility Plan (TMAP) and this will continue throughout the remainder of the Planning Proposal process, given the potential impacts (and opportunities) of the development up on Victoria Road, and wider commitments</p>

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		<p>for public transport enhancement associated with the Planning Proposal.</p> <p>Noise considerations to and from the proposed development can be addressed through the detailed design stage and would not be a determinative factor in rezoning the Site.</p>
SEPP (Coastal Management 2018)	✓	<p>The SEPP ensures future coastal development is appropriate to the coastal areas and for ongoing and improved public access and environmental protection. Under the SEPP the south portion of the site, including the Ermington Wetlands and adjoining area 100m landward of the mean high water mark, has been classified as a 'coastal environment area' and is subject to the SEPP. Development controls have been identified to minimise impacts on water quality, native vegetation and flora and fauna and their habitats. The Ermington Wetlands is classified as "coastal wetlands" in accordance with the SEPP. No development is proposed within this area and is therefore consistent with the SEPP. Parts of the precinct, which have been identified for development, have been identified as a "proximity area", "coastal environment area" and "coastal use" area. The SEPP outlines criteria to manage development within these areas, including minimising ecological, stormwater, heritage and visual impacts. Given the setback from the Ermington Wetlands and the minimal overshadowing associated, the proposed development is capable of being consistent with this</p>

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		SEPP, subject to further detail being provided at DA stage.
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	✓	<p>The site is within the Sydney Harbour Catchment, as a result the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (SREP) and Sydney Harbour Foreshores and Waterways Area Development Control Plan 2005 (DCP), is applicable to the subject site.</p> <p>In accordance with the SREP, part of the site comprises wetlands (refer to Figure 31) and in accordance with the DCP the part of the site comprises some saltmarsh vegetation.</p> <p>The proposed redevelopment includes a sufficient buffer from the Parramatta River and its wetlands, which will ensure this vegetation is appropriately protected, whilst encouraging greater public accessibility to the river.</p> <p>As outlined in Section 7.3, the Planning Proposal is accompanied by an Ecological Report, which indicates that the development is acceptable from an ecological perspective.</p> <p>The proposed public benefits associated with the redevelopment of the sites include improved foreshore access and connections, one of the key objectives of the SREP.</p> <p>A Heritage Assessment has been prepared (Appendix 3), which outlines that there are several heritage items listed under the SREP, in the vicinity of the site. Given the design of the concept plan, and buffers to heritage items, the proposed development is acceptable. Refer to Section 7.3.2 for further information.</p>

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		<p>Further information will be provided a DA stage, demonstrating detailed compliance with the remaining provisions, associated with water quality and water treatment to improve runoff and better connections to and along the harbour foreshores.</p> <p>The DCP which accompanies the SREP, does outline that pressure to relocate industrial land uses along the Parramatta River should be minimised. This, however, is inconsistent with Council's adopted SP and other key State policies, such as the GPOP PIC, which acknowledges Melrose Park as being ideal for urban renewal.</p>
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Is the planning proposal consistent with applicable Ministerial Directions (s.9.1 directions)

In accordance with Clause 9.1 of the *EP&A Act 1979* the Minister issues directions for the relevant planning authorities to follow when preparing planning proposals for new LEPs. The directions are listed under the following categories:

- Employment and resources
- Environment and heritage
- Housing, infrastructure and urban development
- Hazard and risk
- Housing, Infrastructure and Urban Development
- Local plan making

The following directions are considered relevant to the subject Planning Proposal.

Table 7 – Consistency of planning proposal with relevant Section 9.1 Directions

Relevant Direction	Comment	Compliance
• Employment and Resources		
Direction 1.1 – Business and Industrial Zones	<p>The objectives of Direction 1.1 are:</p> <p>(a) encourage employment growth in suitable locations, (b) protect employment land in business and industrial zones, and (c) support the viability of identified centres.</p>	Yes

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	<p>The Parramatta Employment Lands Strategy which was adopted by Council on 11 July 2016 (and the subsequent Employment Lands Strategy – Review and Update which was adopted by Council on 13 July 2020) identifies the decline of the pharmaceutical industry in Melrose Park as justification for recommending the urban renewal of Melrose Park for mixed use development.</p> <p>The Parramatta Employment Lands Strategy estimated that there was a total of 2,546 employees in the Melrose Park industrial precinct based on Census 2011 data – equivalent to an employment density of 49 persons per hectare. However, in the intervening period since 2011 the pharmaceutical industry has been through a major restructuring phase which has resulted in significant job losses in the precinct. Analysis undertaken by AEC Group, as part of this Planning Proposal, estimates that employment levels in 2016 in the Melrose Park IN1 precinct were over 50% lower than those recorded in 2011.</p> <p>Given the progressive withdrawal of pharmaceutical manufacturing operations from the Melrose Park precinct it is important to consider what other potential industrial uses could be attracted to the southern precinct. Aside from the pharmaceutical industry, current uses comprise food manufacturing and distribution and a disparate group of wholesaling, logistics and manufacturing operations.</p> <p>GlaxoSmithKline and Eli Lilly are two of the major tenants in the southern precinct (specifically tenants on the sites subject to the proposed Planning Proposal). GlaxoSmithKline vacated their premises in June 2022 and the site remains vacant. Eli Lilly will vacate their premises in March 2023, when their lease expires. When this occurs there's a high probability that the sites will remain vacant, both because the residual buildings are likely to be specialised to pharmaceutical manufacturing and also because the location of the sites at the bottom of a peninsula and surrounded by residential uses limits the types of manufacturing</p>	
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	<p>activities that can be undertaken. This is the more so with Melrose Park North having been gazetted on 24 June 2022 for residential/mixed use purposes making the travel to Melrose Park, through residential uses undesirable for large scale industrial uses and specifically ones using chemicals in the manufacturing process.</p> <p>It's unlikely that these large sites will be absorbed by warehousing, transport, distribution and logistics businesses, which have increasingly shifted their preferred locations from the inner city to the Outer-West and South-West of Greater Sydney. These locational decisions have been supported by improvements to the outer orbital ring roads and motorways (M5 and M7) and the proposed development of intermodal facilities such as the Moorebank Intermodal.</p> <p>Rezoning the precinct as a business zone is also unlikely to attract higher density employment uses because it is removed from a main road. B6 Enterprise Corridor zones are usually located along arterial roads. The precinct would also struggle to compete with well-located land on the outskirts of Parramatta.</p> <p>In addition to addressing the objectives, direction 7.1 requires a planning proposal to address the following:</p> <p>Retain the areas and locations of existing business and industrial zones.</p> <p>The Parramatta Employment Lands Strategy which was adopted by Council on 11 July 2016 (and the subsequent Employment Lands Strategy – Review and Update which was adopted by Council on 13 July 2020) found that strong demand for housing, a decline in traditional manufacturing and the poor location of some employment lands presented an opportunity to rezone some land for residential or mixed uses. The southern precinct fits these criteria, given the following:</p> <ul style="list-style-type: none"> • It is in high demand for residential uses because of its waterfront position and proximity to major employment centres and amenities. The precinct looks across 	
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	<p>the Parramatta River to Wentworth Point and Rhodes, two examples of the strong preference currently being displayed for medium to high rise waterfront residential developments in the wider locality.</p> <ul style="list-style-type: none"> • It is in an industrial precinct dominated by pharmaceutical companies. The precinct's pharmaceutical cluster is currently undergoing a major restructuring which has seen manufacturing components increasingly move offshore, leaving only the commercial aspects of the business which do not require industrial floorspace. • The precinct is 1km from a major arterial road and is accessed via a residential area and school zone. The northern planning proposal has since been gazetted (and Development Applications have been lodged), therefore the southern precinct will eventually be surrounded by residential uses to the north. <p>Not reduce the total potential floor space area for employment uses and related public services in business zones,</p> <p>The proposed rezoning is not within a business zone.</p> <p>Not reduce the total potential floor space area for industrial uses in industrial zones, and</p> <p>The proposed rezoning would result in a loss of floorspace that could be utilised for industrial uses. However, low employment generating industrial uses are increasingly unnecessary in close proximity to major centres as a result of a long-term structural shift in economic activity, whereas the development of a mixed use development would create additional demand for local urban service trades and industries.</p> <p>Melrose Park South becomes a remnant of industrial zoned land on the water with the rezoning of Melrose Park North. Traveling through a mixed-use area to a remnant industrial zone on the waterfront, adjacent to sensitive mangroves is not seen as a realistic potential industrial area.</p>	
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	<p>Ensure that proposed new employment areas are in accordance with a strategy that is approved by the Planning Secretary</p> <p>The Planning Proposal responds to and accords with the indicative targets for population, housing and employment growth set out in the Central City District Plan, while also being consistent with the adopted structure plan for the southern precincts</p>	
Directions 1.2 – 1.5	Not applicable	N/A
Environment and Heritage		
Direction 2.2 – Coastal Management	<p>The Planning Proposal does not propose to rezone or increase development for intensive land uses on land within a “coastal wetland” or “littoral rainforest” as identified by State Environmental Planning Policy (SEPP) (Coastal Management) 2018.</p> <p>Under the SEPP, the southern portion of the site including the Ermington Wetlands and adjoining area landward of the mean high-water mark has been classified as a ‘coastal environment area’ and is subject to the SEPP. Development controls have been identified to minimise impacts on water quality, native vegetation and flora and fauna in their habitats and will be included in the draft site-specific DCP for the precinct.</p> <p>The Ermington Wetland is classified as a ‘coastal wetland’ under the SEPP. No development is proposed within this area.</p> <p>Part of the precinct where development is proposed to be located have been identified as a ‘proximity area’, ‘coastal environment area’ and ‘coastal use’. These areas do not prohibit development, rather the SEPP includes specific objectives to ensure any future development appropriately mitigates any impacts associated with ecology, stormwater, heritage and visual impacts whilst encouraging public access along the foreshore areas.</p> <p>The proposed development includes a substantial and increased setback along the Parramatta River and incorporates new public domain areas, including public parks which will provide expanded public access</p>	Yes

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	<p>to the foreshore and help to improve ecological and stormwater conditions.</p> <p>A site-specific DCP is being prepared for the precinct and will be informed by the structure plan and include detailed controls for the built form to ensure any development minimises impacts associated with visual massing and solar access.</p> <p>The Planning Proposal is therefore considered to be consistent with this direction, with further information and detail to be provided at development application stage.</p>	
Direction 2.3 – Heritage Conservation	<p>The site is not identified as a local heritage item or within a heritage conservation area within Schedule 5 of PLEP 2011.</p> <p>The site is however adjacent to the heritage listed Ermington Bay Wetlands (I1) which is an item of local significance.</p> <p>The Ermington Wharf, formerly known as the Pennant Hills Wharf is also in the vicinity of the site and is identified as a heritage item within SREP (Sydney Harbour Catchment) 2005 – Schedule 4.</p> <p>The Heritage Assessment (refer Appendix 3) prepared by Tropman and Tropman Architects for the site outlines that the wetland is a dominant element on the southern edge of the precinct. The Ermington Wharf provides a significant public connection with the wetland river and associated ferry service. The associated wharf ramp provides access for private boats to the river and is one of the few remaining facilities allowing public access west of Olympic Park.</p> <p>The assessment also outlines that, although the proposed future development will have some visual impact on views to/from the adjacent heritage listed item, it is considered that this is mitigated by the scale of the wetland and the proposed public open spaces along the foreshore, providing a buffer from the river to the development site.</p> <p>Further investigation to identify potential item of archaeological significance in the precinct will be undertaken at the DA stage to assess significance, particularly in relation to the Holdmark East site. Archaeological monitoring during excavation will be implemented for other parts of the sites identified as having</p>	Yes

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	<p>archaeological importance. Notwithstanding, due to the existing industrial uses on the sites these sites are considered to be highly disturbed and the possibility of any remnants of archaeological significance remaining is very low.</p> <p>The impact of the proposed planning proposal on the heritage listed items is considered to be minimal and will not detract further from the overall significance of the items.</p>	
Direction 2.6 – Remediation of Contaminated Land	<p>A Preliminary Site Investigation has been prepared by Senversa (refer Appendix 2) and concludes the following:</p> <p>The Holdmark West site has been subject to PSI and detailed site investigation, however, the current groundwater monitoring well network is limited. Additional monitoring wells are required to assess the identified potential sources of contamination. Analysis of soil or water for chemicals associated with pharmaceuticals such as sertraline, diphentoin and praziquantel has not been undertaken on the site to date.</p> <p>The Holdmark East site and the general area have had a history of industrial type uses for approximately 60 years. Additionally, it is likely that all properties have been subject to uncontrolled filling for site levelling purposes, predominantly in the southern portions of each property and also the western portion of 30 Waratah Street. The contamination status of the Holdmark East properties is unknown and previous desktop assessments have identified a medium to high risk of contamination being present.</p> <p>On this basis, at DA stage, it is recommended that further assessment of all properties be carried out in line with the staged approach set out in SEPP 55 Remediation of Land, Contaminations Planning Guidelines and guidance under the Contamination Land Management Act 1997. THs should include but not be limited to:</p> <ul style="list-style-type: none"> • A more extensive groundwater assessment of Holdmark West site. • A detailed site investigation of the entire Holdmark East site. 	Yes

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	<ul style="list-style-type: none"> This should commence with the development of a sampling and analysis quality plan (SAQP) detailing the required data quality objectives of the further investigation. <p>If required, a remediation action plan should be produced that determines how the site should be remediated to make it suitable for the proposed land uses.</p> <p>A Remediation Action Plan is in the process of being prepared by the applicant and will be provided when available.</p> <p>Subject to the above, it is considered that the land can be made suitable for the proposed land uses.</p>	
Housing, Infrastructure and Urban Development		
Direction 3.1 - Residential Zones	The Planning Proposal is consistent with this direction, in that it encourages a variety and choice of housing types to provide for existing and future housing needs, whilst providing for new infrastructure such as roads and open space. The Proposal demonstrates appropriate built form whilst minimising the impact of residential development on the environment.	Yes
Direction 3.4 - Integrating Land Use and Transport	The Planning Proposal is consistent with this direction, in that it will enable high density development in close proximity to existing and future jobs and services encouraging walking, cycling and use of public transport. This will be further enhanced with the construction of the proposed bridge over the Parramatta River, which will increase accessibility, in particular to the proposed new metro station at Sydney Olympic Park.	Yes
Hazard and Risk		
Direction 4.1 - Acid Sulfate Soils	The site is identified as Class 5 on the Acid Sulfate Soils Map in Parramatta Local Environmental Plan 2011. Acid sulfate soils are generally not found in Class 5 areas however this will be addressed further at the development application stage.	Yes
Direction 4.3 - Flood Prone Land	A Civil Engineering and Infrastructure Assessment Report has been prepared by Costin Roe (Appendix 4). As outlined in the report, the site will be clear of the PMF flood event extent. The defined the Flood Planning Levels (FPL) for the site based on the 1 in 100 year ARI storm flood level plus 500mm freeboard, allowing for the	Yes

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	development to be sited above the 1 in 100 year ARI flood level. Any potential impacts as a result of development on the site, such as stormwater runoff, will be considered and addressed appropriately at DA stage. This will also include any design detail required to ensure compliance with Council's water management controls.	
Regional Planning		
Direction 6.1 - Approval and Referral Requirements	The Planning Proposal does not introduce any provisions that require any additional concurrence, consultation or referral.	Yes
Direction 6.2 – Reserving Land for Public Purposes	The Planning Proposal is consistent with the objectives of this Direction as it seeks to rezone existing private land to RE1 Public Recreation. These sites are proposed to be identified on the relevant Land Reservation Acquisition maps.	Yes
Direction 6.3 - Site Specific Provisions	The Planning Proposal seeks to introduce the following site-specific provisions by amending Part 6 – <i>Additional local provisions – generally</i> : Insert Design Excellence provisions applicable to buildings 55m and above in height without the provision of bonuses. A minimum of 1,000m ² of non-residential floor space is to be provided within the site to serve the local retail and commercial needs of the incoming population.	Yes
Metropolitan Planning		
Direction 7.1 - Implementation of A Plan for Growing Sydney	The Proposal is consistent with the relevant Goals and direction in the Strategy.	Yes

Section C – Environmental, social and economic impact

This section considers the potential environmental, social and economic impacts which may result from the Planning Proposal.

Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

- The Planning Proposal is accompanied by an Ecological Assessment prepared by Ecological Australia (**Appendix 5**).
- The landward portion of the study area consists of scattered native and exotic landscape plantings with weedy patches. A continuous stand of Estuarine Mangrove Forest lines

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the northern bank of the Parramatta River to the south of the study area. This is known as the Ermington Bay Wetlands.

- The Wetlands are of high ecological significance (refer to Figure 33 within **Appendix 5**), providing an important habitat for migratory species. Coastal Saltmarsh forms part of this wetland area and is listed as an endangered ecological community. *Wilsonia backhousei*, which is listed as vulnerable, is also found within Ermington Bay.
- An ecological constraints analysis identified vegetated areas within the foreshore area (where no development is proposed) as being of medium to high ecological constraint. Outside the foreshore area, the study area is comprised of medium to low ecological constraint areas and will not result in a significant ecological impact if removal is required.

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Figure 2. Vegetation on the site (source: Ecological Australia)

Saltmarsh communities are extremely sensitive area to changes in microclimate. Based on shadow testing undertaken of the building envelopes, it is not anticipated that overshadowing to the existing salt marsh will occur between 9am and 3pm mid-winter, however this will be

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tested further as part of the development assessment process. Controls will also be included in the site-specific DCP to ensure overshadowing does not occur beyond acceptable limits.

Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

The main potential environmental impacts to be examined in detail with any future development proposal for the site are:

- Built Form and Density Control
- Flooding
- Transport and Accessibility Assessment
- Economic Analysis
- Preliminary Geotechnical Investigation
- Contamination
- Pipeline infrastructure

Built Form

The indicative development scheme proposes building heights ranging from 25m (approximately 6 storeys), 31m-34m (approximately 8 storeys depending on the slope of the site) along the perimeter of the sites, with some tower elements of 68m (approximately 20 storeys) and 77m (approximately 22 storeys) in the centre of the sites. There are also heights of 4 storeys proposed on the perimeter of the West site which are mapped in the draft DCP. They are not represented on the LEP height map due to the upper height limit being mapped where there are multiple heights on one development block. of This transition in heights are considered to be acceptable as it will;

- allow greater internal building separation on each lot and therefore provide a more usable and liveable courtyard to be accommodated on each lot
- enable an appropriate building depth to be achieved
- enable appropriate deep soil areas on the sites for the planting of large canopy trees
- enable the provision of through-site pedestrian links
- provide the required view corridors from existing streets

The indicative built forms for the East and West sites are shown in **Figures 3 and 4** below. Indicative built form 3D aerial images are shown in **Figures 5-8**.

A summary of the current and proposed planning controls is provided in **Table 8** below.

	EAST SITE			WEST SITE
	112 Wharf Road	30 Waratah Street	32 Waratah Street	82 Hughes Avenue
Current Zone	IN1 General Industrial			
Proposed Zone	Part R4 High Density Residential, part RE1 Public Recreation	RE1 Public Recreation	Part R4 High Density Residential, part RE1 Public Recreation	Part R4 High Density Residential, part RE1 Public Recreation

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Current FSR	1:1	1:1
Proposed gross FSR	1.66:1	1.79:1
Proposed net FSR	2.74:1	2.46:1
Current height limit	12m	12m
Proposed Height limit	Range comprising of 6 storeys (25m), 8 storeys (31m & 34m) 20 storeys (68m) and 22 storeys (77m)	
Potential dwelling yield per site	835 units	1,090 units
Total potential dwelling yield	1,925	
Non-residential floor space component	500m ²	500m ²

Density Control

Implementation Plan B

The TMAP includes an Implementation Plan A which provides up to 11,000 dwellings over the north and south precincts subject to identified road and traffic works, the bridge to Wentworth Point with light rail or equivalent bus service and Sydney West Metro being delivered. Implementation Plan A will facilitate an FSR 1.85:1 for the northern part of the precinct and 1.7:1 in the southern precinct. However, an Implementation Plan B is proposed to be included in the LEP to address the capacity of the precinct in the event that no commitment has been made by the State Government towards the bridge to Wentworth Point and associated light rail or bus service at the time of development applications being lodged in the precinct (noting that commitment has been made to the delivery of Sydney Metro West).

As a result, the dwelling number will be restricted to 6,700 as this is the upper limit that can be accommodated across the entire precinct without Sydney West Metro, the bridge to Wentworth Point and associated light rail or bus service being provided as identified in the TMAP. Accordingly, a 40% reduction in yield will be applied to development in Melrose Park to ensure both north and south precincts are treated equitably. Should a commitment to the bridge to Wentworth Point and associated light rail or bus service be made after this time then development to the full 11,000 dwellings can be achieved. Further discussion between Council officers and the DPE is required regarding the best mechanism for the inclusion of this restriction in the PLEP, site specific DCP and VPA and further details will be reported to Council separately post-exhibition of the Planning Proposal.

It has been established that it is not possible to dictate the order in which redevelopment of land occurs within the Melrose Park Precinct. However, the local Planning Agreement associated with this Planning Proposal includes a staging plan in the Infrastructure Services Delivery Plan identifying at which stage of redevelopment the identified infrastructure items are required to be delivered. This ensures that the infrastructure required to support the incoming population is delivered at the appropriate stage of redevelopment.

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Figure 3. Indicative built form on the East site

The 17m buffer area along the Wharf Road boundary is intended to provide additional separation from the new development to the existing low-density residential development on the eastern side of Wharf Road within the Ryde LGA. This landscaped area will also provide a visual barrier between the proposed development and opposite development, with large canopy trees envisaged to be planted. This area is proposed to be zoned RE1 Public Recreation to ensure that no development can occur within this area and the visual and physical separation is maintained in perpetuity.

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Figure 4. Indicative built form on the West site

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Figure 5. Indicative built forms on the East and West sites from the south-east



Figure 6. Indicative built form on the East and West sites from the south-west

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Figure 7. Indicative built form on the East and West sites from the north-west



Figure 8. Indicative built forms on the East and West sites from the north-east

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Traffic and Transport

Ason Group has prepared a Transport Assessment (**Appendix 1**), which examines the access, traffic and parking characteristics of the PP and the future operation of the road, public and active transport and parking environments. It is important to note that the Assessment has been prepared in accordance with the final Transport Management & Accessibility Plan 2018 (TMAP), prepared by Jacobs and endorsed by the NSW Transport Cluster. The TMAP makes a series of recommendations, infrastructure requirements and provides an implementation plan, which will all be implemented and has been considered in the preparation of the Transport Assessment.

The trip generation proposed on the Holdmark sites will be significantly lower (approximately 20%) than forecast and modelled in the TMAP. This is a result of reduced yields across the Holdmark sites compared to those adopted in the TMAP.

The internal and adjacent road network provided in the Planning Proposal is essentially identical to that adopted in the TMAP model with **Figure 9** showing the proposed layout and hierarchy. Therefore, the general distribution of vehicle trips to and through the local road network should not be any different to that assigned in the TMAP model. Given that the TMAP determined that the trip generation of the Holdmark sites (and broader Melrose Park) could, further to the works and strategies identified in the TMAP Implementation Plan, be appropriately accommodated by the future road network, it is therefore inherently the case that the PP can be supported in consideration of traffic conditions.

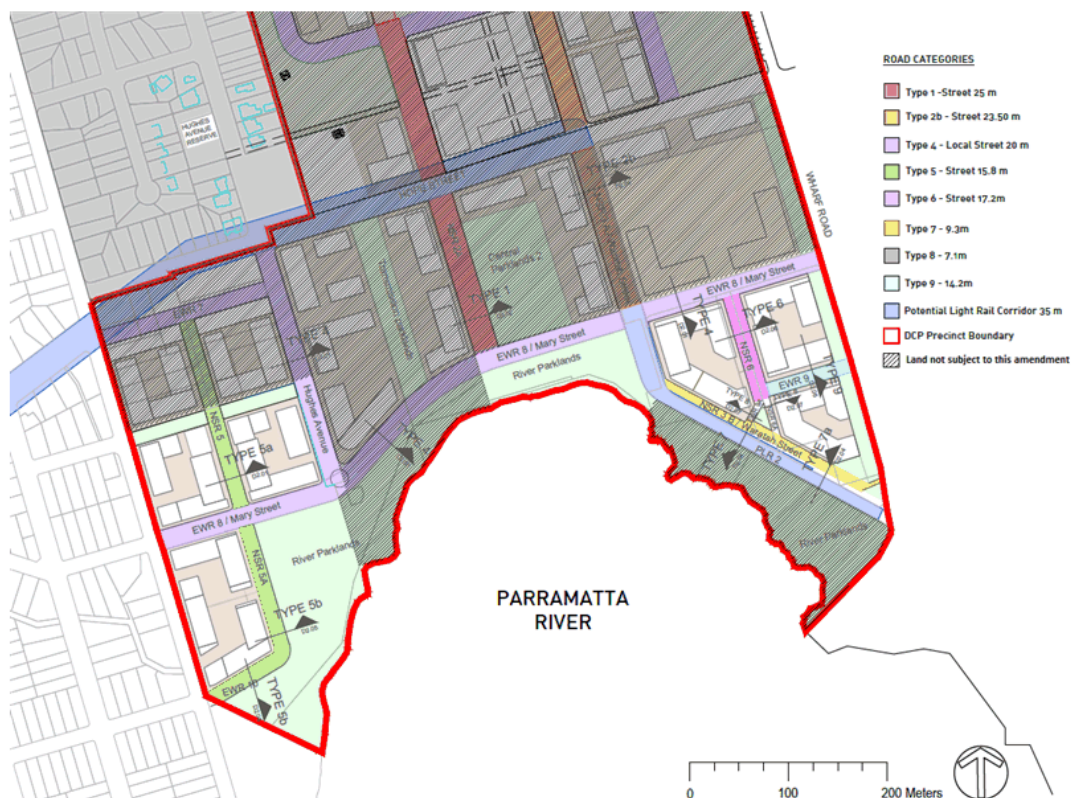


Figure 9. Proposed road network

Parking across the Holdmark sites will be provided in accordance with the maximum parking rate recommendations detailed in the TMAP; while noting the parking may be provided at

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higher (average) rates in the short term, the maximum parking further to the completion of development will not exceed 1,534 parking spaces.

Council officers do not support the parking rates proposed by the applicant. It is acknowledged that these rates are consistent with those included in the TMAP, however, these have not been endorsed by Council officers. This is due the significant difference between the short term and medium/long term rates identified in the TMAP which for the short term, specify 1 car space per studio, 1 bedroom and 2 bedroom units and 1.2 spaces for 3+ bedroom units. For medium-long term, it specifies 0 spaces for studio units, 0.3 spaces for 1 bedroom units, 0.7 spaces per 2 bedroom units and 1 space per 3+ bedroom units. The lack of clarity as to when the shift between these rates is triggered. As a result, it is recommended that the parking rates detailed in Parramatta DCP 2011 for residential flat buildings be used which is consistent with the parking rates being applied in the northern precinct. This matter will be addressed as part of the site-specific DCP for the southern precinct and does not prevent the Planning Proposal from progressing.

There is significant new infrastructure being proposed within the site and the surrounding area, including the Parramatta Light Rail (Stage 2), the public transport bridge across the Parramatta River and the new Sydney Metro West Line, connecting Parramatta to the CBD, with a stop at Sydney Olympic Park. This new infrastructure will improve the site's accessibility with the surrounding area.

The Transport Assessment recommends that full compliance is provided with the recommendations of the TMAP. The TMAP recommends certain infrastructure is provided to release the envisaged density. As outlined in **Figure 10** below, the release of density, up to 6,700 dwellings is reliant on certain upgrades to Victoria Road. The release of any further dwellings (Stage 2), is reliant on the construction of the new bridge across the Parramatta River.

Stage	Total Dwellings Supported
Existing Network	0 - 1,100
Stage 1A	1,100 - 1,800
Stage 1B	1,800 - 3,200
Stage 1C	3,200 - 6,700
Stage 2	> 6,700

Figure 10. Supported density at each stage on infrastructure delivery

Contamination

Senversa has prepared a Preliminary Site Investigation (**Appendix 2**) and concludes the following:

- The Holdmark West property (GlaxoSmithKline (GSK)) has been subject to PSI and detailed site investigation (DSI); however, the current groundwater monitoring well network is limited. Additional monitoring wells are required to assess the identified potential sources of contamination. Analysis of soil or water for chemicals associated

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with pharmaceuticals such as sertraline, diphenoin and praziquantel has not been undertaken at the property to date.

- The Holdmark East properties and the general area have had a history of industrial type uses for approximately 60 years. Additionally, it is likely that all properties have been subject to uncontrolled filling for site levelling purposes, predominantly in the southern portions of each property and also the western portion of 30 Waratah Street. The contamination status of the Holdmark East properties is unknown, and previous desktop assessments have identified a medium to high risk of contamination being present.

On the basis of the above conclusions, Senversa recommends that, at DA stage or prior to development, further assessment of all properties is carried out in line with the staged approach set out in SEPP 55–Remediation of Land, Contamination Planning Guidelines and guidance under the CLM Act 1997. This should include:

- A more extensive groundwater assessment at Holdmark West (GSK).
- A Detailed Site Investigation (DSI) at properties within Holdmark East (all three properties).
- This should commence with the development of a sampling and analysis quality plan (SAQP) detailing the required data quality objectives (DQO) of the further investigation.
- If required a remedial action plan (RAP) should be produced that determines how the site should be remediated to make it suitable for the proposed land uses.

This approach is supported by Council officers and subject to the above, the land can be made suitable for the proposed uses.

Heritage

The sites are located adjacent to the Ermington Bay wetland which is identified as an item (I1) of local heritage significance in Schedule 5 of PLEP 2011. The sites are also within close proximity to two other locally listed heritage items, being the Bulla Cream Dairy at 64 Hughes Avenue (I64) and Ermington Wharf (I82). Refer to **Figure 11** for location of nearby heritage items

Further investigation to identify potential archaeological significance in the southern precinct will be undertaken as part of the development application process to assess the level of significance, particularly in relation to the East site. As a result, it is considered that the potential impacts on the adjacent heritage items as a result of the proposal will be minimal. Council's Heritage Adviser has reviewed the proposal and supporting Heritage Assessment and raises no concerns with the findings of the Heritage Assessment or Planning Proposal from a heritage perspective. Refer to the Heritage Impact Assessment at **Appendix 3** for further detail

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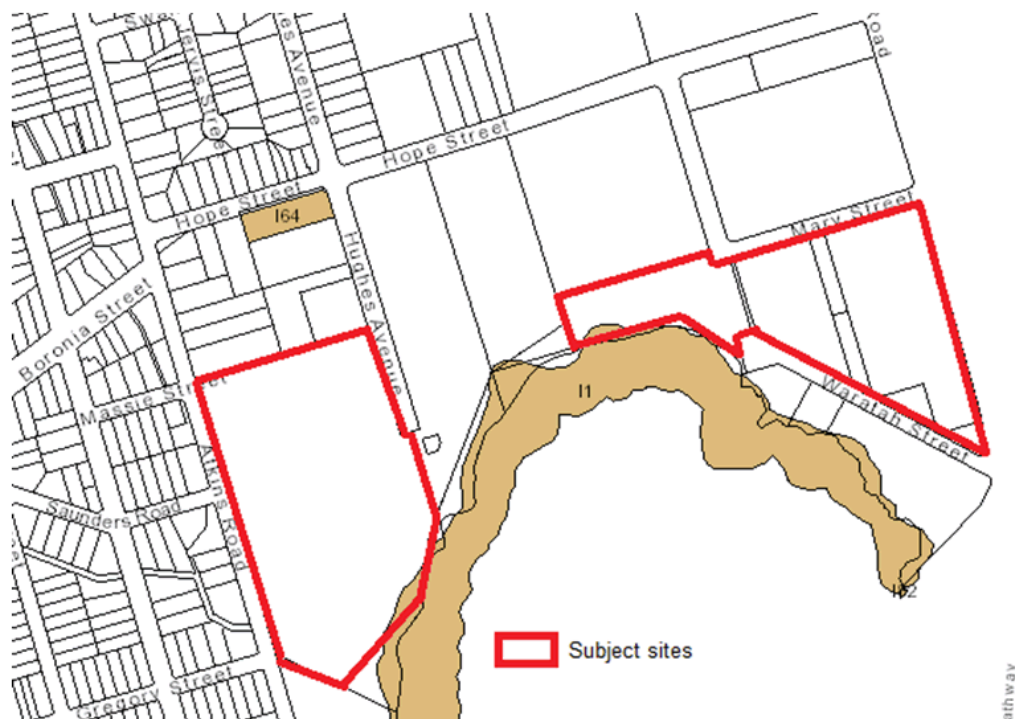


Figure 11. Heritage items

Flooding

A Civil Engineering and Infrastructure Assessment Report has been prepared by Costin Roe (**Appendix 4**). A Flood Enquiry Application was made to Council. An estimate of the 1 in 100-year flood level of 1.5m has been made based on interpolating flood level contours. The flood enquiry information shows the site will be clear of the PMF flood event extent.

The defined the Flood Planning Levels (FPL) for the site based on the 1 in 100-year ARI storm flood level plus 500mm freeboard, allowing for the development to be sited above the 1 in 100-year ARI flood level.

The FPL for the development varies depending on where it is in relation to the Parramatta River and local overland flow paths. The estimated FPL for the South Precinct is based on flooding relating to the Parramatta River is RL 2.0m AHD.

In terms of flooding from climate change, sea level rise is expected to be approximately 300mm by 2050. Given the distance upstream this is expected to have minimal effect on the reported flood level.

Council's internal assessment of the potential flooding implications revealed no concerns regarding the applicant's proposed approach to water management on the site. However, it is noted that this issue needs to be considered in conjunction with the northern precinct to ensure an integrated approach. Overland flow modelling has been undertaken for the northern precinct and will be used to inform the southern precinct.

Services

The Civil Engineering and Infrastructure Assessment (**Appendix 4**), assess the infrastructure available to the site. The table below provides a summary.

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Table 9. Services

Services	
Potable Water	The DN150mm water main in Waratah Street is expected to have a capacity to service approximately 160 apartments. Utilising the two existing connections on Hope Street (expected to be 200mm each) a further 800 apartments would be able to be serviced. The 900mm and 1200mm mains in Hope Street would also provide significant capacity however these lines would also service a much greater contributing area. Given the location of the development is near the Parramatta City CBD, and the presence of major water mains in Hope Street, it is expected that infrastructure of sufficient capacity is available and accessible in the required timeframes for the development of the land.
Wastewater (sewer)	The existing DN225 and DN300 mains located in the precinct are expected to have a capacity in the order of 26 l/s and 45 l/s respectively. The estimated capacity of the connecting main is above the required output from the development, as such it is expected that the existing main will be sufficient to cater for the development. The extent of the upstream catchment being serviced by the main however is not known and confirmation of the proposed strategy will be confirmed in conjunction with Sydney Water via a Sydney Water Qualified Water Service Coordinator during the DA stage of the development.
Power	It is considered that power supply will be able to be provided to the development site, subject to some amplifications to meet the expected demand range of the development.
Natural Gas	Subject to further investigations, it is considered that gas supply will be able to be provided to the development site if required.
High Voltage Transmission Towers	A high voltage transmission line is present within the South Precinct, but not within the subject site. Should development be proposed in the vicinity of the towers or associated high voltage lines, the development will comply with the relevant guidelines, should it be required.
Telecommunications	Existing local telecommunications services and optic fibre routes are located in proximity to the development. Costin Roe expects that the existing local cable network would not have the capacity to service the proposed development and that new

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	underground cabling would be required to suit the project requirements.
High Pressure Oil Pipeline	<p>A Hazard Analysis Report was prepared during the preparation of the Melrose Park North Planning Proposal to address DPE's and School Infrastructure NSW's concerns about the proximity of the Viva high pressure oil pipeline to the new school site in the northern precinct. This report covers the entire Melrose Park precinct and concludes that the maximum individual fatality risk only occurs at two locations where the Gore Bay Pipeline changes direction and would only apply to sensitive land uses (schools, hospitals, etc.). These uses are not currently proposed on the subject sites. Therefore, the proposed redevelopment satisfies the individual fatality risk criteria.</p> <p>Despite the report concluding that there is no risk to the subject sites, the report does recommend several measures, many of which relate to sensitive land uses such as hospitals, aged care facilities and child care centres. The remaining recommendations are in relation to the detailed design of the future buildings within the precinct.</p> <p>Given the Proposal is still at rezoning stage, the Arriscar report is sufficient to satisfy item 5 (e) of the Gateway Determination. Further studies will be undertaken at Development Application and Construction Certificate stage once the use and design of each individual building is known.</p> <p>The pipeline owner, Viva energy, has advised that as part of the detailed design and further future development applications on the site that a Safety Management Study (SMS) shall be undertaken in accordance with AS2885 to ensure the safety of the surrounding environment and people regarding the maintenance, operation and integrity of the pipeline.</p>
Stormwater	<p>As per general engineering practice and the guidelines of Parramatta City Council, the proposed stormwater drainage system for the development will comprise a minor and major system to safely and efficiently convey collected stormwater run-off from the development to the legal point of discharge. Details of the proposed system for the development will be defined during the</p>

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	<p>Development Application Stage of the project.</p> <p>The minor system will consist of a piped drainage system designed to accommodate the 1 in 20-year ARI storm event (Q20). This results in the piped system being able to convey all stormwater runoff up to and including the Q20 event. The major system will be designed to cater for storms up to and including the 1 in 100-year ARI storm event (Q100). This major system employs overland flow paths to safely convey excess runoff from the site.</p> <p>As part of the new development, the council drainage and easements from the low point in Hope Street will need to be considered. Realignment of a portion of the drainage line will be required to suit the new building layout over the site. Consideration to overland flow from the low point will also be required.</p>
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How has the planning proposal adequately addressed any social and economic effects?

The Planning Proposal is supported by the following consultant studies which conclude that the proposed redevelopment will not have a negative impact on the local economy and community from a social and economic perspective.

- Community and Place Benefits Analysis prepared by Cred Consulting (**Appendix 6**)
- Economic Impact Assessment prepared by Hill PDA (**Appendix 7**)

Social Effects

Cred Consulting has prepared a Community and Place Benefits Analysis (**Appendix 6**).

The current estimated population (2018) for the Ermington-Melrose Park suburb is 11,745 people. The 2020 population forecast for the suburb is 14,003 and is forecast to grow to 46,631 by 2041. Based on a household size of 2.59 persons, the forecast population of the Holdmark sites will be around 5,012 people, and the total Melrose Park Precinct, 9,985 people.

To support the increase in population on the Holdmark sites, Cred Consulting recommends the following community and place benefits:

- New multipurpose community hub: Council has identified a need for a 2,000sqm multipurpose community hub in Melrose Park. Based on Council's benchmark of 80sqm per 1,000 of community floor space, 400sqm of floor space would be required from the Holdmark sites. This hub could include creative spaces to be used by the community.
-

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- Contribution to improved Ermington Library: Council has identified a need to expand and upgrade the Ermington Branch Library. Based on Council benchmarks, a contribution to the upgrade could be made requiring 234sqm.
- New quality long day care: the Holdmark sites will require provision of around 162 long day care places or 2 new centres. One of the centres could be co-located with the multipurpose community hub, and offered to Council, as a Council facility.
-
- New Out of School Hours (OOSH) places: an additional 166 OOSH places would be required from the Holdmark sites for children aged 5 to 11 years. A new OOSH centre could be provided as part of any new primary schools servicing the area.
- Communal spaces: communal spaces for “noisy” activities like music practice rooms, or study spaces away from apartments, or places to gather.
- New open space & active open space: approximately 20% of the site area to be public open space.
- Outdoor recreation facilities: the inclusion of fitness equipment/stations within new open space or along green links, at least 2 playgrounds within the Holdmark sites and provision of 1 outdoor multipurpose court within new open space.
- Access and connectivity to river: create pedestrian and cycle access to the Parramatta River front to increase connectivity to the riverfront.
- Key worker housing: include key worker housing (both for rent and purchase) to respond to a high need across the Parramatta LGA and increasing workforce.
- Public art: provide opportunities for public art that is embedded within the building design, public spaces and also along the riverfront (i.e., River art walk) to tell the local stories, history.
- Community building: as there are currently no people living in this Precinct, delivery of community building programs and activities, and inclusion of community in open space and facility planning, will be a priority.

Holdmark is willing to discuss the above requirements with Council to determine suitable locations for this infrastructure or alternatively suitable contributions to deliver this infrastructure.

Economic Effects

An Economic Impact Assessment had been prepared by Hill PDA (**Appendix 7**), in accordance with the requirements of the Parramatta Employment Lands Strategy 2016 (ELS).

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The ELS recommends a series of applicable actions to the precinct, as outlined in **Table 10** below:

Action	Response
A3 – Rezoning to zones that facilitate higher employment densities	<p>It is proposed to rezone the subject site from IN1 General Industrial to R4 High Density Residential and RE1 Public Recreation. The R4 Zone allows for both shop top housing developments and also residential flat buildings. The permissibility of shop top housing will allow any development to incorporate neighbourhood shops, which will provide local employment opportunities within the precinct.</p> <p>Consideration of other zones: Industrial: Under an industrial zone, any development is likely to comprise of small scale manufacturing and warehousing. This would not generate an increase in employment density. Other Business Zones: Incorporating other business zones such as 'B6 Enterprise Corridor' is unlikely to attract higher density employment uses because the site is removed from Victoria Road, the closest major thoroughfare from the site. Business zones are generally located along arterial roads and the subject site would be in competition with well-located land on the outskirts of Parramatta.</p>
A6 – Prepare Structure Plans for Key Employment Precincts which are undergoing economic change	This PP has been prepared in accordance with the approved SP for the South Precinct.
A8 – Structure Plan precincts will not result in a decrease to employment density	<p>The ELS cited the uncertainty surrounding the pharmaceutical industry's prospects and the size and significance of the Melrose Park precinct as justification for the preparation of a Structure Plan for the overall precinct, to encourage urban renewal.</p> <p>The ELS estimated that there was a total of 2,546 employees in the Melrose Park Industrial Precinct based on 2011 Journey to Work data – equivalent to an employment density of 49 persons per hectare. However, in the intervening period since 2011 the pharmaceutical industry has been through a major restructuring phase which has resulted in significant job losses in the precinct. Around 450 jobs were lost from 2011 to 2016 and job numbers are continuing to decline.</p> <p>The Parramatta Employment Lands Study 2013 found that strong demand for housing,</p>

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	<p>a decline in traditional manufacturing and the poor location of some employment lands presented an opportunity to rezone some land for residential or mixed uses.</p> <p>The PP will provide for approximately 160 jobs, which is less than the current buildings on site, when estimated in 2011. There is however an opportunity for the remaining sites within the precinct, in particular the sites in close proximity to Hope Street and the North Precinct, to provide additional employment opportunities.</p> <p>Justification for non-residential floorspace</p> <p>Considering the North PP is proposing a standalone centre with approximately 1,478 to 1,873 jobs, it would not be economically feasible for this PP to provide any more ground level commercial and retail uses. The standalone centre would be the key retail centre for local residents within the Melrose Park suburb. Consequently, there would only be a role for convenience shopping for residents on the subject sites. There may also however be an opportunity for further employment uses being provided on other landholdings within the South Precinct, landholdings fronting Hope Street, which would be opposite the other employment uses within the North Precinct. The subject site's proximity to sensitive residential uses, is a constraint on its suitability to accommodate many non-residential uses. Additionally, the TMAP assumed the majority of the non-residential uses would be within the North Precinct. Any additional non-residential uses within the South Precinct, will be inconsistent with the TMAP model, and may have traffic and transport implications on the road network.</p>
A11 – Proposed rezoning must be supported by an Economic Impact Study	<p>The PP is supported by an Economic Impact Assessment prepared by Hill PDA (Appendix 7). This assessment has been prepared in accordance with the ELS and has considered its Industrial Lands Strategic Assessment Checklist (refer to Table 23).</p>

Table 11 provides responses to the ELS's Industrial Lands Strategic Assessment Checklist

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Table 11.

Criteria	Question
Is the proposed rezoning consistent with State and/or Council strategies on the future role of industrial lands?	<p>The PP is consistent with the policy directions of the Central City District Plan in terms of contributing to mixed use development, transit orientated development and increased housing supply.</p> <p>Additionally, the ELS identified the potential for a 10-15% net reduction in employment land over the long term and the strategic significance of the precinct is now less clear given the decline in pharmaceutical manufacturing and associated employment within the precinct.</p> <p>Urban renewal within Melrose Park, from industrial to mixed use, was also recognised and acknowledged by Council through the approval of both the North and South SPs, which both envisaged high-density mixed used development within Melrose Park.</p>
Is the site: a) Near or within direct access to key economic infrastructure? b) Contributing to a significant industry cluster?	<p>The site is 1km from an arterial road and is accessed via a residential area and school zone. After development of the North Precinct, the subject site will eventually be surrounded by residential uses. The South Precinct is part of the Melrose Park IN1 General Industrial Precinct, which is dominated by the pharmaceutical industry. However, the pharmaceutical industry is currently undergoing a major restructuring phase which has progressively seen manufacturing operations move offshore. Pfizer and Reckitt Benckiser have both ceased manufacturing operations in the precinct in the last five years, while Eli Lilly, one of the current tenants in the Southern Precinct, ceased manufacturing operations in 2008.</p> <p>The site is also in the vicinity of the Parramatta Light Rail Stage 2 route. The piece of infrastructure has yet to be formally approved by the State Government. This infrastructure, should it proceed, will be a further catalyst for this precinct transforming from industrial to mixed use.</p>

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<p>How would the proposed rezoning impact the industrial land stocks in the subregion or region and the ability to meet future demand for industrial land activity?</p>	<p>The PP covers an area of approximately 9.4ha, equivalent to 1.5% of the 665.23ha of industrial land in the Parramatta LGA and 0.20% of industrial land (developed and undeveloped) in the central west subregion. The ELS, found that if existing lands are well utilised and aligned with demand, Parramatta's employment precincts could manage a net reduction of 10-15% of existing zoned employment lands over the long term.</p>
<p>How would the proposed rezoning impact on the achievement of the subregion/region and LGA employment capacity targets and employment objectives?</p>	<p>The district plan aims to accommodate 55,000 more jobs in Parramatta LGA between 2016 and 2036. Based on Bureau of Transport Statistics employment projections, only 6.9% of the growth in employment between 2016 and 2036 is anticipated to be in industrial land based sectors (manufacturing, wholesaling, construction, transport and warehousing). While the PP will result in a net decrease in employment, the increase in the residential population will not only help meet the Strategy's housing targets, but provide a substantial workforce in close proximity to existing and future employment centres including Parramatta, Rydalmere, Camellia, Sydney Olympic Park, Macquarie Park and Westmead. It is estimated that the PP will provide 160 jobs, including residents working from home and the resident population of 4,400 will support the retail facilities in the North Precinct and surrounding centres.</p>
<p>Is there a compelling argument that the industrial land cannot be used for an industrial purpose now or in the foreseeable future and what opportunities may exist to redevelop the land to support new forms of industrial land uses such as high-tech, econ-industrial or biomedical industries?</p>	<p>The PP is consistent with the adopted South SP. If the Holdmark sites remained zoned industrial then the following arguments relate to its suitability:</p> <ul style="list-style-type: none"> • The site will be surrounded predominantly by residential uses. • The new precinct will be isolated from other industrial uses. • Land use conflicts with neighbouring residential uses would preclude econ-industrial uses. • The precinct is unlikely to have mass appeal to high-tech industries given that these industries are increasingly looking to locate in areas with higher amenity and business agglomeration.

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	<ul style="list-style-type: none"> • There are stronger agglomeration opportunities for biomedical industries at the Westmead Health Precinct.
Is the site critical to meeting the need for land for an alternative purpose identified in other NSW Government or endorsed Council Planning Strategies?	The site has not been identified for an alternative purpose in NSW Government or endorsed council planning strategies. The North Precinct has had Gateway approval and the SP for the South Precinct has been adopted by Council.

Summary of Economic Benefits

The PP is capable of providing the following economic benefits:

- A net increase of approximately 1,925 residential apartments accommodating an additional population of 4,400, equivalent to 3.2% of the projected growth in the Parramatta LGA population from 2021 to 2041.
- These residents will spend around \$64m a year on retail goods and services which will support surrounding local centres.
- The proposal will provide 1,000sqm of employment uses – 600sqm for food and other local retail and commercial services and 400sqm for a childcare centre
- Approximately 160 permanent jobs
- Construction will provide 1,841 direct jobs directly in construction on site and a further 5,552 job years through multiplier impacts

Section D – State and Commonwealth Interests

Is there adequate public infrastructure for the planning proposal?

The proposed redevelopment will need to be supported by new local and State infrastructure to not only accommodate the redevelopment of the Holdmark sites but cumulative redevelopment of both the North and South Precincts – including the following:

Local Infrastructure: as outlined in the Planning Proposal, the accompanying concept plan has reserved land for both new local roads and open space, consistent with the requirements of the Southern Structure Plan. A draft Planning Agreement between Council and the Proponent has been negotiated that provides an appropriate contribution towards the delivery of local infrastructure. It has been exhibited concurrently with this Planning Proposal.

State Infrastructure: A Planning Agreement between the proponent and the State Government will be required to ensure an appropriate contribution towards the delivery of the required State infrastructure is provided, such as new schools, upgrades to traffic infrastructure outlined in the TMAP and the bridge over the Parramatta River.

What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

Consultation with the State and Commonwealth public authorities has been undertaken as required by the Gateway determination.

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PART 4 – MAPPING

This section contains the mapping for this planning proposal in accordance with the DP&E's guidelines on LEPs and Planning Proposals. **Existing controls**

This section illustrates the current *PLEP 2011* controls which apply to the site.

Figure 12 illustrates the existing IN1 General Industrial zoning on the sites.

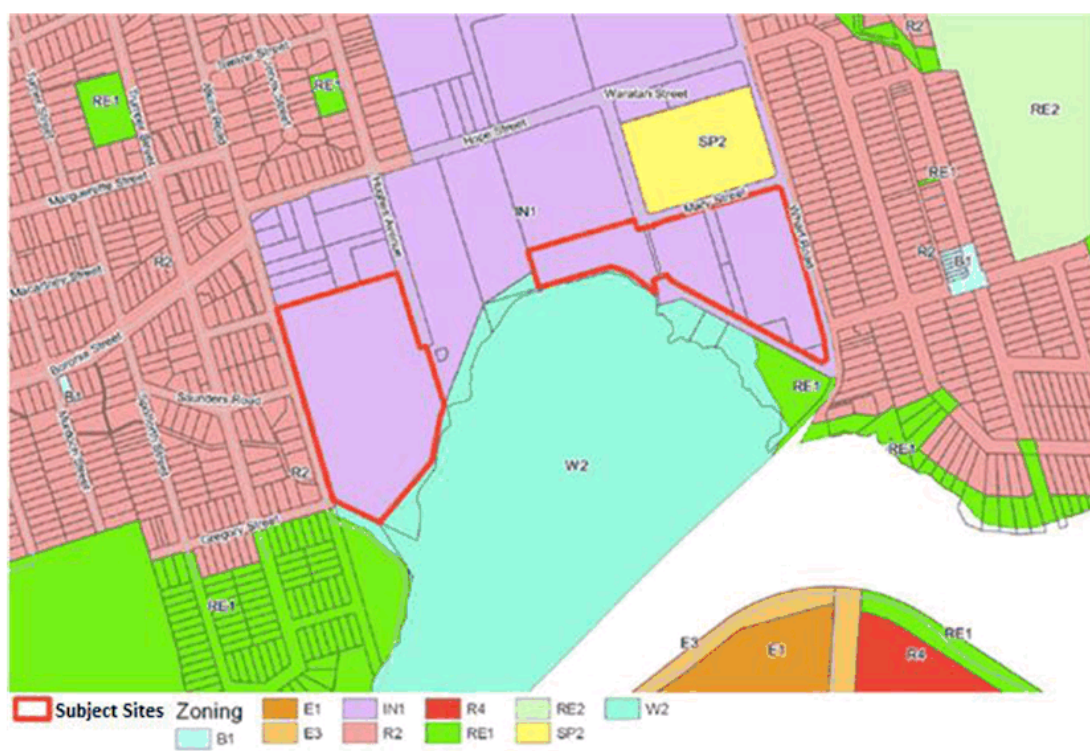


Figure 12 – Existing zoning extracted from Parramatta LEP 2011 Land Zoning Map

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Figure 13 illustrates the existing 12m maximum building height on the sites.

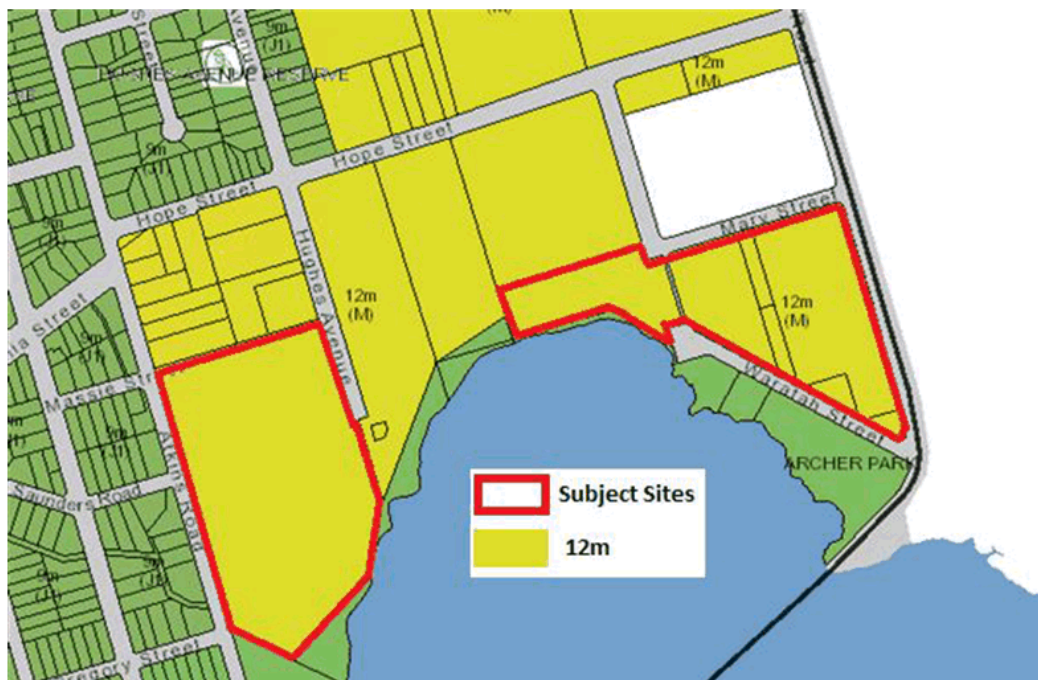


Figure 13 – Existing building heights extracted from the *Parramatta LEP 2011* Height of Buildings Map

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Figure 14 illustrates the existing 1:1 Floor Space Ratio over the sites.

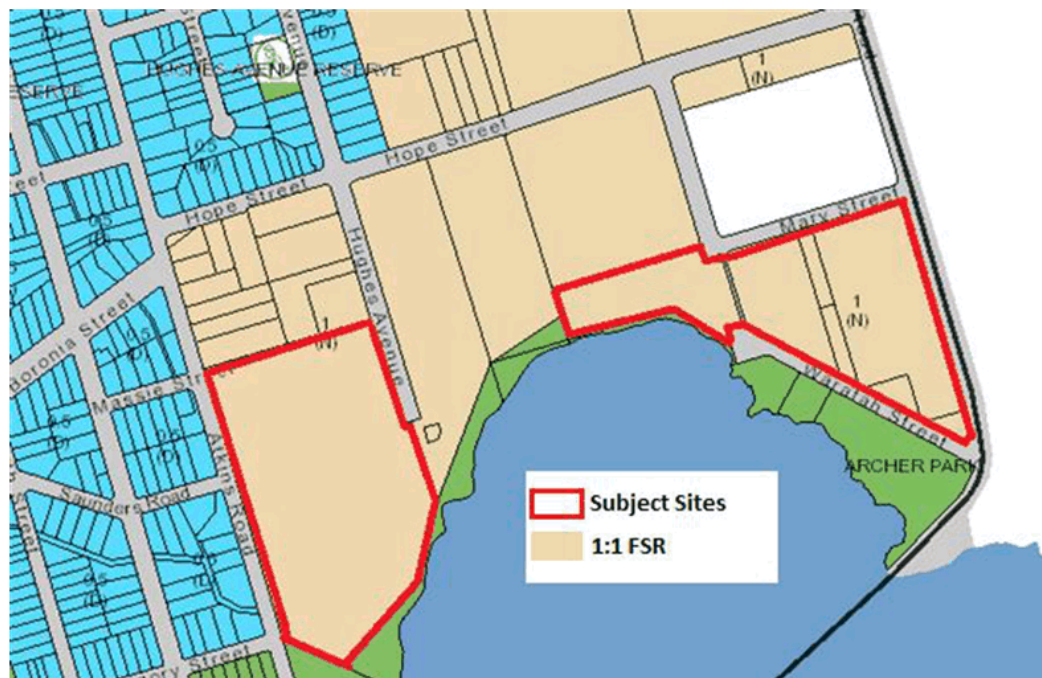


Figure 14 – Existing floor space ratio extracted from the *Parramatta LEP 2011 Floor Space Ratio Map*

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Figure 15 illustrates the locally significant heritage item I1 Ermington Bay Wetland that applies to the sites.

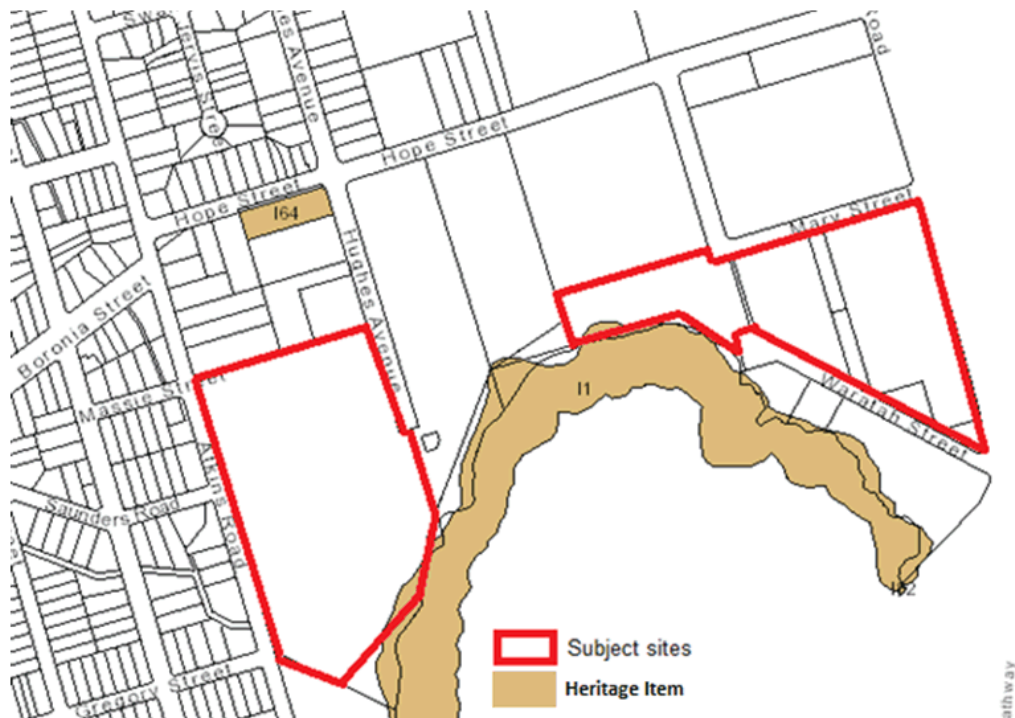


Figure 15 – Existing heritage items extracted from the *Parramatta LEP 2011* Heritage Map

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○ Proposed controls

The figures in this section illustrate the proposed land use zones, maximum building heights and FSR as a result of the assessment of the Planning Proposal.

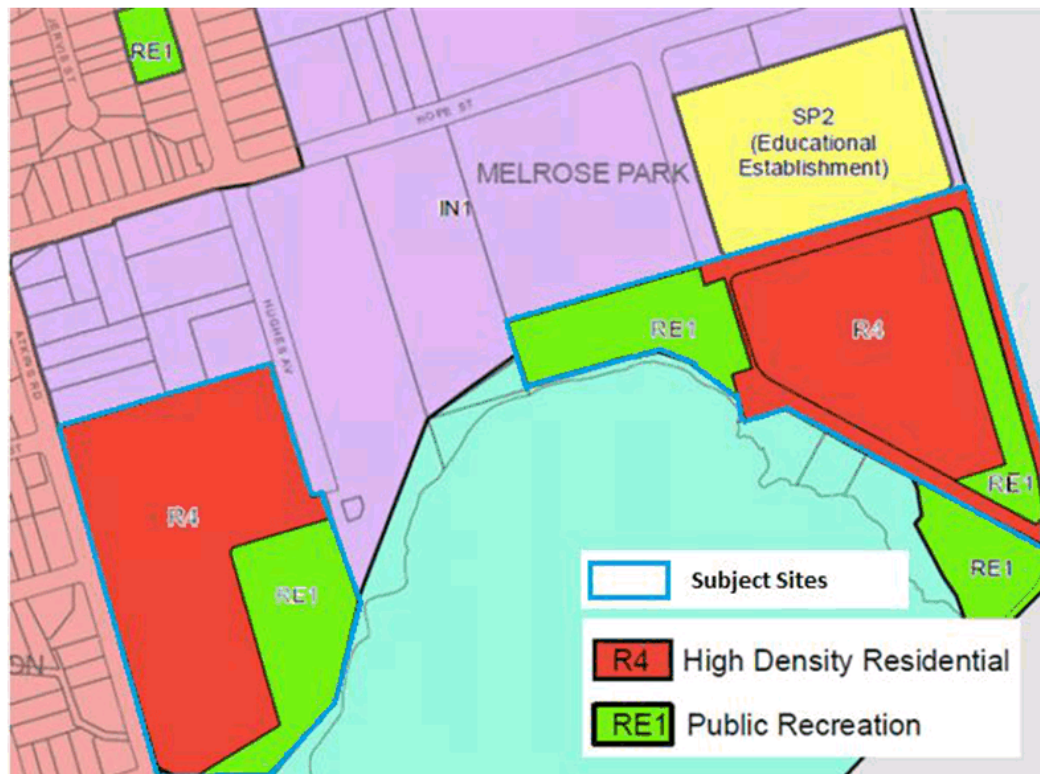


Figure 16 – Proposed amendment to the *Parramatta LEP 2011* Zoning Map. Land proposed to be rezoned outlined in blue

Figure 16 above illustrates proposed R4 High Density Residential and RE1 Public recreation zonings over the sites.

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Figure 17 – Proposed amendment to the Parramatta LEP 2011 Height of Building Map

Figure 17 above illustrates the proposed building heights over the sites, which range from 25m (approximately 6 storeys), 31m-34m (approximately 8 storeys taking into consideration site slope), 68m (approximately 20 storeys) and 77m (approximately 22 storeys). The proposed heights are exclusive of any design excellence bonuses as these are not recommended to be applied to the sites.

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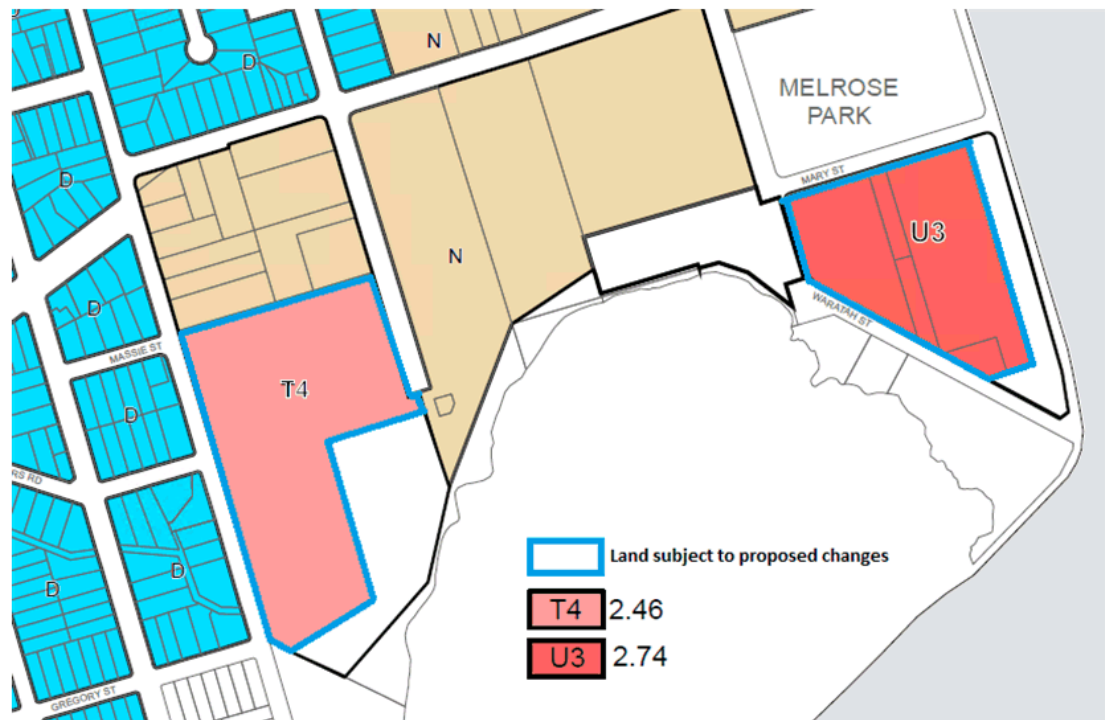


Figure 18 – Proposed amendment to the *Parramatta LEP 2011* Floor Space Ratio Map

Figure 18 above illustrates the proposed 2.46:1 and 2.74:1 net FSRs over the sites.

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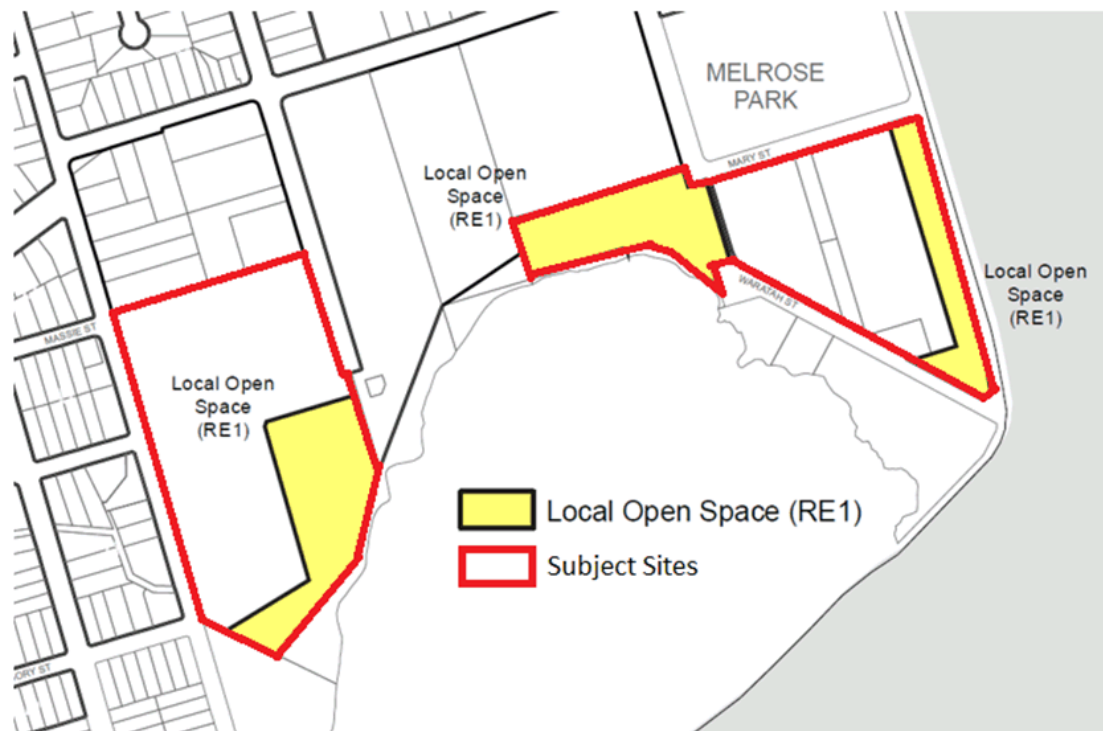


Figure 19 – Proposed amendment to the *Parramatta LEP 2011* Land Reservation Acquisition Map

Figure 19 above illustrates the land proposed to be used for the purposes of public open space.

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Figure 16 – Proposed amendment to the *Parramatta LEP 2011* Additional Local Provisions Map

Figure 16 above illustrates the land proposed to be subject to additional local provisions for the purposes of requiring design excellence competitions.

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Figure 17. Proposed location of Additional Permitted Uses provision (food and drink premises)

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PART 5 – COMMUNITY CONSULTATION

The draft Planning Proposal (as revised to comply with the Gateway determination) was publicly available during the community consultation period in accordance with the requirements of the Gateway determination.

Public exhibition consultation methods included:

- Letters to landowners within a 1km radius of the site, including those within the Ryde LGA (over 6,400 letters in total);
- Dedicated exhibition page on Council's Participate Parramatta website <https://participate.cityofparramatta.nsw.gov.au/melrose-park-south>
- Advertisement on Council's website;
- Hard copies of the draft documents and supporting information provided at Council's Customer Contact Centre, Parramatta Library and Ermington Branch Library;
- Geo-targeted social media campaigns on Council's platforms; and
- Advertisement in Parra News.

Consistent with sections 3.34(4) and 3.34(8) of the *EP&A Act 1979*, where community consultation is required, an instrument cannot be made unless the community has been given an opportunity to make submissions and the submissions have been considered.

The following public agencies and State Members of Parliament were notified in writing of the public exhibition:

- Transport for NSW
- Transport for NSW - Parramatta Light Rail
- Environment, Energy and Science
- Department of Education
- Heritage NSW
- Fire and Rescue NSW
- Western Sydney Local Health District
- NSW Ministry of Health
- Greater Cities Commission
- City of Ryde Council
- Sydney Water
- Viva Energy
- Ausgrid
- Transgrid
- Endeavour Energy
- Dr Geoff Lee MP, Member for Parramatta
- Victor Dominello MP, Member for Ryde

A breakdown of the submissions received is provided below.

	NUMBER	BREAKDOWN
Community/landowners	79	Various residents, landowners and stakeholders
Public Agencies	4	Western Sydney Local Health District Environment, Energy and Science Group (part of DPE) Transport for NSW (combined with PLR) Education NSW/School Infrastructure NSW
Other Organisation	3	Endeavour Energy City of Ryde Council Community Housing Industry Association NSW
Total	86	

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PART 6 – PROJECT TIMELINE

Table 7 below outlines the anticipated timeframe for the completion of the planning proposal.

Table 7 – Anticipated timeframe to planning proposal process

MILESTONE	ANTICIPATED TIMEFRAME
Commencement and completion dates for public exhibition period	August/September 2022
Commencement and completion dates for government agency notification	August/September 2022
Consideration of submissions	September/October 2022
Consideration of planning proposal post exhibition and associated report to LPP	November 2022
Consideration of planning proposal post exhibition and associated report to Council	December 2022
Submission to the Department to finalise the LEP	December 2022
Notification of instrument	January/February 2023

NOTE: An Alteration of Gateway determination was issued by DPE on 12 September 2022 revising the timeframe for Council to submit the Planning Proposal to DPE for finalisation to 24 December 2022.

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Appendix 1 – Transport Assessment

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 2 – Preliminary Site Investigation (Contamination)

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 3 – Heritage Impact Assessment

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 4 – Civil Engineering and Infrastructure Assessment

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 5 – Ecological Assessment

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 6 – Community and Place Benefits Analysis

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 7 – Economic Impact Assessment

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 8 – Infrastructure Needs List

PLANNING PROPOSAL – 112 Wharf Road, 30 & 32 Waratah Street, Melrose Park & 82 Hughes Avenue, Ermington

Appendix 9 – Urban Design Report

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Appendix 10 – Transport Management and Accessibility Plan (TMAP)

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Appendix 11 – Hazard Analysis Report

CITY OF PARRAMATTA COUNCIL

Draft Melrose Park South Site-Specific Development Control Plan (Holdmark Sites)

Date Adopted: xx 2022



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Appendices

1. Melrose Park South Structure Plan & Density Schedule
2. Courtyard Locations
3. Height Distribution Map
4. Solar Access Plan
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6. Public Open Space Plan
7. Street Hierarchy
8. Public Domain Plan
9. Stormwater Management Control Plan

1. INTRODUCTION

APPLICATION

The provisions of this section of the DCP apply to development in Melrose Park South precinct as shown in Figure 1 and will prevail where there is any inconsistency with other sections of this DCP.

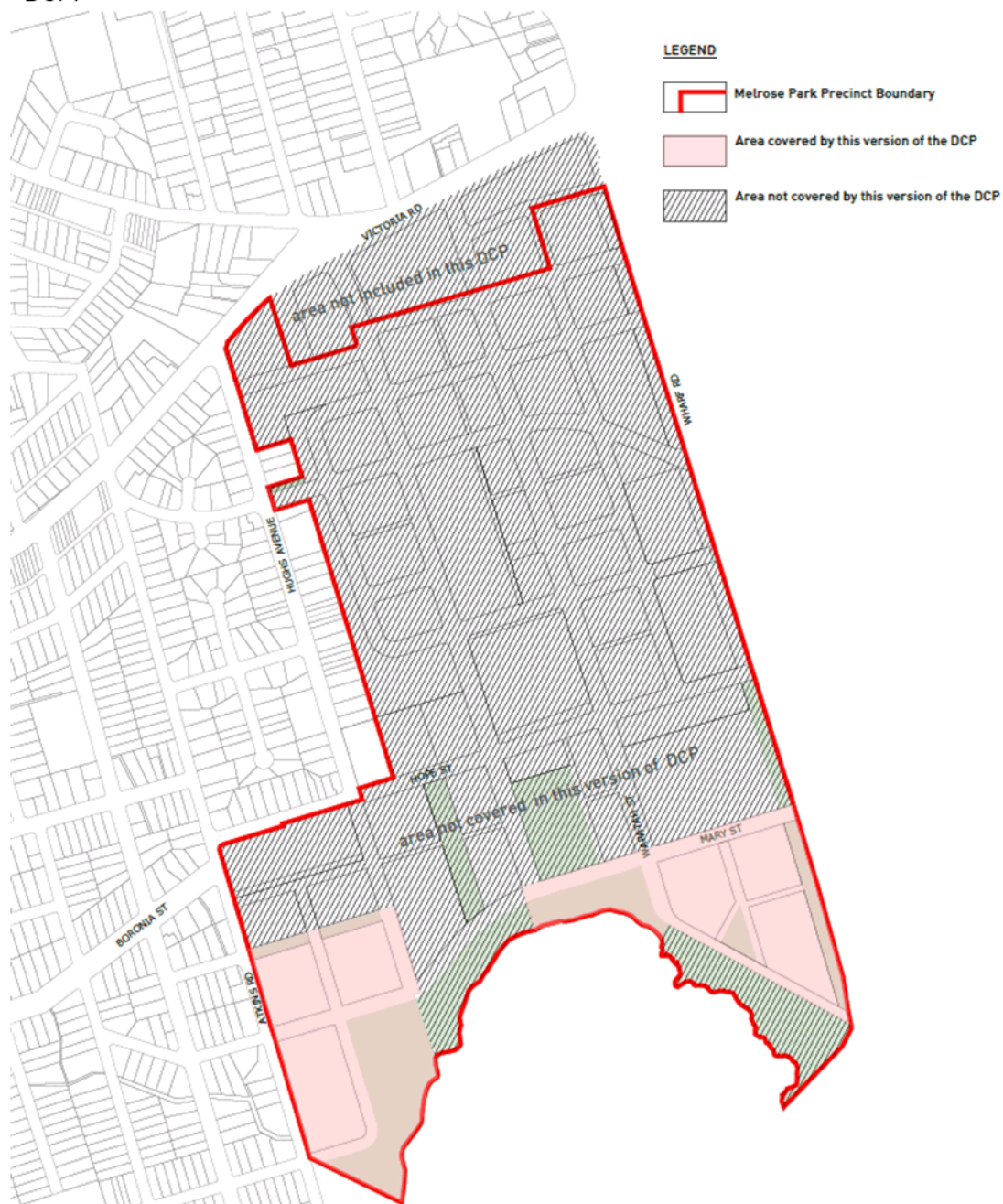


Figure 1 – Area Covered by this DCP

THE DCP

This DCP is to be used in conjunction with the following documents:

Melrose Park South Structure Plan

The Structure Plan identifies:

- Street, block, open space and building layout, locations of pedestrian connections and public open space, development lot locations, indicative building footprints and required view corridors. Refer to Appendix 1.
- Maximum floor space ratios (FSRs), gross floor areas (GFAs) and building heights for each development lot.

Parramatta LEP 2011

City of Parramatta DCP 2011

Melrose Park South Street Schedule

Council's Standard Construction details

Parramatta Public Domain Guideline

GENERAL OBJECTIVES

The City of Parramatta Council aims to foster the development of a lively, diverse, and healthy LGA, one which celebrates a sense of place and local character in both the public and private realms. To the east of the Parramatta CBD Melrose Park is being developed on ex-industrial land located between Victoria Road and the Parramatta River. There are three precincts the Wharf Road Precinct located on Victoria Road is the most northerly precinct. Melrose Park North extends from the Wharf Road Precinct to Hope Street. Melrose Park South extends from Hope Street to the Parramatta River. This DCP applies to the Melrose Park South Precinct. The overall precinct slopes south to the river and is surrounded by low density detached housing on the east and the west. On completion, Melrose Park North and South will be home to approximately 25,000 people, provide retail and entertainment facilities, schools and parks.

The amenity and quality of Melrose Park for its residents and their neighbours is the underlying consideration for all the objectives and controls in the DCP. The DCP is underpinned by and relates to the Melrose Park South Structure Plan. The Structure Plan has been prepared by City of Parramatta and responds to the topography and the street context of the precinct. The streets are organized to optimize connectivity for people and vehicles, minimize perceived densities, address water management, enable canopy planting and support the proposed built form. Buildings are organised to define the streets and open spaces, provide deep soil and create a legible public domain with amenity and spatial complexity. The building envelopes provide the opportunity for high quality architectural resolution.

The clarity and quality of public spaces are essential to this conception of a place centered on people. The public spaces – streets, and parks – will be the basic and enduring structuring spaces of Melrose Park, of which streets are the most prevalent. The interaction of buildings and public spaces is critical in shaping the way the place is experienced particularly at the lower levels where detail design plays an important part in the creation of a stimulating pedestrian environment.

General Objectives

- O.01 Create a legible, coherent, and attractive suburb characterised by generous diverse streets and public spaces reinforced by the built form and vegetation.
- O.02 Organise the buildings so that they form a coherent outcome, address, and define the streets, pedestrian connections, courtyards, and special places.
- O.03 Ensure that the spaces of the public domain - streets, squares and parks are of high quality and amenity.
- O.04 Facilitate sustainable resilient buildings that address climate, topography, energy consumption, urban heat, pedestrian scale, and internal amenity.
- O.05 Protect and improve the natural environment and biodiversity.
- O.06 Provide sufficient detail of Council requirements and expectations to enable Development Applications to be easily assessed
- O.07 Safely manage overland flow and storm water through the site and broader precinct and design buildings and landscape in response.
- O.08 Ensure that infrastructure is delivered in accordance with the staging plan and TMAP Implementation Plan.

Control

- C.01 An Infrastructure development application is required to be lodged for the entire precinct upfront prior to individual DAs being lodged on a site-by-site basis, detailing the following:
 - The proposed lot boundaries
 - Site levels including cut and fill and retaining wall locations

- The design of the roads including drainage
- Public open space provision
- Demonstrate how the obligation under the Planning Agreement will be addressed.

DESIGN EXCELLENCE

The promotion of good design in the built environment is an objective in the Environmental Planning and Assessment Act, and good design is a central aim for all development in the LGA.

Design is a complex synthesis of multiple factors - technical, social, environmental, historic, aesthetic, and economic. It responds to the context, physical as well as cultural, and generates sustainable living and working environments. It is concerned not only with how buildings look but includes fundamental considerations of amenity for occupants and how buildings contribute to the development of quality urban places.

Good design generates spaces with a sense of appropriateness in which people naturally feel comfortable. It has detail and material quality, is long lasting, and it creates financial return through the making of places that people value.

Good design also incorporates an understanding that individual buildings should relate to each other as well as contribute to a larger whole. This conception of the importance of collective urban form is an underlying principle of the DCP and informs design quality processes in the LGA.

Design quality procedures in the City of Parramatta include the Design Excellence process in the City Centre led and coordinated by the City Architect, and the LGA-wide Design Excellence Review Panel (DEAP).

In Melrose Park, under the Design Excellence process, design competitions are required for sites with buildings 55m and above in height.

In addition, the Urban Design Unit within Council provides guidance and advice on design in all relevant matters within the LGA.

These procedures aim to embed design quality as an integral part of development in the City of Parramatta. An important aspect of this is to ensure that design intent is documented in detail and carried through all stages of projects to completion.

Melrose Park South is a high-density environment and design quality is therefore paramount. Quality is not just of the individual buildings but how the buildings relate one to another. Careful definition of the spaces between the buildings in plan and section; preservation of all views to the sky and discrete modulation of the buildings are required to ensure variety and interest in the public domain and amenity in the apartments.

Objectives

- O.01 Ensure that development individually and collectively contributes to the architectural and overall urban design quality of Melrose Park
- O.02 Incorporate design quality in public and private development as a central consideration through all stages of the process from design to completion.
- O.03 Ensure that the integrity of design quality is carried through to the construction and completion of developments.
- O.04 Incorporate overall coherence of the architecture within the whole precinct with variety in the detail architectural resolution

Controls

- C.01 Design Excellence Competitions are to be undertaken for buildings 55m and above in height.
- C.02 Competition briefs should reference to the objectives and controls contained within this DCP.

- C.03 Architectural Reference Designs developed as part of a Design Competition brief should use this DCP as the basis for building envelopes.
- C.04 This DCP should form the primary basis of assessment of all Design Excellence winning schemes.
- C.05 For all Development Applications in Melrose Park that are not subject to a Design Competition, the Architect should provide sufficient detailed documentation for the building facades and external areas to form part of the consent documents. These should include fully annotated 1:20 scale cross sections and partial plans of facades, details of typical and important junctions, and details and materials specification of all external works.
- C.06 The Landscape Architect and Civil Engineer for all Development Applications require fully coordinated Public Domain Alignment Drawings. (Chapter 2 Parramatta Public Domain Guidelines.)
- C.07 Allocation of sites to different architects based on the lots being dispersed along the street network or relate to particular intersections is encouraged to provide variety in the detail design.

WATER MANAGEMENT PLAN

Due to development, the overland flow paths have been considerably altered from their natural state. Water management aims to reverse any negative environmental impacts that have arisen because of these changes so that a sustainable water environment can be recreated.

Despite the precinct being located within close proximity to Parramatta River, it is not affected by riverine flooding, however still considered to be at high risk of potentially polluting the river. The precinct is subject to overland flow flooding reflecting the two historical watercourses that once traversed the precinct from north to south-east (Wharf Road) and from north-west to south (Hope Street).

The proximity of the Melrose Park North Precinct to the Parramatta River means that this development is likely to cause pollution and other degradation of the river unless effective water quality management is implemented and maintained.

Principles

- P1. The pre-development (natural) overland flow paths and flow regimes are to be acknowledged in water management planning, while recognizing this is a substantially changed urban environment requiring complex water management systems.
- P2. Post-development run-off must not result in a harmful impact on surrounding properties or the environment.
- P3. Water management practices must be sustainable.
- P4. The Water Management Control Plan governs water aspects of development and infrastructure, landscape and environment in the precinct and includes:
 - Flooding and overland flow management;
 - Road and public domain piped drainage;
 - Flood reduction using public and private water detention systems;
 - WSUD - Environmental management of private and public low flows with Water Sensitive Urban Design to reduce pollutant loads and create habitats
 - Rainwater harvesting and use

Objectives

- O.01 Ensure that overland water flows are to be managed and conveyed safely across the precinct within the roads, reserves and identified public open space areas
- O.02 Ensure that post-development run-off does not result in a net negative impact on surrounding properties or the environment resulting in damage to public and private assets.
- O.03 Ensure that sustainable water management practices are applied, where practicable.

Controls

- C.01 A piped drainage reticulation system capable of carrying the 5% AEP stormwater flows is to be provided

throughout the precinct for all roads, public domain areas and private lots. This system must be designed and constructed to Council standards and specifications and reasonable satisfaction. This drainage infrastructure is to be dedicated to Council at appropriate stages in the development process for ongoing operation by Council

- C.02 Excess peak flows are to be detained in both on-site and collective detention systems.
- C.03 Excess peak flows from private lots, public roads and public domain are to be detained in both on-site and collective detention systems. Detention systems are to be integrated into a sustainable overall water management plan for the site which may include WSUD and rainwater harvesting.
- C.04 Peak flows are to be limited throughout the catchment in a 1% AEP storm event to estimated peakflows under 1999 conditions, regardless of whether future redevelopment within the catchment occurs which improves the quantity of overland flow entering the precinct.
- C.05 Lower flows are to be managed within the landscape and directed through landscape water quality biotreatment systems (Water Sensitive Urban Design) including deep soil.
- C.06 On-site detention (OSD) systems are to be integrated into a sustainable overall water management plan for the site, where possible.
- C.07 Subject to maintaining environmental flows and irrigation of the public domain landscapes, rainwater must be captured and used on site wherever feasible.
- C.08 Each proposal for private development and for public infrastructure and public domain development must be supported by a water management plan that addresses the water aspects of the proposal, and the affected landscape and environment. It must address:
 - Flooding and overland flow management
 - Road and public domain drainage
 - Flood reduction using public and private water detention systems
 - WSUD – environmental management of private and public low flows with Water Sensitive Urban Design to reduce the pollutant loads and create habitats
 - Rainwater harvesting and use
- C.09 The Water Management Plan submitted to support a proposal shall be in accordance with the Principles, Objectives and Controls set out in this Water Management Control Plan to Council's reasonable satisfaction

2 BUILT FORM

2.1 GUIDING PRINCIPLES

The following principles apply to all development in Melrose Park South

- P.01 The floor space is generally consistent with the Gross Floor Area (GFA) as derived from the Floor Space Ratio (FSR).
- P.02 The street network, building locations, height and setbacks are generally consistent with the Structure Plan to enable deep soil planting, reinforce the human scale of the streets, and enable views to the sky in streets and public places.
- P.03 Building depth, bulk and separation protects amenity, daylight penetration, privacy between adjoining developments and minimises the negative impacts of buildings on the amenity of the public domain.
- P.04 Buildings should align with the streets so that positive spaces are formed within the streets and the lots
- P.05 Towers are to be appropriately proportioned and maximise their slender form.
- P.06 The design and materials selection of buildings and the public domain are to contribute to a high quality, durable and sustainable urban environment.
- P.07 Buildings are organised to create spatially defined streets and courtyards that are well proportioned, comfortable, safe, functional, and attractive.
- P.10 The collective built form should reinforce the variety evidenced in the topography and the spatial organisation of the streets and open spaces
- P.11 Variety within the precinct is to be derived from the detail resolution of the buildings and not from excessive differences in the form of the buildings and / or the selection of materials.
- P.12 Taller buildings are to be located away from the perimeter of the precinct, in the central part of each site. Building heights are to transition down from the centre towards the perimeter.

2.2 ALLOCATION OF GROSS FLOOR AREA

Objectives

- O.01 Regulate the density of development identifying a maximum GFA for lots, resulting from the maximum floor space ratio in the PLEP 2011.
- O.02 Ensure development floor plate sizes and building footprints are not excessive.

Controls

- C.01. The maximum GFA for any development lot is to approximate the GFA detailed in Figure 2 (site area x FSR).
- C.02. The GFA attributed to each lot results from the FSR controls in the PLEP 2011 or as otherwise nominated in a Notice of Development Consent granted by a relevant consent authority.
- C.03. The indicative allocation of the total floor space relates to the Structure Plan and is based on the capacity of the building envelope on each lot. The GFA is calculated at 75% of the building envelopes and the Gross Building Area (GBA) for residential.
- C.04. The maximum GFA is approximate for each lot and includes all buildings accommodated on a development lot.
- C.05. The floor space is to be generally distributed as shown in the Building Envelopes. The 4-6-8 storey perimeter block is to be retained and floor space is not to be redistributed into towers where heights would enable greater height.
- C.06. Development applications must submit supporting plans that demonstrate the GFA outcome on the development lot is consistent with PLEP 2011 or as otherwise nominated in a Notice of Development Consent granted by a relevant consent authority.
- C.07. Should a maximum GFA not be able to be achieved for a development lot or has minor variations, that amount of GFA may potentially be transferred to another development lot under the same ownership subject to consideration against the relevant provisions in this DCP and maintaining the gross permitted FSR across the development lots.
- C.08. For purposes of these controls, serviced apartments should be treated as a residential use.



Figure 2 – Maximum GFA Plan per Lot

2.3 STREET, BLOCK, OPEN SPACE and BUILDING LAYOUT

Objectives

- O.01 Optimise the internal and external connectivity
- O.02 Provide views to sky and views that are not blocked by buildings at the ends of streets
- O.03 'Reveal' the topography '
- O.04 Minimise 'perceived' density
- O.05 Define a street hierarchy considering the landform, street widths and built form.
- O.06 Enable generous canopy tree planting
- O.07 Enable all road users to move safely
- O.08 Provide access to parking basements
- O.09 Enable streets to be dedicated to Council
- O.10 Accommodate passive and active recreational needs of the residents and workers
- O.11 Manage overland floodwater as well as local stormwater drainage, water sensitive urban design (WSUD) and ground water
- O.12 Minimise non-permeable surfaces
- O.13 Enable buildings to achieve setbacks, solar access, and separation requirements, optimise the amenity of the apartments, define the public domain and minimise perceived density

Controls

- C.01. The street network, pedestrian connections and blocks should generally be consistent with layout, dimensions and sections in the Structure Plan and Public Domain Plan
- C.02. All streets are to be at ground and public streets be dedicated to Council
- C.03. Pedestrian connections that are above basements and privately owned should be publicly accessible 24/7.
- C.04. All subdivision plans should comply with the Structure Plan.
- C.05. The locations of all buildings, tower and perimeter block should comply with the Structure Plan

2.4 THE BUILDING ENVELOPE

The building envelopes resulting from the setbacks, floorplate and height constitute a three-dimensional volume within which, together with all other applicable controls, should result in a coherent built form being designed. The envelope heights in the Structure Plan are generous and designed to enable a well-considered architectural response rather than 'filling' the envelope.

The building envelopes have been located to reinforce view corridors, create a layered spatial network and minimise perceived density. The taller towers are located strategically with generous separation. The building envelopes are designed to enhance the topography and have been tested for separation distances and overshadowing of public parks.

Objectives

- O.01 Provide a coherent spatial and built form structure for the precinct
- O.02 Create meaningful variety related to street character and topography
- O.03 Define the streets, intersections, and open spaces in plan and in section
- O.04 Enable the resolution of quality architecture within the building envelopes
- O.05 Optimise the number of units with outlook to open spaces, courtyards and views
- O.06 Minimise overshadowing on open spaces and adjacent residential development
- O.07 Minimise perceived density
- O.08 Provide view corridors within the site and to the surrounding context.
- O.09 Enable satisfactory resolution of the slope and the water management of the precinct

Controls

- C.01 The building envelopes as defined in the Structure Plan are to form the basis of the architectural resolution
- C.02 All view corridors as defined by the streets and pedestrian connections in the Structure Plan are to be retained.
- C.03 The floor space is to be distributed as shown in the Structure Plan density table in Appendix 1 and in Figure 2.

2.5 STREET SETBACKS

The purpose of establishing street setbacks relates to interface with the street, ground floor usage and building separation.

There are two principal categories for the ground floor:

- a) The buildings that have a residential ground floor frontage
- b) The buildings that have an active ground floor frontage.

On lots with residential ground floors, the buildings should be set back from the street alignment allowing an arrangement which balances the need for resident privacy as well as engagement with the street. The setback provides the necessary space for deep soil; landscaping and amenity, both for residents and the street.

Due to the sloping topography of the precinct, issues of resident amenity may also be addressed by raising the building ground floor levels relative to the site topography where residential uses are located adjacent to a pedestrian connection or public boundary.

On lots that have active frontages and no set back, the ground floor design of the buildings is the part of the development that has most impact on the street and public domain experience as it defines and articulates the street with appropriate scale and detail.

Objectives

- O.01 Reinforce the appropriate spatial definition of streets and public spaces.
- O.02 Emphasise the importance of the street as a distinct spatial entity and design the street interface and street wall with an appropriate human scale and sense of enclosure for the street.
- O.03 Ensure consistent street frontages with buildings having common setbacks and alignments.
- O.04 Provide building forms that achieve comfortable public domain conditions for pedestrians, with adequate daylight, appropriate scale and adequate mitigation of wind effects of tower buildings.
- O.05 Create a clear delineation between public and private space.
- O.06 Provide a landscape interface for residential buildings with the streets and room for street trees
- O.07 Emphasise the courtyard spaces as a distinct spatial entity and design with an appropriate human scale and sense of enclosure and landscaping.
- O.08 Reinforce important elements of the local context including public spaces, key intersections, public and heritage buildings, and landscape elements.
- O.09 Provide space on residential sites for ground level residents to engage appropriately with the street and for landscape that contributes to the public domain

Controls

- C.01 Building setbacks from the streets should comply with those identified in Appendix 4.
- C.02 The perimeter-block residential buildings up to 6 storeys can extend for the full frontage of lots within the nominated street setbacks and except where there are courtyards or pedestrian connections. There are no setbacks at the ends.
- C.03 The 6 storey residential buildings can have an upper setback of one or two storeys maximum.
- C.04 All residential buildings 8 storeys and above are based on a maximum length of 50 metres
- C.05 Residential towers are to have a minimum of 2m, 5m or 6m from the street boundary/ podium edge, to suit final design refer to Figure 3.
- C.06 A streetscape analysis is to determine the most appropriate relationships along, across the street and at these intersections.
- C.07. A 400mm articulation zone is permitted forward of the setback, in which building elements such as bay windows, balconies, shading devices may occupy a maximum of approximately one third of the area of the façade. Services or lift shafts are not permitted in the articulation zone.
- C.08 Setbacks should be measured perpendicular to the boundary to the outer faces of the building, refer to Figure 3. Elements in the articulation zone are excluded.

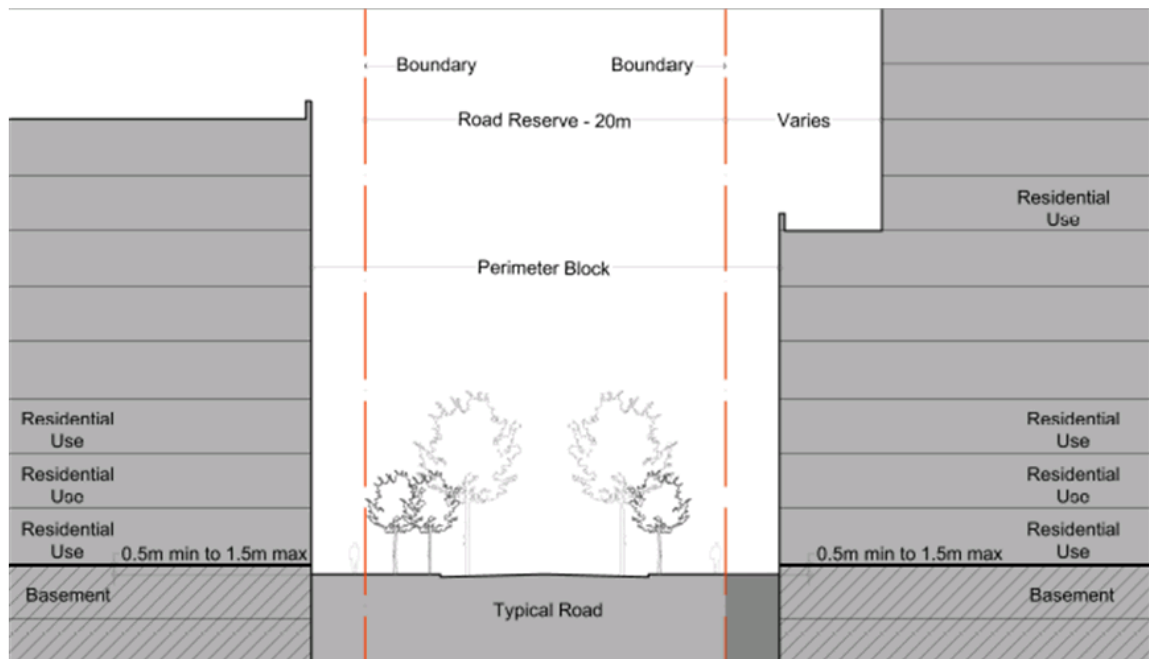


Figure 3 - --Street Wall Height at Typical East West Street, NTS

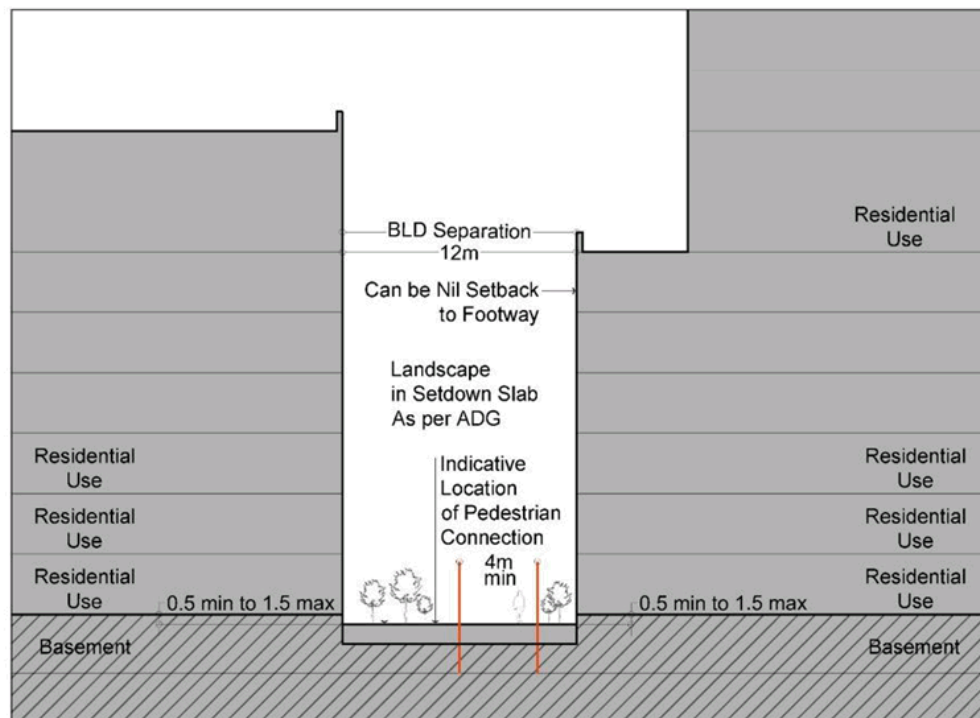


Figure 4. – Street Wall Height at Pedestrian Connection, NTS

2.6 BUILDING SEPARATION

Building separation for residential buildings is based on, the proportions of the pedestrian connections, courtyards and streets and overshadowing. Issues of privacy and surveillance are to be resolved in the architectural resolution.

Objectives

- O.01 Protect and manage the impact of development on the public domain and neighbouring sites.
- O.02 Protect the amenity of streets and public places by providing a healthy environment for street trees and allowing adequate daylight and views to the sky.
- O.03 Ensure a pattern of built form and spatial definition that contributes to the character of the suburb.
- O.04 Provide access to light, air, and outlook for the occupants of buildings, neighbouring properties and future buildings.

Controls

- C.01 The separation distances of buildings across courtyards are 24 metres minimum building to building and is to be appropriately landscaped
- C.02 The separation distances of buildings across the pedestrian connections are 12 metres building to building. Within this space a straight pedestrian path minimum 4 metres wide is to be located. Private gardens and entrances to apartments are permitted from these pedestrian paths.
- C.03 Issues of visual and noise privacy are to be addressed in the design of the buildings.
- C.04 Separation distances should be measured perpendicular to the boundary to the outer faces of the building. Elements in the articulation zone are excluded.

2.7 TOWER DESIGN AND SLENDERNESS

The slenderness of towers is important both to achieve elegance of form as well as to minimise the perceived density, maximise amenity and environmental performance. Plan area, plan proportion, alignment and height are contributing factors in the perception of slenderness. Their design needs to respond to context, climate, and views and to provide a continuity of built form but with subtle differences.

The silhouettes of many buildings are significant and contribute to the identity of the place and its skyline. The massing and arrangement of the skyline and building silhouettes should be carefully considered and proposed development should be designed so that its appearance complements the broader skyline.

Objectives

- O.01 Towers have slender proportions.
- O.02 Towers are well-proportioned, reflect their orientation and address the public domain.
- O.03 Minimise the potential adverse effects that buildings may have on the public domain
- O.04 Achieve living and working environments with good internal amenity.
- O.05 Minimise the need for artificial heating, cooling, and lighting.

Controls

- C.01 The maximum floorplate for a residential tower over 8 storeys should be 1,000m²
- C.02 The maximum floorplate for a commercial tower should be 1,500m² No perimeter block should exceed 8 storey in height (2 of which recessed).
- C.03 The maximum length of the part of a building above 8 storeys should be 50m.
- C.04 Tower component height should be approximately twice of the podium component height (e.g. 18 storey building where 12 storey minimum tower sits on 6 storey maximum podium)
- C.05 Tower forms should not extend around corners so that they are 'L' shaped in plan.
- C.06 Upper levels of towers should not extend over the lower levels and create unsightly under-croft spaces except where there is minor articulation or where a tower meets a perimeter base building.
- C.07 The higher building forms are to be integrated with the lower levels and should define positive spaces for streets, open spaces, and courtyards
- C.08 Towers should meet sustainability measures

2.8 BUILDING HEIGHTS

Objectives

- O.01 Recognise the variation in perimeter block buildings and the podium heights throughout the site driven by topographical features and allow flexibility to respond to the slope without the need for stepping the buildings.
- O.02 Minimise solar impacts on existing residential areas
- O.03 Minimise adverse wind, reflectivity, glare, and urban heat impacts
- O.04 Provide adequate solar access to streets, open spaces, and neighbouring buildings.
- O.05 Form a balanced composition when viewed from within the street, neighbouring areas and the river

Controls

- C.01. Heights should be generally consistent with the maximum heights as shown in the number of storeys in the Structure Plan and Appendix 2
- C.02. The perimeter block residential buildings are to be 8 storey maximum, including a maximum of two storey upper level setback.

2.9 FLOOR TO FLOOR HEIGHTS

Objectives

- O.01 Provide adequate amenity for buildings
- O.02 Ensure that floor heights support a range of uses and enable a change of use over time.
- C.01 The differences in the ground levels are to be taken up within the lower levels of the buildings and not by stepping the upper levels of the buildings. Depending on the slope of the site there may be minor increases in height above that nominated heights on the lower.
- C.02 Minimum floor to floor heights are identified in Table 1

Table 1 – Minimum floor to floor heights

USE	MINIMUM FLOOR TO FLOOR HEIGHT
Commercial	3.6m
Residential floor to floor heights from level 1 and above. Floor to ceiling heights greater than the minimum 2.7metres are encouraged.	3.1m
Ground floor active street frontage	4.5m
Residential floor to floor heights for ground floor	3.6m

2.10 THE PERIMETER BLOCK BUILDINGS AND PODIUM

Together with the public domain, the perimeter block residential building frontages and the retail podium are the built elements that shape the way most of Melrose Park is experienced. As the primary means of providing definition and spatial enclosure to the streets and other public spaces, they are the principal architectural component of collective civic intent. That is, they should operate in concert with other buildings to form a satisfyingly rich experience for the public spaces of the town, and its modulation, articulation and character should be guided by this understanding of its role. The design of the lower parts of the building should be derived from the attributes that generate successful streets – human scale, expressed detail, and tactile material quality.

The lower levels of all buildings should complement each other. The lower-level buildings act as a mitigating element for the tower building, able to define the street at the appropriate height and protect the street from the wind effects of the tower. The perimeter buildings and podiums are set to address the street setbacks, building separation, and the proportions of the street and overshadowing.

Erosions of the lower levels of towers and the podium in the form of undercrofts are not appropriate.

Where U shaped buildings where the courtyards are located with the ends of the U to the street, the landscaping in the courtyard is to relate to the street interface but to allow for a reading of the built form and open space from the street.

Objectives

- O.01 Define the space of the street, pedestrian connections, parks and courtyards by articulating their edges with perimeter block buildings and the podium.
- O.02 Create visual interest and variety in the streetscape within an overall framework of consistency in the definition of the street and its character
- O.03 Reveal the topography and provide rhythm.
- O.04 Provide a facade design which intensifies the walking experience

Controls

- C.01 The perimeter block buildings and the podium should:
- a) be built to align with the street along their full frontage as generally shown on the Structure Plan. Minor recesses in the profile for modulation and articulation, entrances are permissible.
 - b) be modulated in vertical increments to provide rhythm to the street.
 - c) be articulated horizontally to reveal the topography
 - d) be articulated horizontally to address any negative impacts of wind from the taller buildings
 - e) be of predominantly masonry character with no lightweight panel construction or curtain walling.
 - f) be 8 storey maximum, including a maximum of two storey upper level setback if perimeter block
 - g) be 6 storey maximum if the podium (if in isolated cases, the podium exceeds this maximum height, e.g., waterfront, a maximum of 2 upper level setback storey can be considered. This 2 upper-level setback extension is to be recessed and designed to minimize its visual impact
 - h) be articulated with depth, relief, and shadow on the street façade. A minimum relief of 150mm between the masonry finish and glazing face should be achieved.
 - i) utilise legible architectural elements and spatial types - doors, windows, loggias, reveals, pilasters, sills, plinths, frame, and infill, etc. - not necessarily expressed in a literal traditional manner. Horizontal plinths are particularly encouraged in Melrose Park so that the topography is emphasised
- C.02 Under-crofts or other interruptions of the street wall that expose the underside of towers and amplify their presence on the street are not encouraged.
- C.03 All development applications should include a streetscape analysis and provide details of the street wall and perimeter block. Submissions should include:
- a) the street wall elevation at 1:200 scale in context showing existing buildings on the block.
 - b) a detailed street wall elevation at 1:100 scale including immediately adjacent buildings accurately drawn.
 - c) sections through the street wall and awning at 1:50 scale including the public domain.
 - d) detail facade plans/sections at 1:20 scale including ground floor active frontage and awning details.

2.11 RETAIL GROUND FLOOR FRONTAGE

Objectives

- O.01 Enable retail uses at key locations
- O.02 Ensure retail frontages have comfort and shelter for pedestrians
- O.03 Provide visual interest

Controls

- C.01 Ground floor commercial uses should be located where the adjoining public domain will be activated
- C.02 Service frontages should be minimised.
- C.02 The internal tenancy widths, foyers and lobbies to the towers should create a fine grain frontage.
- C.03 Active ground floor frontages should include:
 - a) a nominal 500mm interface zone at the frontage should be set aside to create interest and variety in the streetscape, to be used for setbacks for entries, opening of windows, seating ledges, benches, and general articulation;
 - b) a masonry façade that allows for fine grain tenancy widths.
 - c) a high level of expressed detail and tactile material quality.
 - d) a well resolved meeting with the ground that takes account of any slope.
 - e) a horizontal plinth, at the base of glazing to the footpath.
 - f) a clear path of travel for disabled access.
 - g) legible entrances.
 - h) awnings in accordance with Section AWNINGS
- C.05 An appropriate freeboard at ground floor level is to be provided, where required.
- C.06 Fire escapes and service doors should be seamlessly incorporated into the facade with quality materials.
- C.07 Colonnades are not encouraged
- C.08 All required major services should be incorporated in the design of the ground floor frontage at DA stage, refer Section SERVICING AND UTILITIES.
- C.09 Security doors or grilles should be designed to be fitted internally behind the shopfront, fully retractable and a minimum 50% transparent when closed.

2.12 RESIDENTIAL GROUND FLOOR FRONTAGE

Residential buildings should be set back from the street boundary or set at a different level to the street / pedestrian connections to provide amenity for ground floor residents. Setbacks are to enable a landscaped setting for buildings.

The area between the façade and the street boundary should receive attention both in design and in its material quality. The subtleties involved in the design of ground level entries, private terraces or balconies, fences, walls, level changes and planting play an important part in the articulation of the street. A detailed resolution of these elements is essential in contributing to an unambiguous definition of public space, good street form, pedestrian scale, clarity of access and address, and a balance of privacy and passive surveillance. These details should all be designed with the same level of care given to the building

Objectives

- O.01 Deliver a ground floor that achieves amenity and privacy for residents as well as engagement with and passive surveillance of the street.
- O.02 Enable a landscape setting where buildings are set back from the public domain.
- O.03 Provide appropriate amenity for:
 - apartments that are located below street level
 - apartments that have no set back to the public domain
- O.04 Locate the disability access so that it relates seamlessly to the building design.
- O.05 Minimise the impact of basements
- O.06 Acknowledge and safely accommodate with design, the overland flow flooding and stormwater conveyance in residential and ground floor frontage treatments

Controls

- C.01 Basements are to be located under the footprints of the buildings. They can extend under courtyards but not into the street setbacks, refer Figure 7.
- C.02 Generally, ground floor apartment levels should be a minimum of 500mm and maximum of 1500mm above footpath level except where the buildings front the pedestrian connections or additional height above the ground is required for privacy and / or to address the slope, refer to Figure 5.
- C.03 Where individual apartment entries from the street serve as a primary address, separation between the entry and private open space, and a front door with a distinct entry space within the apartment, should be provided. If the entries are only for the use of residents they should be understated, with post boxes and street numbers located at the common entry. Individual entries are permitted from the Pedestrian Connections
- C.04 Unless easy ramp access can be provided without compromising the entrance to the building or the ground floor apartments, disability access should be provided as per AS1428.
- C.05 Apartments cannot be located below the street level except in the following situations at Council's discretion:
 - a) Where the adjacent public road or public land is not an overland flow flood path as shown in approved flood maps included in the Water Management Strategy, or in any other flood study approved by Council.
 - b) Where the proposed apartment will not be subject to flooding in a 1%AEP flood plus 500mm freeboard as identified by Council.
 - c) Where the orientation is not south
 - d) The distance of the apartment front wall is a minimum of 5 metres from the street boundary
 - e) Where the finished floor level of the lowest apartment is not more than 1500mm below the level of the

street

- C.06 The head height of the windows is not more than 300mm from the underside of the slab above.
- C.07 For a building that is adjacent to a road, or public domain, or other land adjacent, that is part of an overland flow path or flood storage area:
- Where Council is satisfied that the roadway, or public domain, or other land adjacent to a building, is an overland flow path or flood storage area in the 1% AEP event with 100% blockage, Council will require minimum finished floor levels of habitable rooms to be 500mm freeboard above the adjacent 1% AEP water surface level as mapped in the 2 Dimension (Tuflow) overland flow model accepted by Council. This level may vary along the site /building boundary with changing water levels.
- C.08 For a building that is adjacent to a road, or public domain, or other land adjacent, that is not part of an overland flow path or flood storage area:
- Finished floor levels at the boundary adjacent to a road that is accepted by Council as not being an overland flow path, or flood storage area, in a 1% event, including 100% blockage, must be a minimum of the adjacent top of kerb levels plus 2% rising grade to the boundary.
 - Where there is no road, such as paving or landscape, and Council accepts the area is not part of an overland flow path, or flood storage area, in a 1% event including a 100% blockage, surface levels must fall away from the building entrances and openings to the adjacent drainage/WSUD system at a minimum of 2% or greater if necessary, to ensure adequate surface drainage.
- C.09 The ground floor design including variations to floor levels are to (refer to Figure 5):
- a) address privacy and articulation where the buildings have no set back from the public domain boundary
 - b) be articulated to provide a sense of address and passive surveillance along the edge of the development
- C.10 The setback area should be designed to relate to the footpath and as common property for landscaping. Canopy trees should be planted in this area, a minimum 3.5 metres from any structure. Trees are to achieve greater than 13 metres mature height and spread, at the rate of 1 canopy tree for every 15 lineal metres of frontage.
- C.11 Enable canopy trees in the setbacks that are 5 metres or greater and in the setbacks that have 2 metres adjacent to the street that contribute to the landscape character of the street and residential amenity.
- C.12 Establish lower scale planting including hedges at street boundary for a minimum of 1 metre in street set back zone
- C.13 Establish canopy planting in courtyards to achieve amenity and privacy for residents as well as contributing to the street.
- C.14 Co-locate the deep soil planting with the courtyard planting where the courtyards face the street setback
- C.15 Minimise impervious surfaces at ground level in the setback areas
- C.16 All required major services should be incorporated in the design of the ground floor frontage at DA stage, refer Section SERVICING AND UTILITIES
- C.17 A fully illustrated and coordinated ground floor design, showing all the necessary levels and detail, should accompany applications. Drawings should include the following:
- a) a detail ground level plan and sections as part of the architectural submission which illustrates the relationships between the interior and the exterior spaces of the setback area, including the landscape and hydraulic detail, and extends into the public domain.
 - b) any required services should be discreetly integrated into the frontage design.
 - c) the architectural drawings should be fully coordinated with the landscape and hydraulic drawings.
 - d) elevations and sections at minimum 1:50 scale of all built elements in the setback area should be provided and should illustrate Floor to Floor heights of 3.6 m and Floor to Ceiling heights of

2.9m.

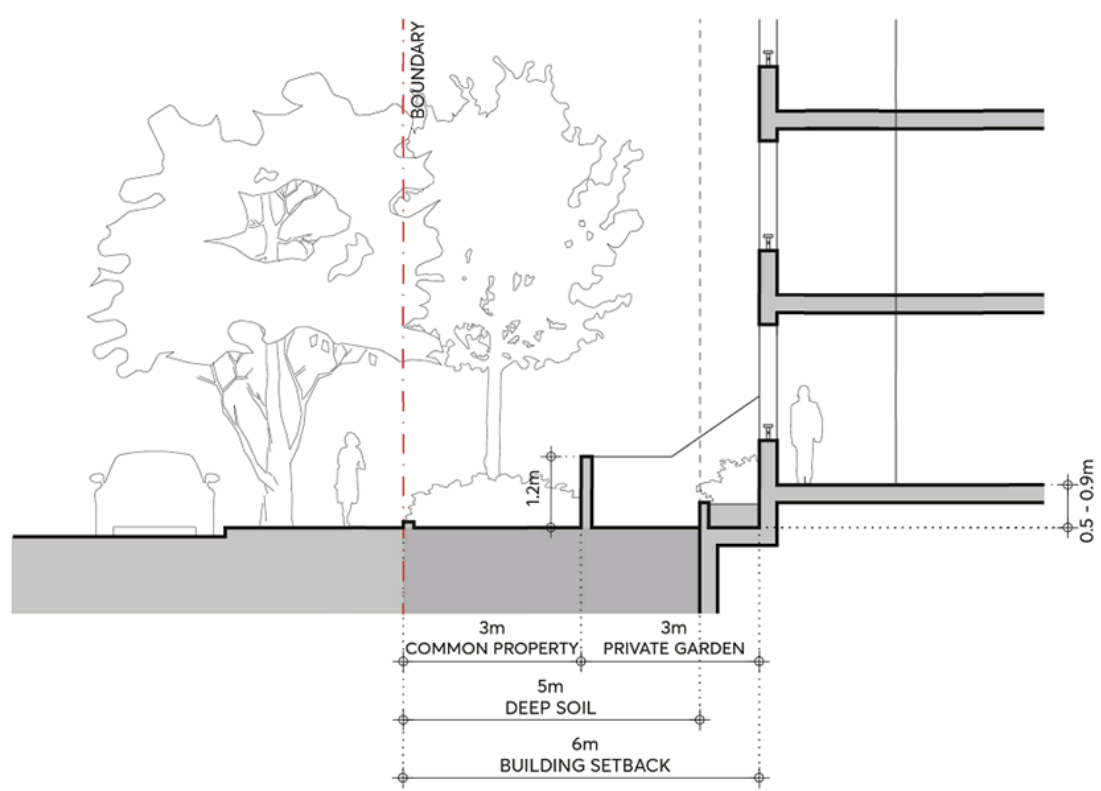


Figure 5. Residential ground floor

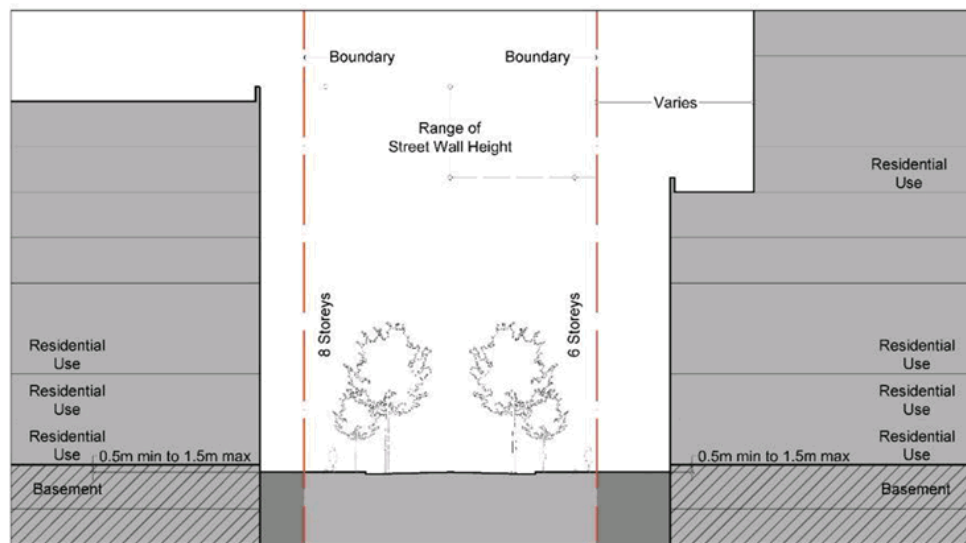


Figure 6 – Podium / Street Wall Height with Setback, NTS

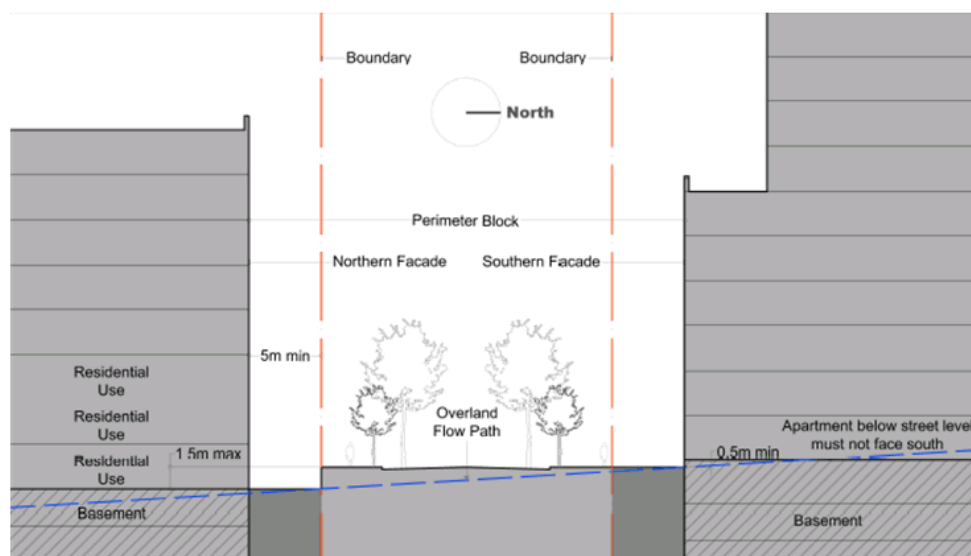


Figure 7 – Apartment below Street Level, NTS

2.13 RESIDENTIAL APARTMENT DESIGN QUALITY

Objectives

- O.01 Ensure development achieves good amenity standards for residents.

Controls

- C.01 Upper levels of buildings should not extend over the lower levels
- C.02 Building floorplates and sections should define positive spaces for streets, open spaces, and courtyards
- C.03 Building indentations providing light and ventilation to apartments should have a minimum width to depth ratio of 2:1.
- C.04 High-level windows should not be used as the primary source of light and ventilation for habitable rooms.
- C.05 Where practicable, balconies should be rectangular in shape with the longer side parallel to the façade of the building.
- C.06 Divisions between apartment balconies should be of solid construction and extend from floor to ceiling.
- C.07 Common open space should include a unisex WC, seating, solid sun shading, and a BBQ and food preparation area with a sink.
- C.08 Balustrades should take account of sightlines to balance the need for privacy within apartments and views out of apartments. A proportion of solid or translucent material should be used, which will vary according to outlook and height relationships.
- C.10 The following details should be resolved in principle and shown on drawings at DA stage so as not to compromise amenity, built form and aesthetics at a later stage:
- a) HVAC equipment should be grouped within designated plant areas either on typical floors or on roof tops. If HVAC equipment is located on roof tops of lower buildings, it is to be screened as necessary to minimise impacts of heat buildup and noise to neighbouring units.
 - b) wall mounted equipment (e.g., instantaneous gas hot water heaters) and associated pipe work should be concealed into wall cabinets and ducts.
 - c) the above items should be positioned so that they are not visible from common areas or the public domain adjacent to the development.
 - d) if equipment is located on private balconies, additional area above ADG minimums should be provided.
 - e) rainwater downpipes should be integrated into the building fabric and coordinated with stormwater drawings
- C.11 Apartment design should consider incorporating suitable spaces that can be utilised as a work from home space.

2.14 SOLAR ACCESS (RESIDENTIAL)

Objectives

- O.01 Ensure that development does not unreasonably diminish sunlight to private open space and habitable rooms of neighbouring properties within the development site.

Controls

- C.01 Where residential development cannot strictly comply with the design criteria of the ADG, it should demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the Objectives and Design Guidance 4A-1 of the Apartment Design Guide

2.15 WINTERGARDENS

Objectives

- O.01 Improve amenity of balconies in high rise apartments above 8 storeys and apartments fronting noisy environments.
- O.02 Provide acoustic attenuation for internal living areas.
- O.03 Improve thermal environment
- O.04 Balance ventilation and wind impacts in high rise apartment balconies
- O.05 Maximise daylight access, views, and comfort of balconies.

Controls

- C.01 Wintergardens are only permitted above 8 storeys or where there are negative external impacts such as high levels of noise
- C.02 Wintergardens should:
- be designed and constructed as a private external balcony with drainage, natural ventilation and finishes acceptable to an outdoor space and should not be treated as a conditioned space or weatherproof space.
 - have 75% of the external wall (excluding balustrade) fully operable louvres or sliding glass panels. Casement or awning windows are not permitted.
- C.03 All wintergardens are to have a balustrade less than 1.4m above finished floor level and a contiguous and permanently openable area between the balustrade and the ceiling level of not less than 25% of this area. This restriction shall apply to both elevations if the wintergarden has multiple elevations
- C.04 A generous opening should be provided between the wintergarden and any adjacent living area to allow connection of the spaces when ambient conditions are suitable.
- C.05 Acoustic control for living areas and bedrooms should be provided on the internal façade line between the wintergarden and the living area or bedroom
- C.06 Glazing in the external façade of a wintergarden should have a solar absorption of less than 10% glass to have solar heat absorption not greater than a clear float glass of the same composition.

- C.07 The flooring of the wintergarden should be an impervious finish and provide exposed thermal mass.
- C.08 Air conditioning units should not be located on wintergarden balconies.
- C.09 Wintergarden areas able to be excluded from Gross Floor Area should be limited to depth of 3 metres.

2.16 CLIMATE CONTROL AND PRIVACY

The precinct of Melrose Park experiences high temperatures and will be subject to urban heat impacts resulting from the density of buildings. Most towers and many of the perimeter block buildings have east and west facing facades so it is essential that climate control measures are included on the facades where those facades will not be overshadowed by neighbouring buildings.

Climate control devices should also be used to assist in protecting both visual and noise privacy.

Objectives

Climate control devices are to:

- O.01 Enhance the:
 - a) amenity of the balcony and interior spaces
 - b) design of the building facades
- O.02 Provide:
 - a) individual apartment owners with the ability to moderate external impacts from climate, noise and overlooking
 - b) commercial tenants with the ability to moderate external impacts from climate, noise and overlooking
- O.03 Ensure that the design of climate control devices can:
 - a) provide optimum control
 - b) be easily cleaned
 - c) assist in providing both visual and noise privacy

Controls

- C.01 Climate control devices such as louvres or blinds should be:
 - a) used on balconies
 - b) used where apartment facades are subject to solar loads and there are no other mechanisms that assist in climate moderation such as green walls
 - c) designed as an integral part of the building facade
 - d) have the capacity to be adjusted to suit sun access angles and allow the passage of air
 - e) should be able to be positioned to the direction of sun, wind, or noise
 - f) constructed in materials that meet the sustainability objectives
 - g) able to be cleaned from the apartment.
- C.02 Climate control devices should:
 - a) have the ability to act as visual and noise privacy screens

2.17 DWELLING MIX AND FLEXIBLE HOUSING

Objectives

- O.01 Ensure a range of dwelling types and size.
- O.02 Promote the design of buildings that are adaptable and incorporate flexible apartments to suit the changing lifecycle housing needs of residents over time

Controls

- C.01 The dwelling mix identified in Table 2 is to be used as a guide for the apartments in Melrose Park:

Table 2 – Dwelling Mix

Dwelling Type	Dwelling Mix
1 Bedroom	10 – 20% of total dwellings
2 Bedroom	60 - 75% of total dwellings
3 Bedrooms	10 - 20% of total dwellings

- C.02 A maximum 25% of the total apartments can be split into a pair of dual key apartments providing they overall dwelling mix is still achieved in the development. In all combinations the size and amenity should be consistent with the ADG.
- C.03 Dual key apartments are to be under one strata title.
- C.04 Consider apartment designs in sole occupancy units that are fully serviced but that have internal moveable walls

2.17.1 MATERIALS

Melrose Park proposes very high densities with towers and perimeter block buildings in close proximity. To achieve both variety and continuity the perimeter block buildings and towers, require consistency in both form and the selection of materials so there is an overall continuity of built form throughout the precinct.

Objectives

- O.01 Ensure that materials contribute to the coherence of the precinct so that one building does not stand out from another. Variety within the precinct is derived from the detail resolution of the buildings and not from excessive differences in the selection of materials.
- O.02 Use materials that meet sustainability objectives and requirements
- O.03 Select a palette of materials for the buildings that enable a complementary response with the finishes in public domain
- O.04 Employ materials that are durable, of an appropriate scale and easily maintained

Controls

- C.01 A selected palette of materials for buildings, fencing and retaining walls are to be agreed in consultation with Council.
- C.02 Materials should:
- a) ensure buildings do not stand out from another
 - b) meet sustainability requirements of embodied energy
 - c) be durable, of an appropriate scale and easily maintained
 - d) complement the materials in the public domain

2.18 RETAINING WALLS

Melrose Park is located on sloping terrain. The retaining walls may occur adjacent to the street boundary of a lot or within the lot depending on the topographical conditions and / or the specific lot design. Because of their highly visible location adjacent to streets and pedestrian connections, the design of retaining walls should provide continuity across the precinct and a sensitive interface with the public domain.

Objectives

The retaining walls are to:

- O.01 Provide continuity across the precinct
- O.02 Be an integral element in the design character of the precinct
- O.03 Employ construction details and materials that are durable and appropriate for the public domain interface.
- O.04 Provide opportunities for casual seating

Controls

- C.01 Retaining walls should:
- a) be located within the lot boundaries on all development lots
 - b) use a design and profile to meet PDG in consultation with Council.
 - c) select a limited palette of durable materials in consultation with Council
 - d) enable casual seating where appropriate
 - e) have horizontal tops and minimal stepping

2.19 FENCING

Objectives

- O.01 Relate to the scale and materiality of the buildings
- O.02 Define the public/ private edge
- O.03 Provide privacy and visibility
- O.04 Be durable
- O.05 Relate to and reveal the slope of the land

Controls

- C.01 Fencing is to:
 - a) be located at the street boundary or to private terraces on ground floor units.
 - b) provide a combination of solid and porosity
 - c) reveal the slope by introducing a horizontal element such as a masonry or similar plinth
 - d) be a height and detailing that reflects the scale buildings
 - e) define the public edge to the property and reinforce the edge to the public domain.
 - f) provide continuity with subtle differences across the precinct
 - g) use construction details and materials that are durable and appropriate for the public domain interface
- C.02 Fencing to private terraces where ground floor units extend into the street setback are to be designed to relate to any fencing on the property boundary.
- C.03 Where there are 5m and 6m street setbacks, the 3m on the street can be common property.
- C.04 The height of fences can vary up to approximately 2000mm.

2.20 COURTYARDS

Courtyards provide communal open space for residents at ground level associated with deep soil supporting large crown canopy trees. Courtyards provide alternative, secondary entry points to the building linked to the pedestrian connections and public domain. Courtyards provide visual extension to the public domain. Courtyards provide relief to the overall physical and visual bulk of the built form and perceived density.

Objectives

- O.01 Reinforce the built form and open space structure of the precinct.
- O.02 Expand and enhance the public domain
- O.03 Provide outlook from the apartments
- O.04 Provide a communal space for relaxation and communal activities
- O.05 Provide passive surveillance opportunities public areas
- O.06 Have generous planting
- O.07 Assist with reducing urban heat
- O.08 Assist with flood management

Controls

- C.01 Courtyards are to be located as shown in Appendix 2.
- C.02 Courtyards should:
 - be visually and physically linked with streets, open spaces and pedestrian connections
 - be delightful outdoor rooms and should be considered regarding aspect and height to width, and depth to width proportions.
 - include vegetation and canopy planting
 - generally, be the same level as the street to facilitate access and integration with the public domain. Where they are not level access stairs and ramps are to be located on the private lot.
- C.03 Courtyard levels are to address flood management
- C.04 Where courtyards are located over basements, canopy planting is to be set down in the slab
- C.05 Refer to Figure 8 for guidance on street interface.

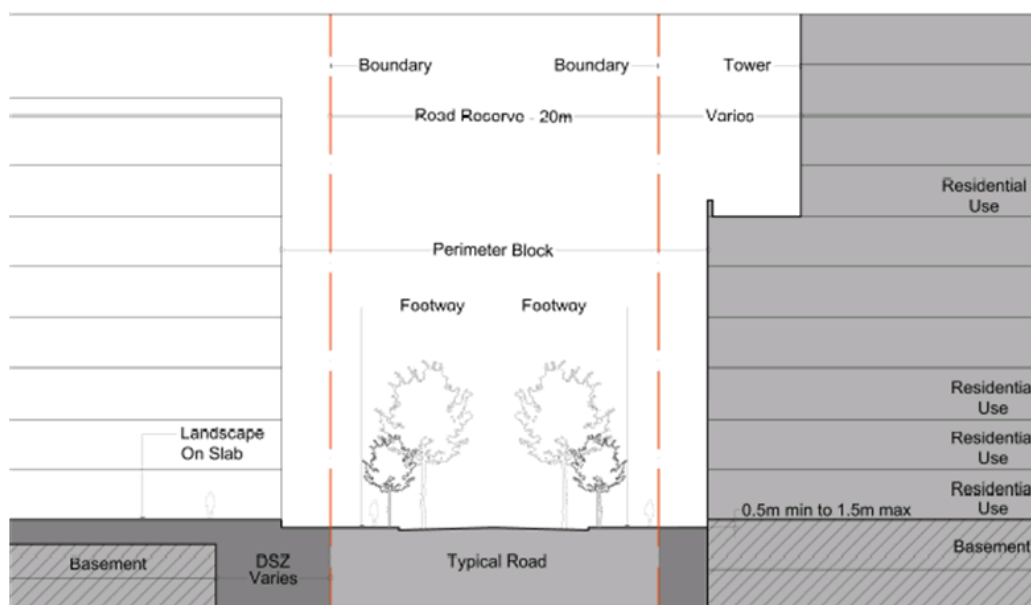


Figure 8 - Courtyard Basement – Interface with Street

2.21 SERVICING AND UTILITIES

The location of utilities and services can adversely affect the ground floor street frontage if not properly taken account of in the initial design stage. It is also essential that building services are located and designed to be free from flooding impacts.

Objectives

- O.01 Minimise the extent of space and blank walls occupied by services, including electricity substations, fire boosters, fire doors, plant, and equipment hatches.
- O.02 Locate building services so that they are free from flooding impacts.
- O.03 Encourage design and location solutions for services and utilities that minimise adverse visual, environmental and access impacts.
- O.04 Organise garbage collection and recycling facilities to have minimum impact on the development and public domain

Controls

- C.01 Wherever possible, services and utilities should be located on secondary street frontages, or non- active street frontages.
- C.02 Substations are to be designed within the building.
- C.04 Services and utilities should be designed and located to minimise the length of ground floor frontage occupied.

3. PUBLIC DOMAIN

The Structure Plan, the Public Domain Plan and the Public Domain Guidelines, indicate intended public domain for Melrose Park South.

Public spaces – streets, squares, and parks – are the most enduring spaces of the city, the shared social and cultural domain that make up the organising framework of the city. Their clarity, quality and amenity contribute in a fundamental way to the experience and identity of Melrose Park South.

This section details aspects of the design of the public domain and should be read in conjunction with the Structure Plan, the Public Domain Plan, and the latest publicly available version of Public Domain Guidelines with particular reference to Melrose Park. These set out the process, design guidelines and submission requirements for all new public domain assets in the City of Parramatta LGA.

Street tree form shown in the public domain cross sections, Figures 9-17 are indicative. For final street tree arrangements refer to the Public Domain Plan and the Public Domain Design Guidelines.

3.1 STREET NETWORK AND FOOTPATHS

The streets and footways in Melrose Park South are accessible to the public. The elements in the street such as footpaths and paving widths, parking lanes, tree planting and cycle ways should be designed to suit the street network.

Objectives

- O.01 Provide a safe, efficient, and generous network of pedestrian, bicycle, and vehicular movements for a precinct of this density.

Controls

- C.01 The streets network, hierarchies and widths are to be laid out as per the Structure Plan and Appendix 7.
- C.02 Streets, footways and footpath layout and widths vary for each street type and should be laid out as per the street section in this DCP and the Public Domain Plan.
- C.03 Materials for the footpath shall be as per the Public Domain Plan and Public Domain Guidelines - Melrose Park South.
- C.04 Street Trees are to be planted as per latest version of Public Domain Plan and Public Domain Guidelines - Melrose Park South
- C.05 Street trees are to be planted in the parking lanes and the footway as per the Public Domain Plan. The spacing of trees in the parking lanes should aim to achieve a closed tree canopy at tree maturity – selected tree species as per latest version of Parramatta Public Domain Guidelines - Melrose Park South.
- C.06 Street tree planting to use best practice water sensitive urban design (WSUD) measures that provide best long-term sustainability to support that tree. The planter pit length should be no less than the min car parking bay width, preferably larger, and the soil profile will be as per the Soil Profile Strategy and should be detailed prior to DA approvals to the satisfaction of Council.
- C.07 All cycleways and bike paths are to be provided and designed in accordance with Council's Bike Plan.

Melrose Park Street Type Cross-Sections

LEGEND FOR ALL STREET CROSS SECTIONS:

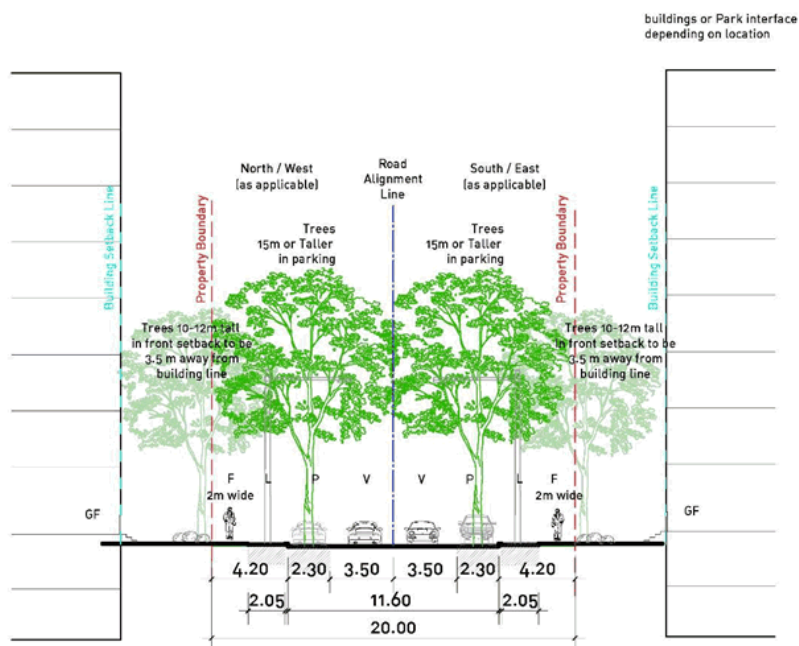
F	FOOTPATH	L	LANDSCAPE
V	VEHICULAR LANE	LR	PARRAMATTA LIGHT RAIL 2
B	BIKE PATH	B/V	LANE ABLE TO ACCOMMODATE BUSES
P	PARKING		

Note:

- Level changes to be managed within the building footprint
- Light poles are indicative and for locations only. Lighting is subject to specialist design. Light pole and type to be confirmed.

Type 4 – Local Street, Two way

- 20 m wide road corridor
- 2 x 3.5 m lanes
- 2.3 m Parking both sides
- 2 m wide footpaths both sides
- Trees in parking lanes
- WSUD details to be applied where possible



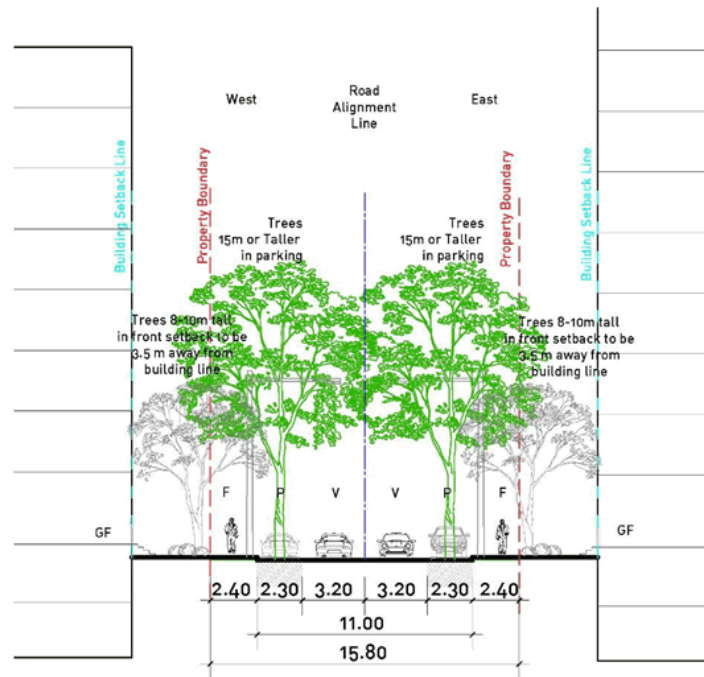
TYPICAL 20 M WIDE STREET - Applicable to HUGHES AVENUE & EWR 8 (Mary Street)

Note: Building setbacks vary per street, and are as per the setback drawing
EWR 8 predominantly has the River Park interface on the southern side

Figure 9 – Type 4 Local Street (Hughes Avenue & EWR 8/ Mary Street)

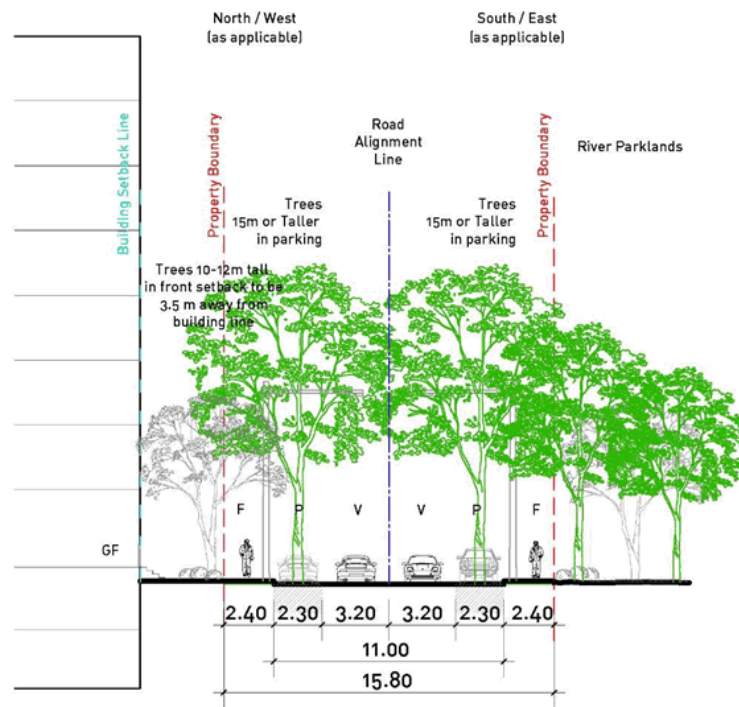
Type 5a – Local Street, Two way

- 15.8 m wide road corridor
- 2 x 3.2 m lanes
- 2.3 m Parking both sides
- 2.4 m wide footpaths both sides
- Tree planting in parking zone

**NSR 5 - 15.8 M WIDE STREET***Figure 10 – Type 5a Local Street (NSR 5)*

Type 5b – Local Street, Two way, Interim configuration (until precinct is built completely)

- 15.8 m wide road corridor
- 2 x 3.2 m lanes
- 2.3 m Parking both sides
- 2.4 m wide footpaths both sides
- Tree planting in parking zone



NSR 5A & EWR 10 - 15.8 M WIDE STREET TWO WAY - INTERIM CONFIGURATION

Figure 11 – Type 5b Local Street Interim Configuration (NSR 5A and EWR 10)

Type 5b – Local Street, One way, Final configuration (after precinct is built completely)

- 15.8 m wide road corridor
- 3.5 m single lane, one way
- 2.3 m Parking both sides
- 2.9 m planted verge with trees, one side (northern or western edge of street, as applicable)
- 2.4 m wide footpaths both sides
- Tree planting in parking zone one side (southern or eastern edge of street, as applicable)

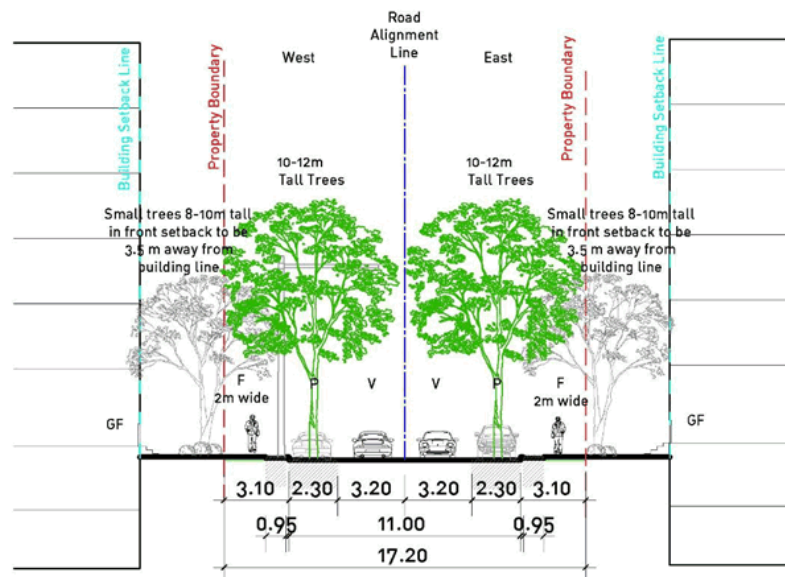
**NSR 5A & EWR 10 - 15.8 M WIDE STREET ONE WAY - FINAL CONFIGURATION**

- Eastern / Southern edge of the street to remain unchanged.
- Tree locations and Footpath locations to remain unchanged.
- Road alignment to be maintained, vehicular lane shall be widened to 3.5 m northward /westward
- New parking lane to be lined out, kerb shifted out, and older parking lane to be converted to a planted verge.

Figure 12 – Type 5b Local Street Final Configuration (NSR 5b & EWR 10)

Type 6 – Local Street, two-way

- 17.2 m wide road corridor
- 2 x 3.2 m lanes
- 2.3 m Parking both sides
- 2 m wide footpaths both sides
- 0.95 m planted verge both sides
- Tree planting in parking zone

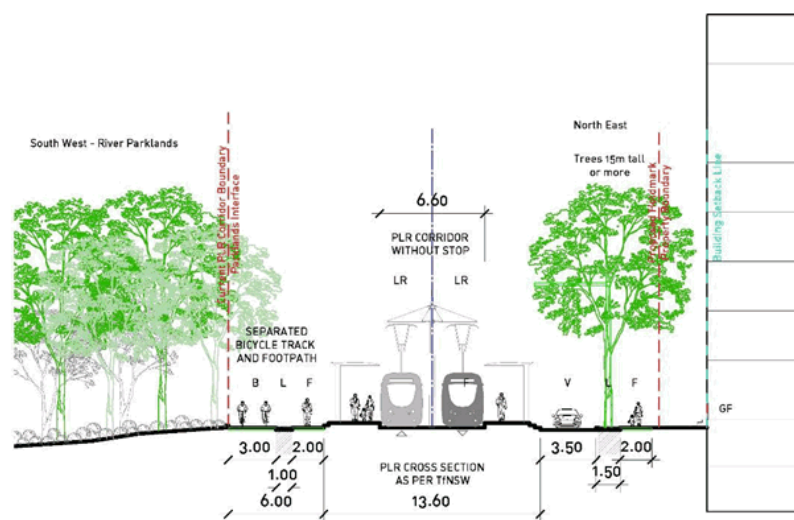


NSR 6 -17.2 M WIDE ROAD

Figure 13 – Type 6 Local Street (NSR 6)

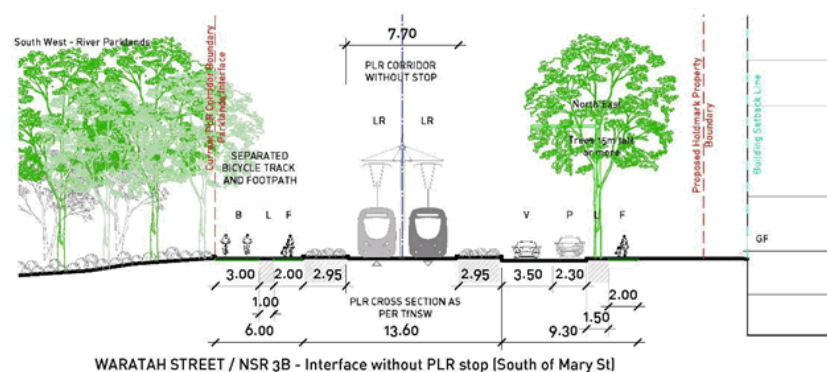
Type 7 – Local Street, One way

- 7-9.3 m wide road corridor
- 3.5 m single lane, one way
- 2.3 m Parking one sides depending on location along street
- 2 m wide footpath one side
- Tree planting in verge 1.5m wide, beside footpath
- Interface with PLR corridor and stop as per location along street



WARATAH STREET / NSR 3B - Interface with PLR with stop (South of Mary St)

Figure 14 – Type 7 Local Street (NSR 3B with Stop)

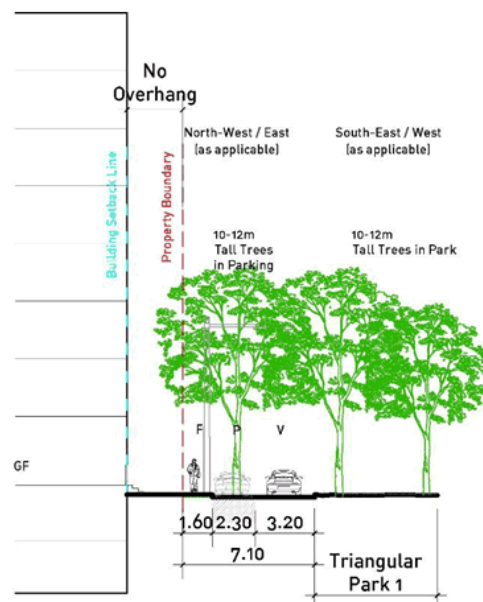


WARATAH STREET / NSR 3B - Interface without PLR stop (South of Mary St)

Figure 15 – Type 7 Local Street (NSR 3B in areas without Stop)

Type 8 – Local Street, One Way

- 7.1 m wide road corridor
- 3.2 m single lane, one way
- 2.3 m Parking one side
- 1.6 m wide footpath one side
- Tree planting in parking, one side

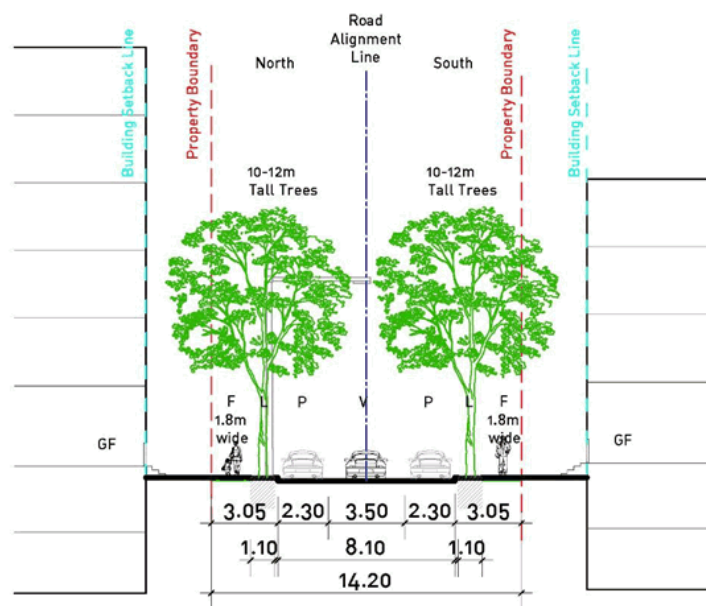


7.1 M WIDE LOCAL ONE WAY STREET with parking on one side -
NSR 6A (southbound) & EWR 9A (northeast-bound)

Figure 16 – Type 8 Local Street (NSR 6 A & EWR 9A)

Type 9 – Local Street, One Way

- 14.2 m wide road corridor
- 3.5 m single lane, one way
- 2.3 m Parking both sides
- 1.8 m wide footpaths both sides
- Tree planting in verge 1.1m wide, both sides



EW9 - 14.2 M WIDE ROAD
 One way traffic eastbound with parking on both sides of the street

Figure 17 – Type 9 Local Street (EW9)

3.2 PEDESTRIAN CONNECTIONS (where applicable)

The benefits of a finer network of connections are numerous: greater connectivity, increased frontage for entries and business opportunities, and a spatial intimacy and variety in the public domain.

Pedestrian connections in Melrose Park South enable access for service vehicles but are narrower in width than streets.

Refer Council's Public Domain Guidelines sub-section Melrose Park South for site specific guidance for the materials, finishes and treatment of the pedestrian connections.

Objectives

- O.01 Pedestrian connections are to increase connectivity and spatial variety in the street network.
break up built form
- O.02 Provide a direct path of access to the Town Centre, Public Amenities, Parks, and modes of Transport.
- O.03 Enable alternative access points to apartments. .
- O.04 Link the open spaces to the overall precinct
- O.05 Have a fully public nature equivalent to the public domain

Controls

- C.01 The pedestrian connections should be -
 - a) consistent with the Structure Plan
 - b) 24/7 publicly accessible
 - c) extend from street to street or street to park
 - d) open to sky
 - e) available for controlled access for light weight maintenance/service vehicles
 - f) fully accessible using, in order of preference:
 - graded walkways (no steeper than 1:20);
 - limited use of ramp system as per DDA;
 - 24/7 clearly visible publicly accessible lift service within the building structure; or
 - alternative options for approval.
- C.02 The pedestrian connections should have:
 - a) view lines along that align across all blocks
 - b) building to building separation generally as 24m
 - c) a public path with a minimum width of 4 metres within the separation between buildings
 - d) trees in deep soil (preferably) or in set down slabs and planters to encourage and sustain large canopy trees generally consistent with the ADG requirements including soil volumes, soil

- depth, irrigation, and sub-soil drainage
- e) pedestrian lighting to provide safe 24/7 access using without reflecting into residential properties

- C.03 Materials as per the PDG
- C.04 The pedestrian connections can provide secondary entry to the buildings and courtyards

- C.06 Landscaping, lighting, and street furniture elements such as seating (formal and incidental) is to be developed as an overall design, and be strategically located, with recognition of the grades and sight lines across the site.

3.3 STREET TREES

Street trees help improve the quality of environment for the residents by reducing temperatures, providing shade, attracting fauna, and providing outlook. Street trees will be the elements in public domain which will define the spaces and relate to the scale of buildings in Melrose Park South.

Objectives

- O.01 Maintain existing and plant additional street trees within the public domain.
- O.02 Improve and enhance environmental biodiversity and mitigate temperature at ground level.
- O.03 Select tree species and planting regime to maximise connected street tree crown
- O.04 Improve visual amenity of the public domain and from the buildings.

Controls

- C.01 Street trees should be provided along those streets as per the Parramatta Public Domain Guidelines - Melrose Park South.
- C.02 The location of trees in public domain should be as per the Public Domain Plan and Public Domain Guidelines.
- C.03 Street trees in the footway should be 12 - 15 m or higher high mature height, at 8-10m centres and planted generally in accordance with the Public Domain Guidelines and Council Design Standards.
- C.04 Street trees in the street parking lanes should have a mature height of more than 15m are to be installed as per the Public Domain Plan and street cross sections above and latest version of Parramatta Public Domain Guidelines, - Melrose Park. Spacing of the trees to ensure tree crown touching at maturity.
- C.05 Development applications should be consistent with the Public Domain Plan.
- C.06 Public domain documentation indicating the street tree locations as detailed in the Public Domain Plan should be submitted prior to Development Applications and Construction Certificate Applications approval.

3.4 OVERHEAD POWER LINES

Objectives

- O.01 Ensure the appropriate location of all power lines within the precinct to provide an aesthetic appeal and necessary function.

Controls

- C.01 All new power lines are to be undergrounded for all new streets where possible (excluding the high voltage power lines) of Melrose Park South for full lengths of the development site street frontages and should be in accordance with the Public Domain Guidelines.

3.5 AWNINGS & AWNING DESIGN

Awnings assist in encouraging pedestrian activity along streets by providing comfortable conditions at footpath level and, in conjunction with active ground floor frontages, contribute to the vitality of the streets.

On public footpaths with active frontages, awnings are preferred to provide shelter and weather protection for pedestrians.

Well-designed awnings provide a sheltered, humanly scaled space on the footpath that creates an accommodating pedestrian environment for shopping, dining, walking and lingering. They also provide weather protection for the doorways, openings, and display areas of the active ground floor frontage of the building.

As an architectural element that is both part of the building as well as the public space of the street, the awning should integrate both with the characteristics of the building as well as existing and possible future adjacent awnings. In Melrose Park awnings are encouraged only at the town centre / mall and activated street frontages.

Objectives

- O.01 Increase amenity in areas of high pedestrian volume by providing continuous protection from rain, sun, and wind down draft.
- O.02 Design awnings to provide protection from rain, sun, and wind down draft.
- O.03 Maintain complementary architectural detail between awnings
- C.01 Awnings in Melrose Park South should be used at activated retail frontages.
- C.02 New awnings should align with adjacent existing awnings and complement building facades
- C.03 Where a proposed building is located on a street corner and an awning is not required on one frontage, the awning should extend around the corner by a minimum of approximately 6m.
- C.04 Awning dimensions should generally be:
- Minimum soffit height of 3.3 metres.
 - Low profile, with slim vertical fascias or eaves (generally not to exceed 300mm height)
 - Setback a minimum of 600mm from the face of the kerb
 - Minimum of 2.0 metres deep unless street trees are required.
 - Where street trees are required the entire length of the awning should be set back from the kerb by a minimum of 1.2 metres. Cut outs for trees and light poles in awnings are not permitted.
- C.05 Dimensions of awnings should be in accordance with Typical Awning with Street Trees, Figure 18.

- C.06 Double height awnings are not permitted except where emphasis is required for entries and the like.
- C.07 All awnings are to have non-reflective surfaces
- C.08 Glass in awnings should be used where climatically appropriate and should comply with the controls outlined in Section SUSTAINABILITY
- C.09 The awning roof should be designed so that all gutters are concealed, and downpipes incorporated in the building fabric.
- C.10 Lighting and other fixtures should be recessed and integrated into the design of the soffit.



Figure 18 - Typical Awning Condition with Street Trees

3.6 PEDESTRIAN ACCESS AND MOBILITY

Objectives

- O.01 Enable access and use of all spaces, services, and facilities through the creation of a barrier free environment in all public spaces, premises, and associated spaces.
- O.02 Provide a safe and easy access to buildings to enable better use and enjoyment by people regardless of age and physical condition, whilst also contributing to the vitality and vibrancy of the public domain.

Controls

- C.01 Disability access and provisions must be in compliance with the relevant Building Codes, Australian Standards and Disability Discrimination Act 1992.

3.7 SOLAR ACCESS & OVERSHADOWING OF PUBLIC SPACES

The provision of solar access throughout the year is critical to the success of public open space. In a densely occupied precinct, public open spaces with good solar access provide a respite and resource for residents, workers, and visitors. In addition, sunlight is important to ensure the necessary conditions for the health of trees and vegetation, another essential ingredient for public open space.

Public spaces have been identified in the Master Plan these provide valuable opportunities to maintain and to maximise use of solar access at ground level.

Objectives

- O.01 Maximise solar access to the significant public parks and public spaces and streets during periods in the day when they are most used throughout the year.
- O.02 Support the successful growth and survival of trees and vegetation within the streets, parks, and open spaces.

Controls

- C.01 Development should demonstrate how built form massing, orientation and distribution of height will provide adequate sunlight to parks and public spaces identified in the Structure Plan.

3.8 PUBLIC OPEN SPACE

Objectives

- O.01 Create a strong definition of the public domain and maintain the range of public open spaces as shown in the Structure Plan, Public Domain Plan and Public Open Space Plan to support the new residential community to meet, walk and recreate. These are:
- a) Southern Parklands West
 - b) Southern Parklands East
 - c) Wharf Road Gardens (South)
- O.02 Ensure that the public open spaces are capable of:
- a) accommodating a range of uses and events, experiences, and activities.
 - b) encouraging social interaction and use by people of different ages and abilities.
 - c) including key user groups needs including children, young people, the elderly, low-income earners and people with a disability.
- O.03 Provide public open spaces that are attractive and memorable with high levels of amenity that consider safety, climate, activity, circulation, seating, lighting, and enclosure.
- O.04 Contribute to the management of stormwater and enhancement of ecological values.

Controls

- C.01 Public open space is to be provided as identified in the Structure Plan and Appendix 6 - Public Open Space Plan and Public Open Space Key Characteristics, Table 3.
- C.02 The designs for the public open spaces and the wetlands are to be developed in consultation with Council. They are to be designed to:
- a) incorporate a palette of high quality and durable materials, robust and drought tolerant landscaping species,
 - b) include clear, accessible, safe, and convenient linkages to each other and to the surrounding public open space network
 - c) integrate stormwater management and urban tree canopy
 - d) include design elements, furniture, and infrastructure to facilitate active and passive recreation, community gatherings
 - e) maximise the safety and security of users consistent with 'Safety by Design' principles
 - f) provide deep soil throughout (no car parking or infrastructure underneath unless agreed to by Council)
 - g) encourage pedestrian use through the design of open space pathways and entrances
 - h) clearly delineate private and publicly accessible open space
 - i) provide access to both sunlight and shade
 - j) incorporate appropriate levels of lighting to maximise hours of use
 - k) accommodate high levels of use
 - l) be accessible 24/7
 - m) be capable of being well maintained within reasonable costs
- C.03 All public open space is to be dedicated and then maintained by Council.
- C.04 Landscaping and materials palette should respond to the character and environmental conditions of each space and should unite and relate to the other public open spaces throughout the precinct.

- C.05 Vehicular movement through public open space should be restricted except for emergency vehicles, servicing, and special events.
- C.06 Landscaping, plant species and structures such as retaining walls should be compatible with flood risk and not located on a flow path. Also see Retaining Walls in section Built Form.
- C.07 Soil profile to be consistent with the Soil Profile Strategy – fill within the public domain and open spaces should not occur prior to undertaking a Soil Profile Strategy which has been agreed by Council.
- C.08 Where open space performs dual recreation and stormwater detention functions, the design of the detention basin should:
- provide an appropriate balance between stormwater management and recreation functions
 - include appropriate measures to restrict gross pollutants from entering the basin
 - allow the release of detained water within 24 hours of a significant rainfall event to protect landscaping within the basin
 - have one or more embankment batters of a maximum 1 in 3 gradient to provide for the safe exit of persons from the basin following a significant rainfall event
 - accommodate plant species and structures that can tolerate temporary flood inundation

Table 3 - Public Open Space Key Characteristics

Site	Purpose/s	Use/s
Southern Parklands West	Foreshore Park	Active informal recreation, Passive Recreation, Community Events and Gatherings
Southern Parklands East	Foreshore Park	Passive recreation, gatherings
Wharf Road Gardens (South)	Landscape Buffer	Passive Recreation

I. Southern Parklands East and West

The West and East Foreshore Parks will assist in creating one continuous foreshore park, once the entire south precinct is developed, along the Parramatta River. The West & East foreshore parks will have an area of approximately 22,126m²:

- function as the key open space and principal gathering space for the Melrose Park precinct
- be edged by the existing Parramatta River cycle way to the south
- have a diverse mix of hard and soft landscaping and deep soil planting utilising indigenous, native and exotic species to suit park environmental conditions
- should provide:
 - a variety of outdoor spaces including, sheltered, sunny, shaded, intimate, expansive
 - informal seating areas, public amenities, BBQ, and shade structures, drinking fountains
- utilise durable materials to resist vandalism and graffiti
- include gathering spaces and play elements integrated into the landscape design
- provide opportunities and infrastructure to support small scale events
- facilitate cross-site and internal pedestrian connections that are sympathetically integrated to maintain the overall landscape character

II Wharf Road Gardens (South)

A linear park with a minimum width of approximately 17 metres; and an approximate area of 3,907m² should be provided along the eastern boundary of the precinct as identified in the Structure Plan and should:

- explore opportunities to integrate references to the agricultural / pharmaceutical heritage
- provide a green buffer of soft landscaping to protect significant trees
- include deep soil planting utilising indigenous, native and exotic species
- incorporate shade and some formal and informal seating
- achieve direct sunlight to a minimum of 40% of the park between 10am and 2pm on 21 June

3.9 LANDSCAPE DESIGN

Objectives

- O.01 Ensure that the landscape is fully integrated into the design of development.
- O.02 Optimise landscaping to ameliorate urban heat effects
- O.03 Provide tree canopies to enhance the street character.

Controls

- C.01 A landscape concept plan should be provided for all landscaped areas. The plan should outline how landscaped areas are to be maintained for the life of the development.
- C.02 Canopy trees should be provided in the street frontage setback deep soil to complement tree canopy species in accordance with the Public Domain Plan and the Public Domain Design Guidelines.
- C.03 Ensure that A grade soil profile is appropriate for the planting in the deep soil zones
- C.04 Landscape requirements should be as per Section 3.3.1 Landscaping, and 3.3.2 Private and Communal Open Space of the Parramatta DCP 2011 and where there is a conflict, this DCP shall prevail.

3.10 PLANTING ON STRUCTURES

Constraints on the location of car parking structures may mean that landscaping within the site and not in the setbacks might need to be provided over parking structures on roof tops or on walls.

Objectives

- O.01 Contribute to the landscape quality and amenity of buildings.
- O.02 Encourage the establishment and healthy growth of landscaping in urban areas on structure.
- O.03 Ensure that A grade soil profile appropriate for the proposed planting in the deep soil zones and for the landscaping on slab is provided.

Control

- C.01 Design for optimum growing conditions and sustained plant growth and health by providing minimum soil depth and, soil volume as per Table 4.3.10.4, and soil area appropriate to the size of the plants to be established,
- C.02 Provide appropriate soil conditions including irrigation (where possible using recycled water) and suitable drainage.
- C.03 Provide square or rectangular planting areas rather than narrow linear areas.
- C.04 Provide a soil profile report that specifies A grade soil that meets the specific requirements for the proposed planting for 1metre above drainage in landscape planting on slab.
- C.05 Tree planting and landscaping located on a slab is to be set down into the slab a minimum 1 metre plus drainage for trees and a lessor amount appropriate for other planting.
- C.06 The minimum number of trees to be provided in landscaped areas is 1 tree per 80m² or as agreed by Landscape Management Officer.

Table 4 - Minimum soil depth for plant establishment (in addition to drainage layer)

Plant type	Min soil depth	Min soil volume
Large trees (over 12m high, to 16m crown spread at maturity or to connect with other tree crowns)	1.3m	150 cu m
Medium trees (8-12m high, up to 8m crown spread at maturity)	1.0m	35 cu m
Small trees (6-8m high, up to 4m crown spread at maturity)	800 mm	9 cu m
Shrubs and ground cover	500 mm	n/a

4. VEHICULAR ACCESS, PARKING, SERVICING

4.1 ACCESS AND PARKING

Objectives

- O.01 Minimise the impact of vehicle access points and driveway crossovers on streetscape amenity, pedestrian safety, and the quality of the public domain
- O.02 Minimise the size and number of vehicle and service crossings to retain streetscape continuity and reinforce a high-quality public domain.

Controls

- C.05 Where practicable, provide one entry point to each lot for service vehicles and residential vehicles
- C.06 Where practicable, vehicle access is to be from less busy streets; streets on the low side of lots where possible, rather than busy streets or streets with major pedestrian activity.
- C.07 Where practicable, adjoining buildings are to share or amalgamate vehicle access points. Internal on-site signal equipment should be used to allow shared access. Where appropriate, new buildings should provide vehicle access points so that they are capable of shared access at a later date.
- C.08 Vehicle access ramps parallel to the street frontage will not be permitted.
- C.09 Doors to vehicle access points should be fitted behind the building façade and to be of materials that integrate with the design of the building and contribute to a positive public domain.
- C.10 Vehicle entries should have high quality finishes to walls and ceilings as well as high standard detailing. No service ducts or pipes are to be visible from the street.

4.2 VEHICULAR DRIVEWAYS AND MANOEUVRING AREAS

Objectives

- O.01 Minimise the impact of vehicle access points and driveway crossovers on streetscape amenity, pedestrian safety, and the quality of the public domain by:
 - a) designing vehicle access to required safety and traffic management standards,
 - b) integrating vehicle access with site planning, streetscape requirements, traffic patterns
 - c) minimising potential conflict with pedestrians.
 - d) limiting street crossings.
- O.02 Minimise the size and quantity of vehicle and service crossings to retain streetscape continuity and reinforce a high-quality public domain. Where possible limit vehicle entries to basement to one for each lot.

Controls

- C.01 Driveways should be:
 - a) provided from less busy streets rather than the primary street, wherever practical
 - b) located taking into account any services within the road reserve, such as power poles, drainage inlet pits and existing or proposed street trees.
 - c) located a minimum of 10 metres from the perpendicular of any intersection of any two roads.

- d) located on the less busy streets
- C.02 The number of street crossings and entrances to basement car parking should be minimised.
- C.03 Where possible, limit basement vehicle entries to one per development lot.
- C.04 Vehicle access should be designed to:
 - a) minimise the visual impact on the street, site layout and the building design,
 - b) integrated into the building design.
- C.05 All vehicles should be able to enter and leave the site in a forward direction without the need to make more than a three-point turn.
- C.06 Pedestrian and vehicle access should be separate and be clearly differentiated.
- C.07 Vehicle access should be a minimum of 3 metres from pedestrian entrances.
- C.08 Vehicular access should not ramp along boundary alignments edging the public domain, streets, lanes parks, water frontages and the like.
- C.09 Driveway crossings should be designed in accordance with Council's standard Vehicle Entrance Designs, with any works within the footpath and road reserve subject to a Section 138 Roads Act approval.
- C.10 Driveway entries and vehicle crossings should be in accordance with AS2890.1
- C.11 Vehicle entries visible from the street when doors are open should have a high-quality finish to walls and ceilings as well as a high standard of detailing. No service ducts or pipes are to be visible from the street.
- C.10 Loading docks and waste collection should be incorporated within the basement with one entry where possible
- C.11 Car space dimensions should comply with the relevant Australian Standards.
- C.12 Driveway grades, vehicular ramp width/ grades and passing bays and sight distance for driveways should be in accordance with the relevant Australian Standard, (AS 2890.1).
- C.13 Vehicular ramps less than 20 metres long within developments and parking stations should be in accordance with AS 2890.
- C.14 Access ways to underground parking should not be located adjacent to doors of the habitable rooms of any residential development.
- C.15 Semi-pervious materials should be used for all uncovered parts of driveways/spaces to provide for some stormwater infiltration.
- C.16 Entrances to basement facilities should not terminate the view at the ends of any streets or pedestrian connections
- C.17 Entrance doors to basements should be:
 - a) located behind the façade of the building by a minimum of 500mm: or
 - b) designed to be recessive
 - c) be of materials that integrate with the design of the building and that contribute positively to the public domain.
- C.18 Vehicle slip lanes in public streets for private use are not permitted.
- C.19 Vehicular access, egress and manoeuvring should be provided in accordance with the NSW Fire Brigades Code of Practice – Building Construction – NSWFB Vehicle Requirements.

4.3 ON-SITE PARKING

Car parking should be provided on-site in discreetly located basements for all development. On-street car parking is to be optimised for casual car parking.

Objectives

- O.01 To facilitate an appropriate level of on-site parking provision in Melrose Park
- O.02 To minimise the visual impact of on-site parking.
- O.03 To provide adequate space for parking and manoeuvring of vehicles (including service vehicles and bicycles).
- O.04 To recognise the complementary use and benefit of public transport and non-motorised modes of transport such as bicycles and walking.

Controls

- C.01 Car parking rates for Melrose Park are as per the rates identified in Table 3.6.2.3 within Parramatta DCP 2011. These rates are maximum rates and should not be exceeded.
- C.02 Car parking should be generally provided in basements and semi-basements.
- C.03 Car parking should be consolidated in basement areas under building footprints and courtyards to maximise the available for deep soil planting in setbacks.
- C.04 Maximise the efficiency of car park design with predominantly orthogonal geometry and related to circulation and car space sizes.
- C.05 Accessible parking spaces designed and appropriately signed for use by people with disabilities are to be provided to meet Australian Standards.
- C.06 Separate motorcycles parking is to be provided at 1 car parking space, as a minimum, for every 50 car parking spaces provided, or part thereof. Motorcycle parking does not contribute to the number of parking spaces for the purpose of complying with the maximum number of parking spaces permitted.
- C.07 On-site parking should meet the relevant Australian Standard (AS 2890.1 2004 – Parking facilities, or as amended).
- C.08 Pedestrian pathways to car parking areas are to be provided with clear lines of sight and safe lighting especially at night.
- C.09 If excavation is required management procedures as set out in the Parramatta Historical Archaeological Landscape Management Study is to be undertaken
- C.10 Provide greater flexibility in the use of car parking by separating the title of car parking from the title of the apartments for sale.
- C.10 Natural ventilation should be provided to underground parking areas where possible, with ventilation grilles and structures:
 - a) integrated into the overall façade and landscape design of the development,
 - b) not located on the primary street façade, oriented away from windows of habitable rooms and private open spaces areas.

4.4 BICYCLE PARKING**Objectives**

- O.01 Ensure safe, accessible, and adequate bicycle parking is provided for residents and visitors of the precinct.
- O.02 Ensure end of trip facilities are provided within developments in the precinct.

Controls

- C.01 Ensure Secure bicycle parking should be provided in residential and town centre buildings

- C.01 Secure bicycle parking facilities are to be provided in accordance with Council's Bike Plan.
- C.02 Where possible, bicycle parking for residents and or employees should be provided at-grade. Where bicycle parking is provided within the basement or above ground levels, it is to be located on the first level of basement or first level above ground and in proximity to entry / exit points.
- C.03 Bicycle parking access and facilities are to be provided in accordance with Australian Standard AS2890.3.
- C.04 Visitor bicycle parking shall be located at grade near entry point to the building, be undercover and be accessible at all times.
- C.05 Where visitor bicycle parking cannot be provided at grade it is provided on the first level of basement or first level above ground adjacent to the visitor car parking and be accessible at all times.
- C.06 The area required for bicycle parking is to be calculated in addition to storage areas required as per the ADG.
- C.07 End of trip facilities for non-residential development (excluding the town centre) are to be provided at the following rates:
 - 1 personal locker per bicycle parking space
 - 1 shower and change cubicle for up to 10 bicycle parking spaces
 - shower and change cubicles for 11 to 20 or more bicycle parking spaces are provided
 - additional shower and cubicles for each additional 20 bicycle parking spaces or part thereof
- C.08 Shower and change room facilities may be provided in the form of shower and change cubicles in a unisex area and are to be designed to accommodate separate wet and dry areas, including areas to hang towels and clothes.
- C.09 End of trip facilities are to:
 - Be located within the basement or above ground levels, it is to be located on the first level of basement or first level above ground and in proximity to entry / exit points
 - Provide for a clear and safe path of travel to minimise conflict between vehicles and pedestrians
 - Be in close proximity to bicycle parking facilities and the entry and exit points
 - Be within an area of security camera surveillance, where there are such building security systems available
- C.10 Development proposing multiple commercial tenancies must demonstrate how all tenancies will have access to the end of trip facilities and employee bicycle parking

4.5 VEHICLE FOOTPATH CROSSINGS

The design and location of vehicle access to developments should give priority to pedestrian movement to minimise conflicts between pedestrians and vehicles on footpaths, particularly along primarily pedestrian streets. Vehicle access should also be designed to minimise visual intrusion and disruption of the public domain.

Porte-cocheres are not encouraged as they disrupt pedestrian movement, do not contribute to active street frontage, and provide no public benefit.

Objectives

- O.01 Enable pedestrian movement has priority when vehicles crossing the public domain.
- O.02 Minimise the width of any vehicular crossing at the footpath.

Controls

- C.01 Vehicle access ramps should be perpendicular to the street frontage to minimise the width of vehicle entry openings. Where driveway width exceeds the maximum dimension (typically) the driveway should be separated and coordinated with the street tree layout as per the Public Domain Plan.
- C.02 Vehicle landings should comply with the relevant Australian Standards to maximise visual contact with oncoming pedestrians.
- C.03 Vehicle crossings shall use Councils current standard vehicle crossing detail, as agreed by Council.

5. SUSTAINABILITY

5.1 ENERGY AND WATER EFFICIENCY

Objectives

- O.01 Promote sustainable development which uses energy efficiently and minimises non-renewable energy usage in the construction and use of buildings.
- O.02 Ensure that the Melrose Park development contributes positively to an overall reduction in energy consumption and greenhouse gas emissions.
- O.03 Reduce energy bills and the whole of life cost of energy services.
- O.04 Reduce consumption of potable water.
- O.05 Harvest rainwater and urban stormwater runoff for use.
- O.06 Reduce wastewater discharge.

Controls

C.01. The development should:

- a) Seek to achieve a BASIX Energy score of
 - BASIX 50 (+25) for buildings with 2-15 storeys
 - BASIX 45 (+20) for buildings with 16-30 storeys
- b) Seek to achieve a BASIX Water score of at least 55
Provide photovoltaics to each of the buildings if sufficient roof space is available

5.2 RECYCLED WATER

New developments must be connected to a source of recycled or reuse water.
Recycled/reuse water means treating and using water, such as sewage, stormwater, industrial wastewater, or greywater, for non-drinking purposes such as for industry, toilets, cooling towers and irrigation of gardens, lawns, and parks.

Objectives

- O.01 Increase resilience and water security by providing an alternative water supply to buildings.
- O.02 Reduce the technical and financial barriers to upgrading buildings to connect to future non-drinking water supply infrastructure.
- O.03 Support the growth infrastructure requirements for the Greater Parramatta Olympic Peninsula.

Control

C.01. All development must install a dual reticulation system to support the immediate or future connection to a recycled water network. The design of the dual reticulation system is to be such that a future change-over to an alternative water supply can be achieved without significant civil or building work, disruption, or cost.

C.02. The dual reticulation system should have:

- a) one reticulation system servicing drinking water uses, connected to the drinking water supply, and
- b) one reticulation system servicing all non-drinking water uses, such as toilet flushing, irrigation and washing machines. The non-drinking water system is to be connected to the rainwater tank with drinking water supply backup, until an alternative water supply connection is available.
- c) Metering of water services is to be in accordance with the current version of Sydney Water's *Multi-level individual metering guide*. *Individual metering of the non-drinking water is optional.*

5.3 ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Terminology

The following Electric Vehicle (EV) technical terms are used:

EV Ready Connection is the provision of a cable tray and a dedicated spare 32A circuit provided in an EV Distribution Board to enable easy future installation of cabling from an EV charger to the EV Distribution Board and a circuit breaker to feed the circuit.

Private EV Connection is the provision of a minimum 15A circuit and power point to enable easy future an EV in the garage connected to the main switchboard.

Shared EV Connection is the provision of a minimum Level 2 40A fast charger and Power Supply to a car parking space connected to an EV Distribution Board.

EV Distribution Board is a distribution board dedicated to EV charging that is capable of supplying not less than 50% of EV connections at full power at any one time during off-peak periods, to ensure impacts of maximum demand are minimised. To deliver this, the distribution board will be complete with an EV Load Management System and an active suitably sized connection to the main switchboard. The distribution board must provide adequate space for the future installation (post-construction) of compact meters in or adjacent to the distribution board, to enable the body corporate to measure individual EV usage in the future.

Objectives

- O.01 Recognise the positive benefits of increased electric vehicle adoption on urban amenity including air quality and urban heat.
- O.02 Ensure that Melrose Park provides the necessary infrastructure to support the charging of electric vehicles.
- O.03 Minimise the impact of electric vehicle charging on peak electrical demand requirements.

Controls

- C.01 EV Load Management System is to be capable of:
 - a) reading real time current and energy from the electric vehicle chargers under management
 - b) determining, based on known installation parameters and real time data, the appropriate behaviour of each EV charger to minimise building peak power demand whilst ensuring electric vehicles connected are full recharged.
 - c) being scaled to include additional chargers as they are added to the site over time.
- C.02 All apartment residential car parking must:
 - a) provide an EV Ready Connection to at least one car space per dwelling.
 - b) provide EV Distribution Board(s) of sufficient size to allow connection of all EV Ready Connections and Shared EV connections.
 - c) Locate EV Distribution board(s) so that no future EV Ready Connection will require a cable of more than 50m from the parking bay to connect.
 - d) Identify on the plans submitted with the DA the future installation location of the cable trays from the EV Distribution Board to the car spaces allocated to each dwelling that are provided a future EV connection, with confirmation of adequacy from an electrical engineer. Spatial allowances are to be made for cable trays and EV Distribution Board(s) when designing in other services.
- C.03 All car share spaces and spaces allocated to visitors must have a Shared EV connection.
- C.04 All commercial building car parking must:
 - a) Provide 1 Shared EV connection for every 10 commercial car spaces distributed throughout the car park to provide equitable access across floors and floor plates.
- C.05 The bicycle storage facility is to include 10A e-bike charging outlets to 10% of spaces with no space being more than 20m away from a charging outlet. Chargers are to be provided by the owner. (chargers excluded).

5.4 URBAN HEAT

Urban heat or the Urban Heat Island effect refers to the higher temperatures experienced in urban areas compared to rural or natural areas. Urban heat impacts our communities, businesses, and natural environment in many ways, including increased demand for electricity and water, a less comfortable public domain for pedestrians and associated health impacts. On average, Melrose Park experiences more frequent hotter days than Sydney average (Australian Bureau of Meteorology).

As more development occurs in the Parramatta Local Government Area, the build-up of heat in the environment occurs through increased hard surfaces, reduced vegetation, and heat rejection from buildings surfaces and air conditioning units. The build-up of heat is compounded as more dense urban environments reduce the amount of heat able to be removed by wind and re-radiation to the night sky, extending the period of discomfort.

This section of the DCP provides controls which aim to reduce and remove heat from the urban environment at the city and local scale. These are innovative controls based on Australian and international evidence on cities and the urban heat island effect. The controls address the:

- reflectivity of building roofs, podiums, and facades; and
- reduce the impacts of heat rejection sources of heating and cooling systems.

The following complementary controls contained in the DCP assist with the reduction of urban heat:

- encouraging laminar wind flows and reducing turbulence through the setbacks above street wall and podium height controls
- vegetation and retention of soil moisture through Water Sensitive Urban Design
- street trees and vegetation in the public domain (PDG)
- well-designed landscaping and Green Roofs and Walls

Solar heat reflectivity should not be confused with solar light reflectivity, as these are distinctly different issues. Solar heat contributes to urban warming and solar light reflectivity can be the cause of glare, which is covered in section 4.3.3.1.

These controls do not consider energy efficiency or thermal comfort within buildings. These important issues are dealt with in other controls, State Environmental Planning Policies and the National Construction Code.

Terminology

Solar heat reflectance is the measure of a material's ability to reflect solar radiation. A 0% solar heat reflectance means no solar heat radiation is reflected and 100% solar heat reflectance means that all the incident solar heat radiation is reflected. In general, lighter coloured surfaces and reflective surfaces such as metals will have typically higher solar heat reflectance, with dark-coloured surfaces or dull surfaces will typically have lower solar heat reflectance. External solar heat reflectance measured at the surface normal (90 degrees) is used in these controls.

Solar transmittance is the percentage of solar radiation which can pass through a material. Opaque surfaces such as concrete will have 0% solar transmittance, dark or reflective glass may have less than 10%, whilst transparent surfaces such as clear glass may allow 80 to 90% solar transmittance.

Solar Reflectance Index (SRI) is a composite measure of a materials ability to reflect solar radiation (solar reflectance) and emit heat which has been absorbed by the material. For example, standard black paint has an SRI value of 5 and a standard white paint has an SRI value of 100.

Reflective Surface Ratio (RSR) is the ratio of reflective to non-reflective external surface on any given façade.

Reflective surfaces are those surfaces that directly reflect light and heat and for the purposes of this DCP are defined as those surfaces that have specular normal reflection of greater than 5% and includes glazing, glass faced spandrel panel, some metal finishes and high gloss finishes.

Non-reflective surfaces are those surfaces that diffusely reflect light and heat and for the purposes of this DCP are defined as those surfaces that have specular normal reflection of less than 5%.

Maximum External Solar Reflectance is the maximum allowable percentage of solar reflectance for the external face of a Reflective Surface. The percentage of solar reflectance is to be measure at a normal angle of incidence

PRINCIPLES

- P.01 Reduce the contribution of development in Melrose Park to urban heat in the Parramatta Local Government Area.
- P.02 Improve user comfort in Melrose Park (private open space and the public domain).

5.5 ROOF SURFACES**Objectives**

- O.01 Reflect and radiate heat from roofs and podium top areas.
- O.02 Improve user comfort of roof and podium top areas.

Controls

- C.01 Where surfaces on roof tops or podiums are used for communal open space or other active purposes, the development must demonstrate at least 50% of the accessible roof area complies with one or a combination of the following:
- a) be shaded by a shade structure;
 - b) be covered by vegetation consistent with the controls on Green Roofs or Walls in Section 2.9 Landscaping;
 - c) provide shading through canopy tree planting, to be measured on extent of canopy cover 2 years after planting.
- C.02 Where surfaces on roof tops or podiums are not used for the purposes of private or public open space, for solar panels or for heat rejection plant, the development must demonstrate the following:
- a) Materials used have a minimum solar reflectivity index (SRI) of 82 if a horizontal surface or a minimum SRI of 39 for sloped surface greater than 15 degrees; or
 - b) 75% of the total roof or podium surface be covered by vegetation; or
 - c) A combination of (a) and (b) for the total roof surface.

5.6 VERTICAL FACADES**Objectives**

- O.01 Minimise the reflection of solar heat downward from the building façade into private open space or the public domain.

Controls

- C.01 The extent of the vertical façade of street walls, podiums, perimeter block development (or if no street wall, as measured from the first 12 metres from the ground plane) that comprise Reflective Surfaces should demonstrate a minimum percentage of shading as defined in Table 4 as calculated on 21 December on the east facing façade at 10am, northeast and southeast facing façade at 11.30am, north facing façade at 1pm, northwest and southwest facing façade at 2.30pm and the west facing faced at 4pm.

Table 4 - Minimum Percentage Shading

Reflective Surface Ratio (RSR)	<30%	30%-70%	>=70%
Minimum percentage shading (%)	0	1.5*RSR-45	75

Shadow diagrams must be submitted with the development application quantifying the extent of shading at 10am, 11.30am, 1pm, 2.30pm and 4pm on 21 December for each relevant façade. Shadows from existing buildings, structures and vegetation are not considered in the calculations. Refer to Table 5 for sun angles corresponding to shading reference times.

Calculation of RSR for each relevant façade must also be submitted with the development application.

Table 5 - Shading Sun Angles

Façade Orientation	Sun Angles
East ± 22.5°	Reference Time: 10am AEDT (UTC/GMT+11) Sun Elevation: 51° Sun Azimuth: 86°
Northeast/Southeast ± 22.5°	Reference Time: 11.30am AEDT (UTC/GMT+11) Sun Elevation: 69° Sun Azimuth: 66°
North ± 22.5°	Reference Time: 1pm AEDT (UTC/GMT+11) Sun Elevation: 80° Sun Azimuth: 352°
Northwest/Southwest ± 22.5°	Reference Time: 2.30pm AEDT (UTC/GMT+11) Sun Elevation: 67° Sun Azimuth: 290°
West ± 22.5°	Reference Time: 4pm AEDT (UTC/GMT+11) Sun Elevation: 48° Sun Azimuth: 272°

- C.02 The extent of the vertical façade of the tower (above the street wall or if no street wall, as measured above the first 12 metres from the ground plane) that comprise Reflective Surfaces should demonstrate a minimum percentage of shading as defined in Table 6 as calculated on 21 December on the east facing façade at 10am, northeast and southeast facing façade at 11.30am, north facing façade at 1pm, northwest and southwest facing façade at 2.30pm and the west facing faced at 4pm.

Table 6 - Minimum tower percentage shading

Reflective Surface Ratio (RSR)	<30%	30%-70%	>=70%
Minimum percentage shading (%)	0	0.8*RSR-24	40

Calculation of RSR for each relevant façade must also be submitted with the development application.

C.03 Shading may be provided by:

- a) external feature shading with non-reflective surfaces;
- b) intrinsic features of the building form such as reveals and returns; and
- c) shading from vegetation such as green walls that is consistent with the controls on Green Roofs or Walls in Section 2.9 Landscaping.

C.04 Non-reflective surfaces of vertical facades do not require shading and these areas can be excluded from the calculations.

C.05 Where it is demonstrated that shading cannot be achieved in accordance with the above controls, a maximum external solar reflectance as defined in Table 4.3.10.7 is generally acceptable.

Table 4.3.10.7 - Maximum solar reflectance of Reflective Surfaces

Reflective Surface Ratio (RSR)	<30%	30%-70%	>=70%
Maximum External Solar Reflectance (%)	No Max.	62.5-0.75*RSR	10

C.02 Where multiple reflective surfaces or convex geometry of reflective surface introduce the risk of focusing of solar reflections into the public spaces:

- a) solar heat reflections from any part of a building must not exceed 1,000W/m² in the public domain at any time;
- b) a reflectivity modelling report may be required to qualify extent of reflected solar heat radiation.

5.7 HEATING AND COOLING SYSTEMS – HEAT REJECTION

Objectives

- O.01 Reduce the impact of heat rejection from heating, ventilation and cooling systems in Melrose Park from contributing to the urban heat island effect in the Parramatta Local Government Area; and
- O.02 Avoid or minimise the impact of heat rejection from heating, ventilation, and cooling systems on user comfort in private open space and the public domain.

Controls

- C.01 Residential apartments within a mixed-use development or residential flat building should incorporate efficient heating, ventilation and cooling systems which reject heat from a centralised source on the upper most roof.

- C.02 Where the heat rejection source is located on the upper most roof, these should be designed in conjunction with controls in this Section of the DCP relating to Roof Surfaces and the controls on Green Roofs or Walls.
- C.03 No heat rejection units should be located on the street wall frontage on the primary street.
- C.04 Heat rejection units are strongly discouraged from being located on building facades or on private open space, such as balconies and courtyards. However, where it is demonstrated that heat rejection cannot be achieved in accordance with the above controls C.01 and C.02 above and these units are installed, the HVACsystem must demonstrate:
 - a) heating, ventilation, and cooling systems exceeds current Minimum Energy Performance Standard requirements; and
 - b) the heat rejection units are situated with unimpeded ventilation, avoiding screens and impermeable balcony walls; and
 - c) the area required by the heat rejection units is additional to minimum requirements for private open space.

5.8 GREEN ROOFS AND WALLS

Objectives

- O.01 Ensure that green roofs or walls are considered for integration into the design of new development.
- O.02 Design green walls or roofs to maximise their cooling effects.
- O.03 Ensure green walls and roofs are designed and maintained to respond to local climatic conditions and ensure sustained plant growth.

Controls

- C.01 Green roofs and wall structures are to be assessed as a part of the structural certification for the building. Structures designed to accommodate green walls should be integrated into the building façade.
- C.02 Waterproofing for green roofs and walls is to be assessed as a part of the waterproofing certification for the building.
- C.03 Where vegetation or trees are proposed on the roof or vertical surfaces of any building, a Landscape Plan should be submitted which demonstrates:
 - a) adequate irrigation and drainage are provided to ensure sustained plant growth and health and safe use of the space;
 - b) appropriate plant selection to suit site conditions, including wind impacts and solar access; and
 - c) adherence to the objectives, design guidelines and standards contained in the NSW Department of Planning, Industry and Environment's Apartment Design Guide for 'Planting on Structures'.
- C.04 Green roofs or walls, where achievable, should use rainwater, stormwater, or recycled water for irrigation.
- C.05 Container gardens, where plants are maintained in pots, are not considered to be green roofs, however they are acknowledged as contributing to the reduction of urban heat.
- C.06 Register an instrument of positive covenant to cover proper maintenance and performance of the green roof and walls on terms reasonably acceptable to the Council prior to granting of the Occupancy Certificate.
- C.07 Green roof planting, structures and toilet facilities are permitted to exceed the height plane

5.9 SOLAR LIGHT REFLECTIVITY (GLARE)

Objectives

- O.04 To ensure that buildings in Melrose Park restrict solar light reflected from buildings to surrounding areas and other buildings.
- O.05 To minimise the risk of bird collision due to high transparency, through treatment of external windows and other glazed building surfaces.

Controls

- C.08 New buildings and facades must not produce solar light reflectivity that results in glare that is hazardous, undesirable or causes discomfort for pedestrians, drivers, and occupants of other buildings or users of public spaces.
- C.09 Solar light reflectivity from building materials used on facades must not exceed 20%.
- C.10 Subject to the extent and nature of glazing and reflective materials used, a Reflectivity Report that analyses potential solar light reflectivity from the proposed development on pedestrians, motorists, or surrounding areas may be required.
- C.11 Buildings greater than 40m in height require a Reflectivity Report that includes the visualisation and photometric assessment of solar light reflected from the building on the surrounding environment. Analysis is to include:
 - d) the extent of solar light reflections resulting from the development for each day in 15-minute intervals;
 - e) a visual and optometric assessment of view aspects where solar light reflections may impact pedestrians, or drivers, occupants of other buildings or users of public spaces including assessment of visual discomfort and hazard.
- C.12 Demonstrate that development will not significantly affect migratory or threatened bird species because of illumination or obstruction of flight pathways into Melrose Park. Consideration is to be given to the *National Light Pollution Guidelines for Wildlife* (Migratory Shorebirds) and the *Industry Guidelines for Avoiding, Assessing and Mitigating Impacts on EPBC Act Listed Migratory Shorebird Species*.
- C.13 A report is to be prepared by a suitably qualified consultant at DA stage to determine appropriate treatments of building surfaces for buildings within close proximity to open space and water bodies.

5.10 BUILDING FORM AND WIND MITIGATION

Objectives

- O.01 Ensure that building form enables the achievement of nominated wind standards to maintain safe and comfortable conditions in the precinct.
- O.02 Ensure wind mitigation methods do not to enable full development of street tree canopy.

Controls

- C.01 Wind Effects Report is to be submitted with the DA for all buildings greater than 32m in height. Report recommendations cannot rely on or include street trees to assist to mitigate wind down draft effects on the public domain. For buildings over 50m in height, results of a wind tunnel test are to be included in the report.
- C.02 Site design for tall buildings (towers) should:
 - a) Set tower buildings back from lower structures built at the street frontage.
 - b) Protect pedestrians from strong wind downdrafts at the base of the tower.
 - c) Ensure that tower buildings are well spaced from each other to allow breezes to penetrate city centre.
 - d) Consider the shape, location, and height of buildings to satisfy wind criteria for public safety and comfort at ground level.
 - e) Ensure usability of open terraces and balconies.
- C.03 Buildings and public and private open spaces are to be designed in response to wind testing outcomes.
- C.04 Historical data of wind speed and direction collected over a minimum of 10 years should be used as the basis of a pedestrian level Wind Effects Report. Data from the Bankstown Airport Bureau of Meteorology anemometer starting earliest in 1993 is to be used and adequately corrected for the effects of differences in roughness of the surrounding natural and built environment. The use of wind data for daytime hours between 6am and 9pm is generally recommended and may be specifically requested by the City of Parramatta, however, wind data for all hours may be used as well, where appropriate. Climate data are to be presented in the Wind Effects report.
- C.05 The criteria for pedestrian level wind comfort and safety are based on published research, particularly on the criteria developed by Lawson (1990). Pedestrian safety and comfort are affected by both the mean and the gust wind speed. As such, the criteria defined above are to be applied to both the mean wind speed and the Gust Equivalent Mean (GEM), i.e. the 3 s gust wind speed in an hour divided by 1.85.

5.11 ECOLOGY

Objective

- O.01 Ensure that potential flora and fauna species located on the site are identified and managed appropriately

Control

- C.01. A survey of all buildings is to be undertaken to identify any species occupying vacant buildings.

Appendix 1 – Melrose Park South Structure Plan & Density Schedule



	Site Area	GFA	FSR	Max Height (m)
LOT S1 (TBC)	12608	12608	1.0	12
LOT S2	4178	11643	2.8	20
LOT S4	4186	8812	2.1	20
LOT S3	8074	18533	2.3	20
LOT S5	7948	30465	3.8	58
LOT S16	11093	43355	3.9	58
LOT S6	5128	14991	2.9	26
LOT S8	10458	26515	2.5	26
LOT S7	4754	15600	3.3	58
LOT S9	6380	16656	2.6	58
LOT S10	9539	45436	4.8	63
LOT S12	9508	32241	3.4	64
LOT S13	7328	16429	2.2	26
LOT S14	6217	22135	3.6	26
LOT S15	6763	12230	1.8	26
Overall Net FSR	114160	327649	2.9	:1

Mixed Precinct	24390	33064	1.36	:1
Site Area (Holdmark West)	51607	92353	1.79	:1
Site Area (George Weston)	22823	41506	1.82	:1
Site Area (Powerlines)	16472	32256	1.96	:1
Site Area (Goodman)	25593	45436	1.78	:1
Site Area (Holdmark East)	42694	70805	1.66	:1
Site Area (Hope St sites)	6740	12230	1.81	:1
Total	190319	327649	1.72	:1

Appendix 2 – Courtyard Locations



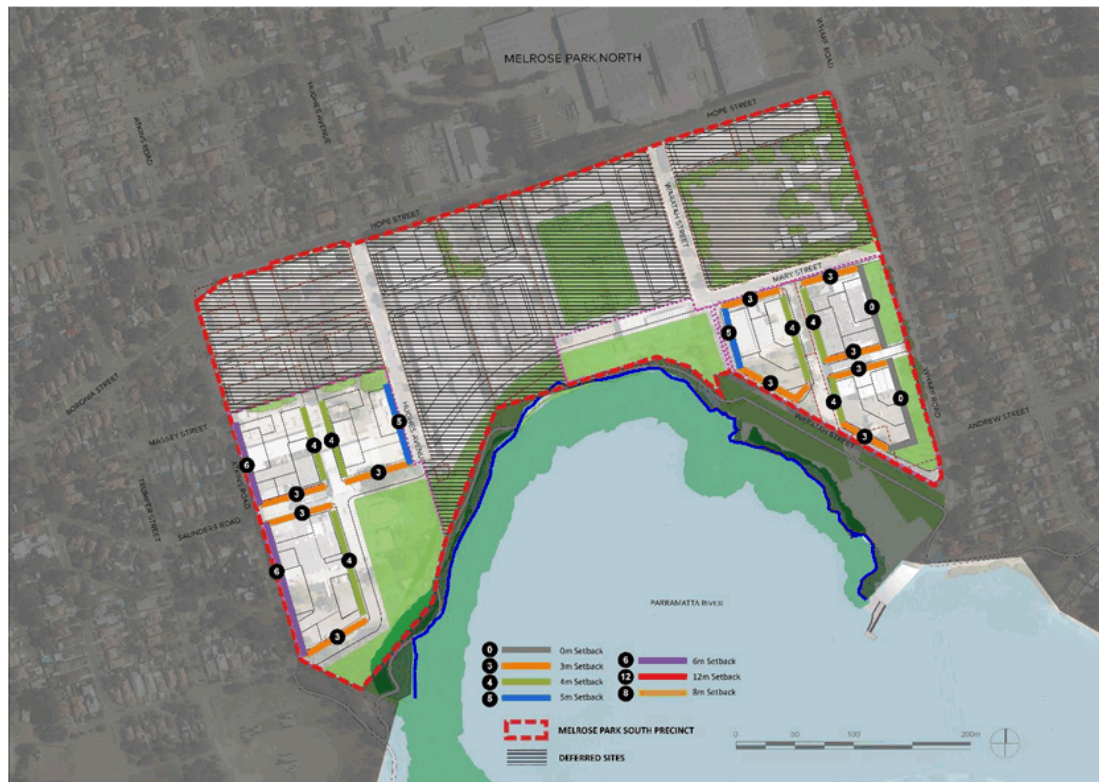
Appendix 3 – Building Heights



Appendix 4 – Solar Access Plan



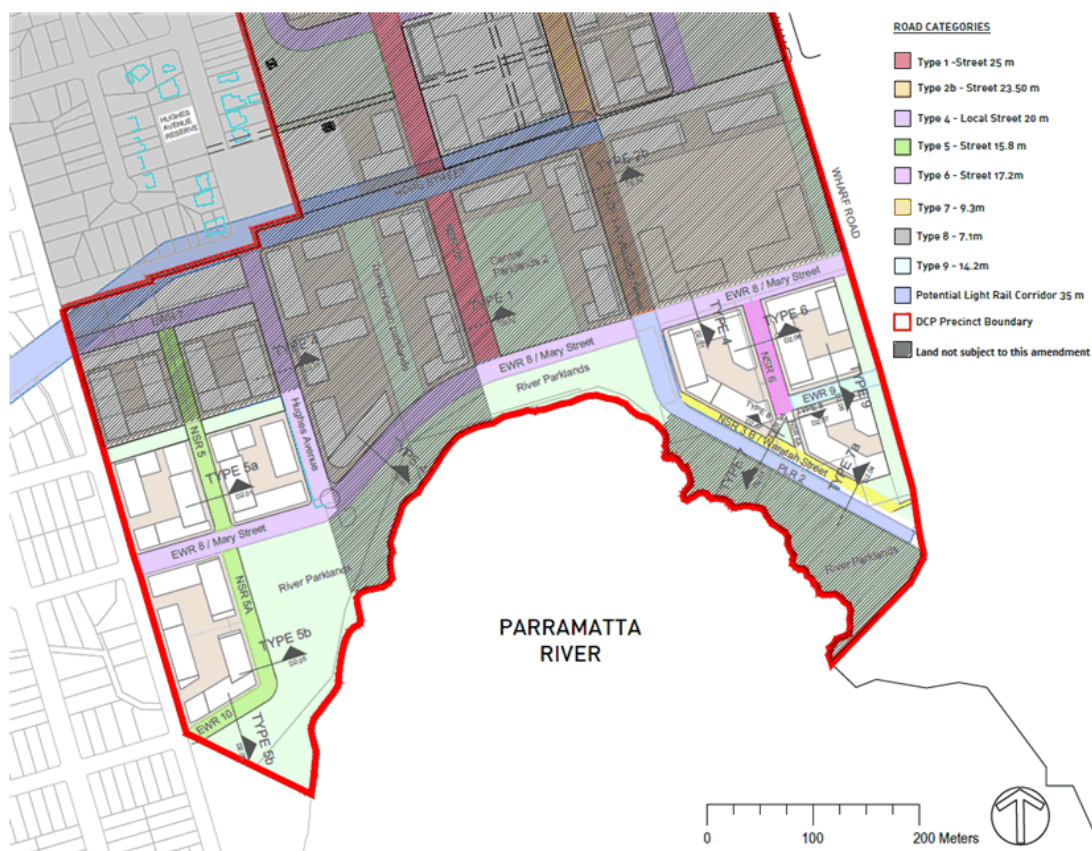
Appendix 5 – Building Setbacks



Appendix 6 – Public Open Space



Appendix 7 – Street Hierarchy



Appendix 9 - Water Management Pla

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Appendix 9

**Melrose Park South
Water Management Strategy**

Melrose Park South Precinct –Water Management Strategy –

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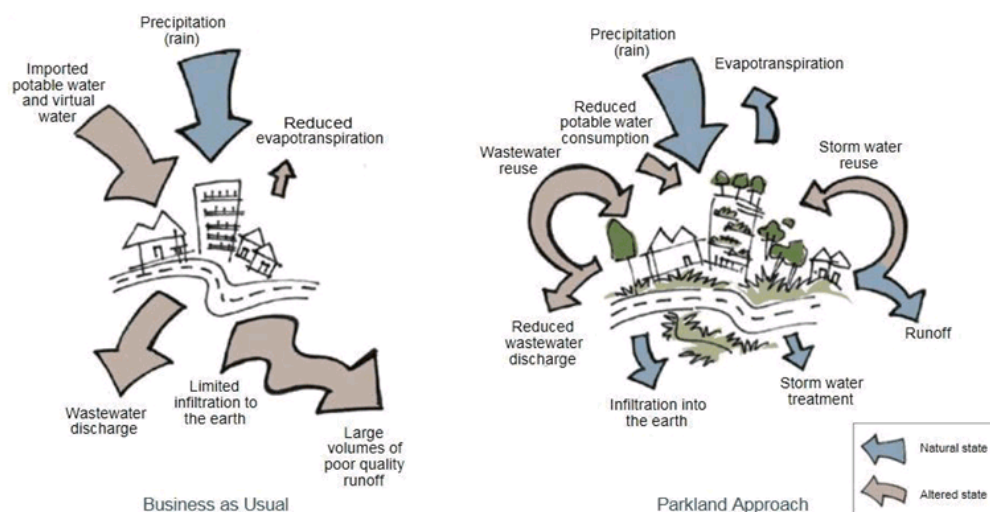
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1. Water Management Strategy - Overview

Urbanisation brings impermeable paving and roofing, replacing 'natural' landscapes. More rainwater runs off, and it runs faster. This substantially changes the catchment: flooding is increased, water and waterways become polluted, bushland degrades and there are numerous other impacts. Sustainable water management is required to counteract this.

Overland flow will traverse the catchment above the Melrose Park South precinct and the precinct itself during severe storms. There are catchments above Victoria Road and west of Melrose Park Precincts that contribute to this overland flow.

At present, overland flow and drainage across Melrose Park is partly managed and partly informal but allows overland stormwater to be delayed on its passage through the site.



'Business as Usual' and 'Parkland Approach'

Source: Urban Typologies and Stormwater Management – achieving a cool green liveable Western Parkland City, Sydney Water, Bligh Tanner and Architectus 2020

Once the Melrose Park North precinct development is completed, some but not all, of this overland flow will be managed to prevent accelerated runoff and other factors that would otherwise increase flooding below the site, particularly in Melrose Park South precinct. However, with this size of catchment and its terrain and character, some overland flow flooding is unavoidable, and this must be managed within the Melrose Park South precinct so that overland flow floodwaters are safely conveyed through the precinct to the Parramatta River.

In Melrose Park North, both private and public stormwater/floodwater detention will be implemented so that peak discharges from the northern precinct are reduced to at or below pre-development peak levels and at the same time Council's obligations regarding on site detention in the Parramatta River Catchment are met. This detention and flood peak management must occur for the range of storm/rainfall events up to the 1% AEP, and for higher events to ensure flood impacts are not significant.

Flood detention within Melrose Park North will not reduce the total volume of water flowing across and out of the site but will delay and reduce its peak so that flood levels are kept below predevelopment levels at least up to the 1% AEP events.

In Melrose Park North, private On-Site-Detention (OSD) will be provided within the privately owned sites for each development in accordance with the Upper Parramatta River Catchment Trust Handbook [Edition 4](#).

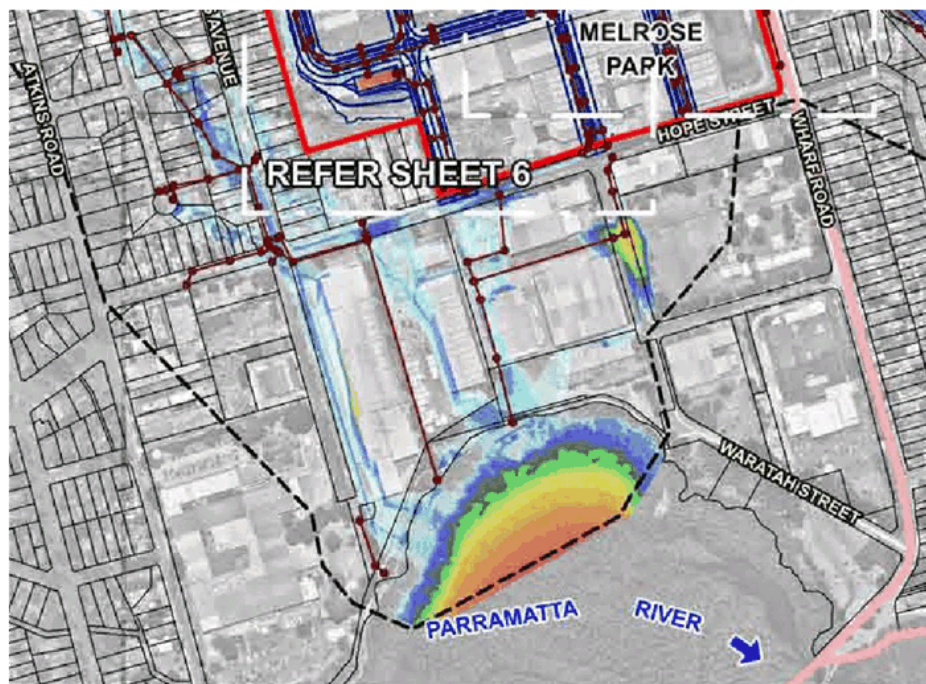
Water Sensitive Urban Design (WSUD) within the private sites will manage water quality as well as rainwater capture and use.

In addition, public OSD and WSUD will be provided within the road reserves where practicable, as well as playing fields, parks, and other public lands. The primary purpose of the public OSD systems is to ensure that flooding conditions are not exacerbated in existing development that lies downstream of the Melrose Park North Precinct for all storms up to 1% AEP in intensity. As a minimum, both overland and piped flows are to be detained in two surface detention systems which are to be located in the open space areas which are to be provided adjacent to Wharf Road and Hope Street.

Initial modelling¹ suggests there will be several overland flow paths from Melrose Park North flowing across the Melrose Park South precinct. All of these overland flow paths and those not yet modelled to the east and west that are not part of the Melrose Park precincts must be accommodated by planned and designed overland flow paths through the Melrose Park South precinct site.

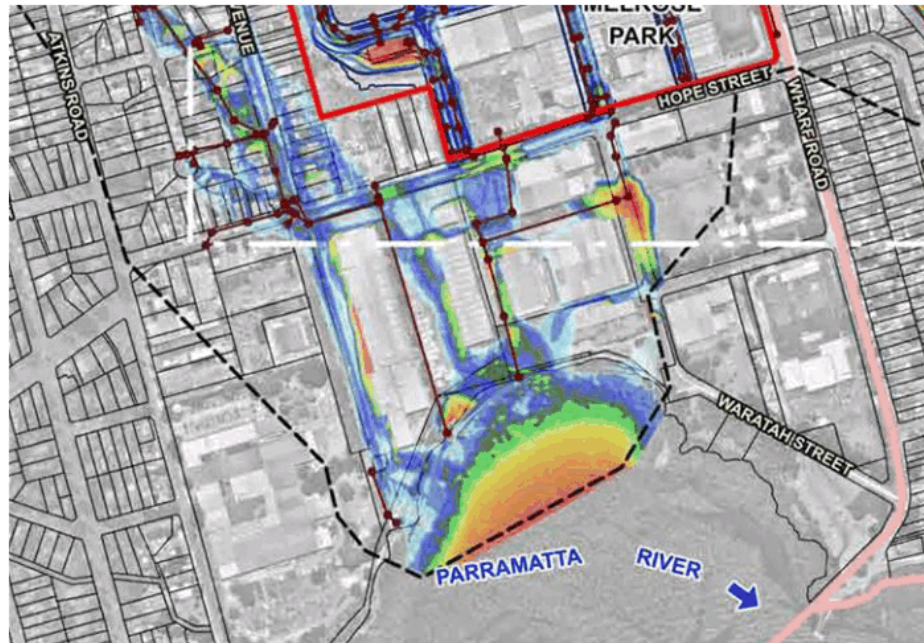
These flow paths are likely to be a combination of roadways and open space – which may be public domain, such as parks, or privately owned but protected with easements and covenants on title.

Unlike for the North, OSD within the Melrose Park South precinct may cause worsening of flooding due to this area's close proximity to the Parramatta River. An earlier undetained discharge from the precinct may be preferable. If this negative consequence can be demonstrated, it is possible, at Council's discretion, that the requirements for both public and private OSD will be waived.



¹ Lyall and Associates 2022

Overland flow 1% AEP fully blocked condition. Indicative only. Not adopted by Council



Overland flow. PMF Indicative only. Not adopted by Council

Note there are additional catchments to the east and west that are not modelled here.

Source of both images: Lyall and Associates, January 2022

The roads will theoretically convey up to the 5% AEP flows in the pipes and between opposite kerbs. The 'public' 1% AEP flows above the 5% AEP flows will be conveyed across the whole road reserve width between property boundaries and in designed floodways if the road width is not sufficient.

Flood planning levels for buildings adjacent to the overland flow paths will be derived from the condition in a 1% AEP event where drainage pits and pipes are assumed to be not functioning and all flow is overland (100% blockage). Flood Planning Levels will include 0.5m freeboard.

Both the private and public WSUD systems must achieve the water quality targets set out in this Development Control Plan.

The development of the Parramatta LGA and Melrose Park itself requires integrating water management within the landscape and urban design using appropriate, sustainable technology.

This appendix provides technical guidelines for water management for the whole Melrose Park South Planning Precinct. It applies to water management as follows.

The Water Management Strategy must be considered under six (6) interdependent aspects:

- Flooding and Overland flow management.
- Road and public domain piped drainage.
- Flood reduction using public and private water detention systems.

- Environmental management of private and public low flows with Water Sensitive Urban Design (WSUD).
- Rainwater harvesting and use
- Interactions with the Parramatta River

2. Flooding and Overland Flow Management

2.1 Flooding from Parramatta River and Overland Flow - Principles²

- P 01. Assess and design for the safe conveyance (and detention) of overland flow through the site with protection of people, buildings, and property during rainfall events of 1% AEP (100 year) plus 0.5m freeboard and up to Probable Maximum Precipitation Floods (PMP, PMF).
- P 02. Design conveyance and detention of overland flow to ensure there is no worsening of flooding in a 1% AEP event anywhere as a result of the development of the precinct and there is no significant worsening of flooding in higher events up to the PMP/PMF anywhere as a result of the development
- P 03. Protect the Melrose Park South precinct from flooding from the Parramatta River
- P 04. Protect the Parramatta River and its foreshore and riparian zone from suffering adverse environmental impacts caused by flooding and stormwater discharges from the Melrose Park South and North precincts.

2.2 Flooding and Overland Flow – Objectives

- O 01. Protect the community and developments from river flooding rising from Parramatta River and its tributaries /creeks.
- O 02. Protect the community and developments from overland flow flooding from rainfall within and up slope of the site.
- O 03. Manage the risks for all floods up to the Probable Maximum Flood.
- O 04. Identify and manage overland flow paths and buildings and land affected by them.

2.3 Design Controls – Overland flow flooding - assessment of flood behaviour

The following design controls are to be adopted for defining the nature of flooding under pre- and post-development conditions:

- C 01. A set of hydrologic and hydraulic models are to be developed of the catchments within which the Melrose Park South Precinct is located. These models must be to Council's satisfaction and criteria.
- C 02. The 'ensemble approach' prescribed in *Australian Rainfall and Runoff (ARR) 2019* is to be adopted for deriving design discharge hydrographs for storms up to 0.2% AEP in intensity, while the 2003 update of the Bureau of Meteorology's *"The Estimation of Probable Maximum Precipitation in Australia: Generalised Short-Duration Method"* is to be used to derive estimates of Probable Maximum Precipitation.
- C 03. The hydraulic model is to incorporate all of the features which influence flood behaviour in the study catchments, including details of the existing stormwater drainage system.
- C 04. Blockage factors of 20% and 50% are to be applied to on-grade and sag type inlet pits, respectively when designing major/minor drainage systems.
- C 05. Flood and stormwater behaviour is to be defined for design storms with AEPs of 5% and 1%, 1% plus climate change, as well as the Probable Maximum Flood (PMF).
- C 06. Steady-state design discharge hydrographs are to be adopted for defining the maximum rate at which flow will discharge from each individual super lot within the Melrose Park

² Note riverine flooding directly affects the MP South precinct site, including the riverbank flow and stormwater discharge patterns in that area.

North Precinct under post-development conditions. Where OSD is to be provided, this flow rate is to be based on the OSD calculations which are referred to in this document and is to be adopted when defining flood behaviour under post-development conditions for storms up to 0.2% AEP in intensity. Uncontrolled flow from each super lot is to be adopted when defining flood behaviour for more intense storm events (for example, the PMF event).

- C 07. The impact that a potential increase in design 1% AEP rainfall intensities associated with future climate change is to be assessed. The assessment is to be in accordance with the NSW Department of Planning, Infrastructure and Environment's floodplain risk management guideline entitled "Practical Considerations of Climate Change". Design storms of 0.5% and 0.2% AEP may respectively be adopted as being analogous to Representative Pathway Concentration 4.5 and 8.5 increases in 1% AEP design rainfall intensities under year 2090 conditions for the purpose of the assessment, noting that the assessment need only be undertaken for post-development conditions.
- C 08. An assessment is to be undertaken into the impact a complete blockage of the existing and proposed piped drainage system in the vicinity of the Melrose Park South Precinct would have on flood behaviour for a 1% AEP storm event, as well as its implications on the proposed developments.
- C 09. When modelling to determine flood levels and flood planning levels with respect to overland flow, the analysis and modelling of the overland flow paths must be with 2D modelling such as Tuflow, and must assume all flow is overland, while piped reticulation is fully blocked and not contributing to conveyance.
- C 10. Flood modelling (and drainage design) must take account of tailwater levels in the Parramatta River, including with climate change.
- C 11. This modelling must also assume that, where it is to be provided, on site detention is fully functional within the private lots and that such flows are discharging on to the surfaces of roads etc.
- C 12. The Flood Planning Levels shall be the adjacent interpolated 1% AEP flood levels (100% blocked) plus 0.5m freeboard.
- C 13. Minimum finished floor levels must be the respective Flood Planning Levels as defined above. For sloping sites these levels may be stepped.
- C 14. There must be no habitable rooms / floors below the applicable flood planning level, including residential, retail, community use, gathering and performance spaces and offices. In addition, any uses that would present a significant risk of harm to occupants are not permitted below the applicable Flood Planning Levels.
- C 15. As and if determined by Council, non-habitable rooms and floors such as car parks, waste and loading docks, plant rooms and the like may be constructed below the applicable Flood Planning levels, provided such floors are protected from flooding to Council's satisfaction by the building design from inundation up to the applicable Flood Planning Level(s) and, if required by Council, by additional means such as flood gates and flood doors up to the Probable Maximum Flood Level.
- C 16. Council may require a sensitivity analysis for the effects of climate change.
- C 17. For a building that is adjacent to a road, or public domain, or other land adjacent, that is part of an overland flow path or flood storage area:
 - a) Where Council is satisfied that the roadway, or public domain, or other land adjacent to a building, is an overland flow path or flood storage area in the 1% AEP event with 100% blockage, Council will require minimum finished floor levels of habitable rooms to be 500mm freeboard above the adjacent

1% AEP water surface level as mapped in the 2 Dimension (2D) overland flow model accepted by Council. This level may vary along the site /building boundary with changing water levels.

- C 18. For a building that is adjacent to a road, or public domain, or other land adjacent, that, in Council's view, is not part of an overland flow path or flood storage area:
- Finished floor levels at the boundary adjacent to a road that is accepted by Council as not being an overland flow path, or flood storage area, in a 1% event, including 100% blockage, must be a minimum of the adjacent top of kerb levels plus 2% rising grade to the boundary.
 - Where there is no road, such as paving or landscape, and Council accepts the area is not part of an overland flow path, or flood storage area, in a 1% event including 100% blockage, surface levels must fall away from the building entrances and openings to the adjacent drainage/WSUD system at a minimum of 2%, or greater if necessary to ensure adequate surface drainage.

3. Road and public domain piped drainage

3.1 Principles – Road and public domain piped drainage

- P 01. Provide effective, safe conveyance of stormwater across the catchment using planned and managed overland flow paths, trunk, and local drainage.

Objectives – Road and public domain piped drainage

- O 01. Protect occupants of roads and the public domain and property from uncontrolled stormwater in events up to the 5% AEP (1 in 20 year) rainfall by installing underground or above ground drainage infrastructure to contemporary standards.

Controls – Road and public domain piped drainage

- C 01. All drainage work to be designed and constructed to Council standards
- C 02. All civil designs for public infrastructure must be approved in writing by Council's Manager Assets prior to commencement of construction.
- C 03. All construction of public infrastructure must be inspected and approved by Council's representative as the works proceed and upon completion prior to occupation or use.
- C 04. Appropriate easements, restrictions, covenants, and land title dedications must be in place to Council's satisfaction prior to occupation or use.

4. Flood reduction using public and private stormwater detention systems

4.1 Overall Principles – public and private stormwater detention

- P 01. Manage and moderate stormwater flow across the catchment to minimise the effects of urbanisation, which include increased amount of runoff, shorter times of concentration, faster and deeper overland flows, erosion and flooding.
- P 02. Manage and moderate stormwater flow from individual sites to compensate for increased impervious areas and faster conveyance systems, using on site detention, WSUD, deep soil, permeability, and other measures.
- P 03. Provide sustainable management, conveyance, and detention of stormwater within the Public Domain
- P 04. Mitigate floods.
- P 05. Melrose Park North requires a combination of on-site detention within the private lots and stormwater detention basins in the public domain to sufficiently attenuate flows prior to discharge from the precinct. These two systems must be designed to work together hydraulically in a full range of design storms.

- P 06. Stormwater from the private lots must be attenuated using OSD in accordance with this DCP and generally in accordance with catchment management criteria advised by the Upper Parramatta River Catchment Trust in their Edition 4 OSD Design Handbook.
- P 07. On site detention within the Melrose Park South precinct may cause worsening of flooding due to its area's close proximity to the Parramatta River. An earlier undetained discharge from the precinct may be preferable. If this negative consequence can be demonstrated, it is possible, at Council's discretion, that the requirements for private OSD will be waived.

4.2 Principles – Private stormwater detention

Council has identified the following design criteria which is to be adopted in the design of the Private OSD systems, noting for OSD on private land that it is generally in accordance with the Fourth Edition Upper Parramatta River Trust's On-site Stormwater Detention Handbook (**UPRCT Edition**

4). The design principles for stormwater conveyance and detention within private land are:

- P 01. To ensure that new developments and redevelopments do not increase peak stormwater flows in any downstream area during major storms up to 1% AEP in intensity.
- P 02. To reduce post-development peaks throughout the catchment in a 50% AEP storm event to be as close to natural levels as practical and
- P 03. To encourage the integration of OSD with other water quality WSUD measures.
- P 04. To prevent any increase in the site discharge to the downstream drainage system nor reduction in the volume of storage provided unless specifically allowed in the following sections or for rainwater storage.

Objectives – Private Stormwater detention

The objectives of Stormwater detention and conveyance - private land shall be to:

- O 01. To limit flow peaks throughout the catchment in a 1% AEP storm event, to estimated peak flows under 1999 conditions, even if the further development of the catchment is equivalent to full medium/high density redevelopment throughout the catchment thereby preventing any increase in downstream peak flows resulting from new developments or redevelopments by temporarily storing on-site the additional and quicker runoff generated.
- O 02. Prevent increases in downstream flooding and drainage problems that could:
 - a) increase flood losses.
 - b) damage public assets.
 - c) reduce property values.
 - d) require additional expenditure on flood mitigation or drainage works.
- O 03. Reduce post-development peaks, throughout the catchment, in the 50% AEP storm event to as close to natural levels as practical.
- O 04. Encourage integration of OSD systems into the architectural design and layout of the development so that adequate storage areas are included in the initial stages of the site design.
- O 05. Encourage integration of the OSD facilities into a sustainable overall water management plan for the site.
- O 06. Require construction supervision of OSD systems by the OSD designer to improve construction standards.

Controls – Private Stormwater detention

- C 01. The private lot stormwater drainage system (including surface gradings, gutters, pipes, surface drains and overland flow paths) for the property must:
 - a) be able to collectively convey all runoff to the OSD system in a 1% AEP storm event with a duration equal to the time of concentration of the site; and
 - b) ensure that the OSD storage is by-passed by all runoff from neighbouring properties and any part of the site not being directed to the OSD storage, for storms up to and including the 1% AEP storm event.

- c) direct all site runoff to the Private OSD. That is the storage is 'on-line'.
- C 02. The Private OSD is to have two orifices (or other) outlets and a non-piped overflow spillway.
- C 03. The primary or lower orifice or controlled discharge must have a SRD_L of 40 L/s/ha. This must be located as close as possible to the storage invert.
- C 04. A secondary orifice must be provided located at the base of a discharge control pit (DCP) providing HED with a SRD_U of 150 L/s/ha.
- C 05. SRD_L (40 L/s/ha) and SRD_U (150 L/s/ha) may need to be adjusted in accordance with the procedures set out in UPRCT ED 4 Section 5.1 when the entire site cannot be drained to the storage.
- C 06. The crest of the DCP must be designed to be at the water level of the 50% AEP storm event when the volume in the lower storage (SSR_L) reaches 245 m³/ha.
- C 07. The secondary orifice must operate from when the water level in the storage exceeds the crest level and water starts to overflow into the DCP.
- C 08. A non-piped spillway, of suitable length must be provided to prevent flooding of neighbouring lands if the OSD outlets become blocked. This overflow must be located at the top of the storage (i.e., at 396 m³/ha).
- C 09. The SSR_T and SSR_L are only adjusted if a rainwater tank is included in the development / redevelopment and an airspace "credit" is claimed to partially offset the SSR.
- C 10. The site area to be adopted for sizing the Private OSD systems in the individual super lots is to include half of the adjacent road reserve, appreciating that the portion of the site area which is not controlled by each individual Private OSD system may exceed the permissible 30% rule.
- C 11. Unless otherwise advised by Council, Version 9 of the UPRCT Edition 4 OSD calculation sheet shall be used for sizing the various components of the Private OSD systems.
- C 12. Guidelines to assist in determining depths and frequencies of ponding for different classes of storages are given in Table 6.1 of UPRCT Edition 4. It is emphasised that these are general guidelines that will be varied according to the nature of the development and the location of the storage.
- C 13. In general, the maximum depth of ponding in above ground storages is 600 mm.
- C 14. Council may approve deeper ponding in individual cases where the applicant demonstrates that safety issues have been adequately addressed. For example, warning signs and fencing must be installed where the depth exceeds 600 mm, or the ponding is adjacent to pedestrian traffic areas.
- C 15. Surface storages should be constructed so as to be easily accessible, with gentle side slopes permitting walking in or out. A maximum gradient of 1(V):4(H) (i.e. 1 vertical to 4 horizontal) will be required on at least one side to permit safe egress in an emergency. Where steep or vertical sides are unavoidable, due consideration should be given to safety aspects, such as the need for fencing or steps or a ladder, both when the storage is full and empty.
- C 16. Balustrades (fences) must comply with the Building Code of Australia (See Section D2.16 of the Code), while safety fences should comply with the Swimming Pool Act 1992. Fencing must not obstruct overland flow and floodwaters.

Private OSD System Glossary³

Detention storage	Detention devices capture and temporarily store stormwater runoff during major (infrequent) storm events. Stormwater is then discharged to the drainage system at a controlled rate. Detention devices act to mitigate potential downstream flooding impacts.
Extended Detention storage	The lower portion of the OSD storage, which detains stormwater in smaller, frequent storms up to the 50% AEP event in order to reduce stormwater runoff closer to the rates under natural, pre-development conditions. This helps minimise damage and disturbance to downstream watercourses and aquatic ecosystems.
Flood Detention storage	The upper portion of the OSD storage that detains stormwater to prevent any increase in downstream flooding in moderate to major storms. Water held in the Flood Detention storage drains away through both the primary and secondary orifice outlets.
PSD	Permissible Site Discharge - the maximum allowable discharge leaving the site in litres/sec/hectare (L/s/ha)
SRD_L	the Site Reference Discharge from the extended detention storage in litres/sec/hectare (L/s/ha), or in litres/sec (L/s) when applied to a specific site, when the volume of runoff stored in the extended detention storage equals the SRD _L . In the case of the Melrose Park North Precinct, the SRD _L has been set at 40 L/s/ha.
SRD_U	the Site Reference Discharge from the DCP that receives stormwater when the volume of runoff exceeds the volume of the extended detention storage in litres/sec/hectare (L/s/ha), or in litres/sec (L/s) when applied to a specific site. The site reference discharge occurs when the DCP is completely filled and HED conditions are established at the commencement of flood detention. In the case of the Melrose Park North Precinct, the SRD _U has been set at 150 L/s/ha.
SSR_L	33 the minimum volume (in m ³ /hectare or in m ³ when applied to a specific site) required for the lower Extended Detention storage when the outflow is restricted to the SRD. In the case of the Melrose Park North Precinct, the SSR _L has been set at 245 L/s/ha.
SSR_T	3 the total volume (in m ³ /hectare or in m ³ when applied to a specific site) required for overall storage (combined Extended Detention storage and Flood Detention storage) when outflows occur through the primary and secondary orifice outlets. In the case of the Melrose Park North Precinct, the SSR _T has been set at 396 L/s/ha.

³ From UPRCT OSD Handbook Edition 4.

5. Public stormwater detention systems

5.1 Principles – Public stormwater detention

- P 01. The following principles, objectives and controls must be adopted in the design of the public stormwater conveyance and detention systems, noting that it is generally in accordance with the latest addition of Australian Rainfall and Runoff (**ARR 2019**).
- P 02. Public stormwater detention within the Melrose Park South precinct may cause worsening of flooding due to this area's close proximity to the Parramatta River. An earlier undetained discharge from the precinct may be preferable. If this negative consequence can be demonstrated, it is possible, at Council's discretion, that the requirements for public OSD will be waived.

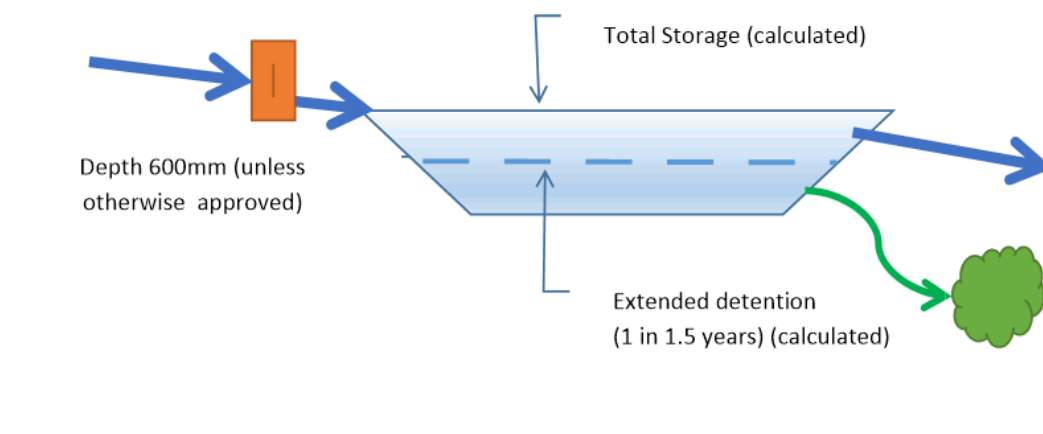
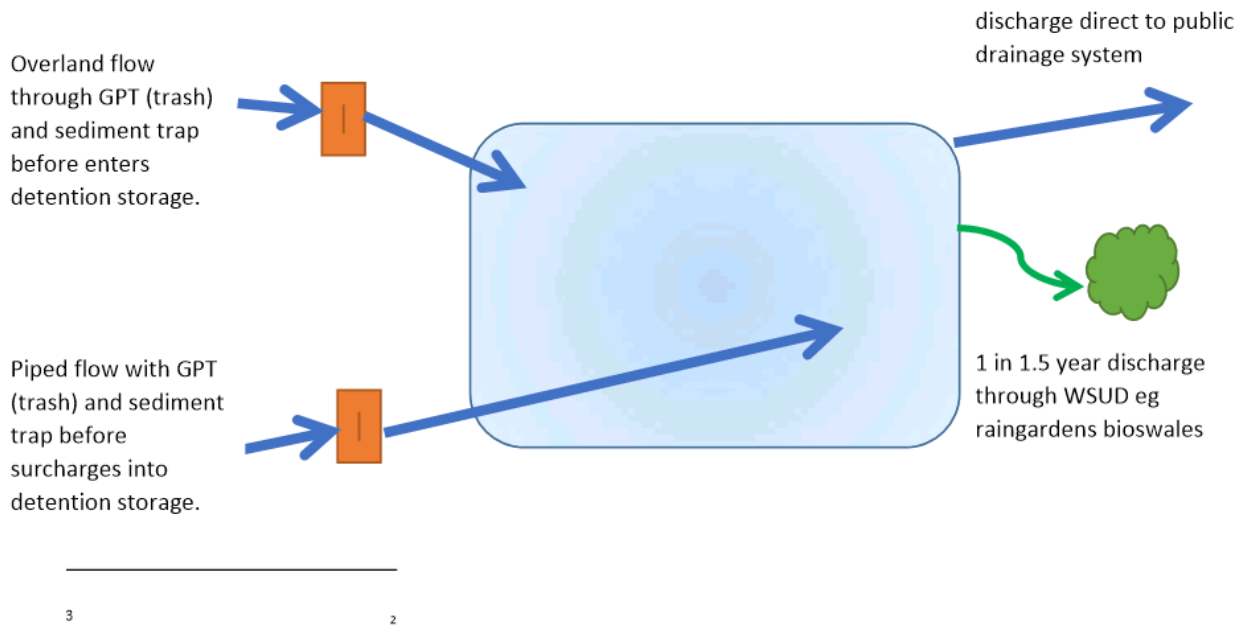
Objectives – Public stormwater detention

- O 01. Flooding conditions and risks must not be worsened anywhere for all storms up to 1% AEP in intensity.
- O 02. Flooding conditions and risks must not be *significantly* worsened anywhere for storms that are more intense than 1% AEP up to the Probable Maximum Precipitation.
- O 03. Ensure Safety, amenity, aesthetic, and ecological values affected by the detention systems are satisfactory.
- O 04. Detention infrastructure can readily be maintained in perpetuity

Controls – Public Stormwater Detention

- C 01. Sufficient area must be provided for above ground detention purposes within the public domain of the Melrose Park South precinct assuming max depths of 300mm – 600mm. To this is to be added sloping sides, inflow, and outflow swales etc.
- C 02. Playing fields and open space are in suitable locations and of appropriate size to be used for stormwater detention purposes.
- C 03. Unless otherwise approved by Council, basins shall be designed as a dry basin, with low level inundation potentially occurring statistically every 18 months (approx.) and will remain temporarily wet (for a few hours) after a triggering rain event.
- C 04. The depth of the basins during severe storms will be typically 300mm to 600mm although greater depths may be necessary in extreme events. Basements must not pose a safety hazard or affect overall usability of the playing field under normal weather conditions.

Melrose Park - Typical above-ground overland flow detention 1% AEP (1 in 100 year)



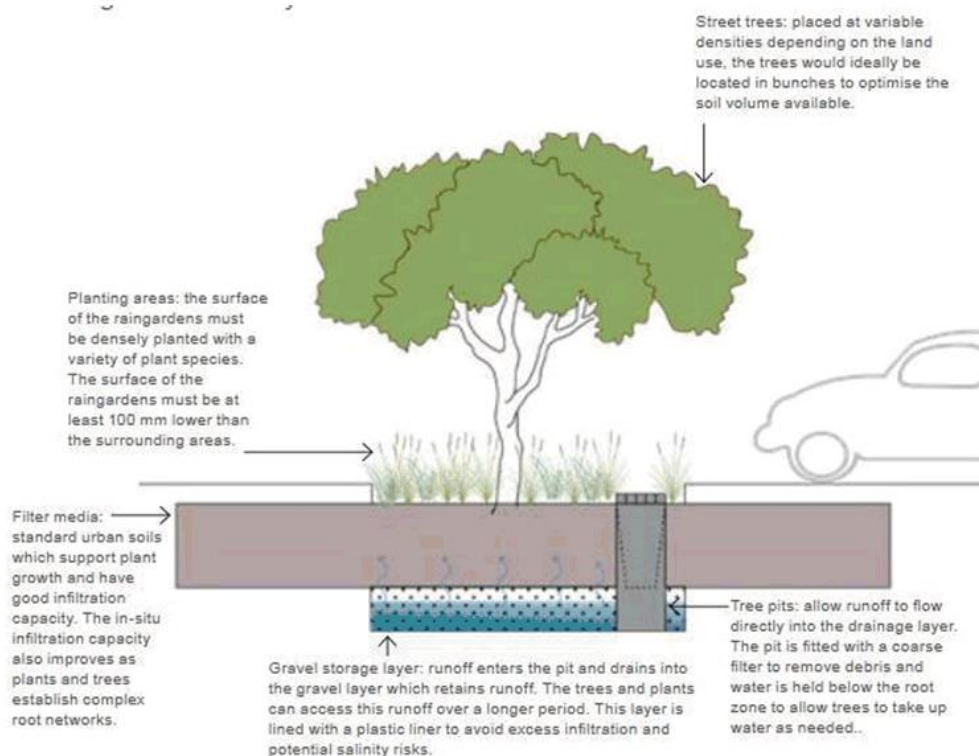
6. WSUD - Environmental management of private and public low flows with Water Sensitive Urban Design

6.1 Principles - Water Sensitive Urban Design (WSUD)

- P 01. In the Melrose Park North Precinct all developments must implement Water Sensitive Urban Design (WSUD).
- P 02. WSUD is used to ensure runoff water quality is within acceptable limits using landscape integration and if necessary, treatment technology
- P 03. Water sensitive urban design is used to enhance the landscape, support tree canopies with rainwater and deep soil to increase evapotranspiration, urban heat reduction and to reduce uncontrolled runoff.
- P 04. A water sensitive stormwater system must be designed to minimise the impact of urban development on the catchment, by improving the quality and quantity of stormwater runoff as well as providing ancillary benefits.
- P 05. A WSUD system may contribute to aspects such as biodiversity, reduction of potable water use, carbon sequestration, habitat provision, amenity, community engagement in water resource management and reduction of urban heat island effect.
- P 06. To protect and enhance natural water systems (creeks, rivers, wetlands, estuaries, lagoons, groundwater systems etc.).

Objectives – WSUD

- O 01. Use Water Sensitive Urban Design to manage water, particularly for rainfall events up to 1 in 1.5 years probability.
- O 02. Implement successful Water Sensitive Urban Design and Stormwater Quality improvements for the public domain.
- O 03. Implement successful Water Sensitive Urban Design and Stormwater Quality improvements for private developments.



Street Trees using WSUD – design and benefits

Source: Urban Typologies and Stormwater Management – achieving a cool green liveable Western Parkland City, Sydney Water, Bligh Tanner and Architectus 2020



Swales in carparks or near other large areas of pavement collect stormwater runoff and remove pollutants

Source: Sydney Water – 'Water Sensitive Urban Design' SW277 03/18



WSUD at Northern Beaches Hospital

Controls - WSUD:

- C 01. WSUD principles are to be integrated into the development through the design of the stormwater systems and landscaping scheme and in the orientation of the development rather than relying on 'end of pipe' treatment devices prior to discharge.
- C 02. Some options for WSUD measures at Melrose Park include:
- a) Vegetated and grassy swales
 - b) Vegetated filter and buffer strips,
 - c) Wetlands,
 - d) Sand and gravel filters (depending on indigenous soil suitability),
 - e) Bio-retention systems,
 - f) Permeable/Porous Pavements,
 - g) Infiltration Basins,
 - h) Rainwater Tanks,
 - i) Gross Pollutant Traps and Filters,
 - j) Passive watering systems for landscaped areas,
 - k) Additional deep soil areas,
 - l) Naturalised watercourses,
 - m) Rain gardens,
 - n) 'End of pipe' proprietary treatment devices (these must be used in conjunction with other landscape integrated measures to provide ancillary social, environmental, and economic benefits).

This is not an exclusive list and Council does not specify particular measures for particular types of development. These measures are typically employed in a 'treatment train' to maximise the range of pollutants removed.

- C 03. Development is to be sited and designed to minimise disturbance of natural watercourses and overland flow paths.
- C 04. Impervious surfaces are to be minimised and soft landscaping with deep soil and tree planting extensively used to promote infiltration, evapotranspiration and reduced stormwater run-off.
- C 05. WSUD elements should be located and configured to maximise the impervious area that is treated.
- WSUD must be adopted for the following development types:
 - Residential on lots greater than 1500m² or with 5 or more dwellings.
 - Commercial and Industrial – development, redevelopment and alterations/additions which increase gross floor area by more than 150m² or alter and/or add more than 150m² of impervious area. (Approach to WSUD will vary depending on lot size.)
 - Subdivisions of Industrial/commercial properties.
 - Subdivision of residential properties where the existing lot is greater than 1500m² or 5 or more lots are being created.
 - Other development >\$50k in value which exceeds either of the following criteria:
 - Development which alters and/or adds more than 150 m² of impervious area
 - Development which results in an increase in gross floor area of more than 150 m²
- C 06. WSUD systems shall generally be designed to treat storm events up to the 1 in 1.5 year average recurrence interval. Low flows of this frequency must be separated from higher flows that will be diverted into OSD and other stormwater quantitative management systems.
- C 07. WSUD must achieve the following pollution reduction targets:

Pollutant	Performance Target (% reduction in the post development mean annual load of pollutant)
NOTE: Reductions in loads are relative to the pollution generation from the same development without treatment.	
Gross Pollutants (greater than 5mm)	90%
Total Suspended Solids (TSS)	85%
Total Phosphorus (TP)	60%
Total Nitrogen (TN)	45%
Hydrocarbons, motor oils, oil and grease	90%

- C 08. The post development mean annual runoff volume from the entire site must be reduced by at least 10% from that pre-development. This may be achieved with rainwater tanks, infiltration into deep soil, minimising impervious areas, using permeable paving and other methods.
- C 09. Rainwater is a valuable water resource to be harvested and used if possible.
- C 10. The receiving waterway must be protected and enhanced.
- C 11. Where water sensitive urban design measures are required, DA or other proposal lodgement must be supported by the following documentation to Council's satisfaction:
- A WSUD report, describing the treatment train including all measures used, justification for this selection and a summary of design ancillary benefits.

- b) MUSIC software modelling (or equivalent) to demonstrate that the proposed WSUD design achieves the required pollution reduction targets. Both a written summary of the assumptions, configuration and results of the model, and a digital copy of the model file must be submitted.
 - c) The above documentation must be prepared by a qualified hydraulic/environmental engineer in consultation with the project landscape and architectural professionals
- C 12. Council requires simple WSUD landscape designs that achieve water management objectives without unusual or complicated maintenance demands.
- C 13. The DA must be accompanied with a management and maintenance Plan for the WSUD biological and landscape facilities for both establishment phase (3-5 years) and the long-term phase.
- C 14. The DA must be accompanied with a Management and Maintenance Plan for the WSUD proprietary treatment devices (such as GPT's, filters etc).
- C 17. The Applicant must also provide evidence to Council that they have signed a minimum 3-year contract with a suitable maintenance contractor to carry out ongoing maintenance of the water treatment facilities and technology installed on site.
- C 18. The discharge of polluted waters from any site is not permitted. Discharges from premises of any matter, whether solid, liquid, or gaseous is required to conform to the Protection of the Environment Operations Act and its Regulations, or a pollution control approval issued by the NSW Environment Protection Authority for Scheduled Premises.



WSUD at Northern Beaches Hospital



WSUD at Northern Beaches Hospital

7. Rainwater Harvesting and Use

7.1 Principles – Rainwater harvesting and Use

- P 01. Rainwater harvesting and use is encouraged in any water management system for individual lots and for the public domain.
- P 02. Rainwater capture by WSUD direction of flows into deep soil will assist plant and tree growth, reduce ambient temperatures, trap pollutants and moderate runoff flows.
- P 03. Captured rainwater is readily suited for landscape irrigation and, with treatment, for other internal uses such as toilet flushing.
- P 04. Rainwater may be captured in a separate rainwater tank or a combined rainwater and on-site detention tank. Refer Edition 4 of the Upper Parramatta River Catchment Trust On-Site Detention Handbook.
- P 05. Refer to Section 4 Sustainability of this DCP: 4.1 – Energy and Water Efficiency and 4.2 – Recycled Water

8. Interactions with the Parramatta River



Council GIS Parramatta River: PMF, 1% AEP and 5% AEP river flood extents as adopted by Council

Principles – Interactions of precinct water management with the Parramatta River.

- P 01. Melrose Park South precinct has a large interface with Parramatta River which must be managed to control environmental impacts.
- P 02. The river's flooding for events up to the PMF does partially affect the precinct.

Controls

- C 01. All water management planning, implementation, and associated infrastructure, such as floodways, stormwater pipes and headwalls, must result in minimum disturbance and must not adversely affect the riparian and aquatic environment and riparian and aquatic ecology.
- C 02. Flooding of the site by the Parramatta River for all flood events up to the PMF must be considered to Council's satisfaction in planning the precinct.
- C 03. Elevated river levels must be considered (tailwater levels) to Council's satisfaction in design of hydraulic systems including floodways, stormwater pipes and detention systems.

9. Resources and Further Information

Australian Disaster Resilience Handbook 7, Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia (AIDR 2017), Australian Government

Australian Runoff Quality, Engineers Australia 2005

Melbourne Water, 2 -[and-building/stormwatermanagement](#)

Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors) Australian Rainfall and Runoff: A Guide to Flood Estimation, © Commonwealth of Australia (Geoscience Australia), 2019.

Book 9: Runoff in Urban Areas: Coombes, P., and Roso, S. (Editors), 2019 Runoff in Urban Areas, Book 9 in Australian Rainfall and Runoff - A Guide to Flood Estimation, Commonwealth of Australia, © Commonwealth of Australia (Geoscience Australia), 2019.

CRC for Water Sensitive Cities, <https://watersensitivecities.org.au/>

Facility for Advancing Water Biofiltration 2008, Guideline Specifications for Soil Media in Bioretention Systems

Floodplain Development Manual NSW 2005 and updates on exhibition 2022

Flood Emergency Planning for Disaster Resilience, Australian Institute for Disaster Resilience, First Edition 2020

Melrose Park Flooding and Drainage Investigation – VRS and PP Development Sites – Lyall and Associates, 5 November 2020 - Figure 6: *Indicative Extent and Depth of Inundation - Post-VRS and PP Development and Complete Blockage Conditions – 1% AEP* (9 sheets) (Included as attachment)

MUSIC Modelling Guidelines for New South Wales - eWater Cooperative Research Centre 2009

South East Queensland Healthy Waterways Partnership 2010, Water by Design Guidelines and Resources - <http://waterbydesign.com.au/guidelines/>

Urban Typologies and Stormwater Management – achieving a cool green liveable Western Parkland City, Sydney Water, Bligh Tanner and Architectus 2020

Water Sensitive Planning Guide - www.wsud.org

Water Sensitive Urban Design Engineering Procedure: Stormwater, Melbourne Water.

Water Sensitive Urban Design Technical Guidelines for Western Sydney (UPRCT, 2004) - www.wsud.org/tech

Council Resources:

Parramatta LEP 2011

Parramatta DCP 2011

Melrose Park North DCP

City of Parramatta Council, Stormwater Disposal Policy

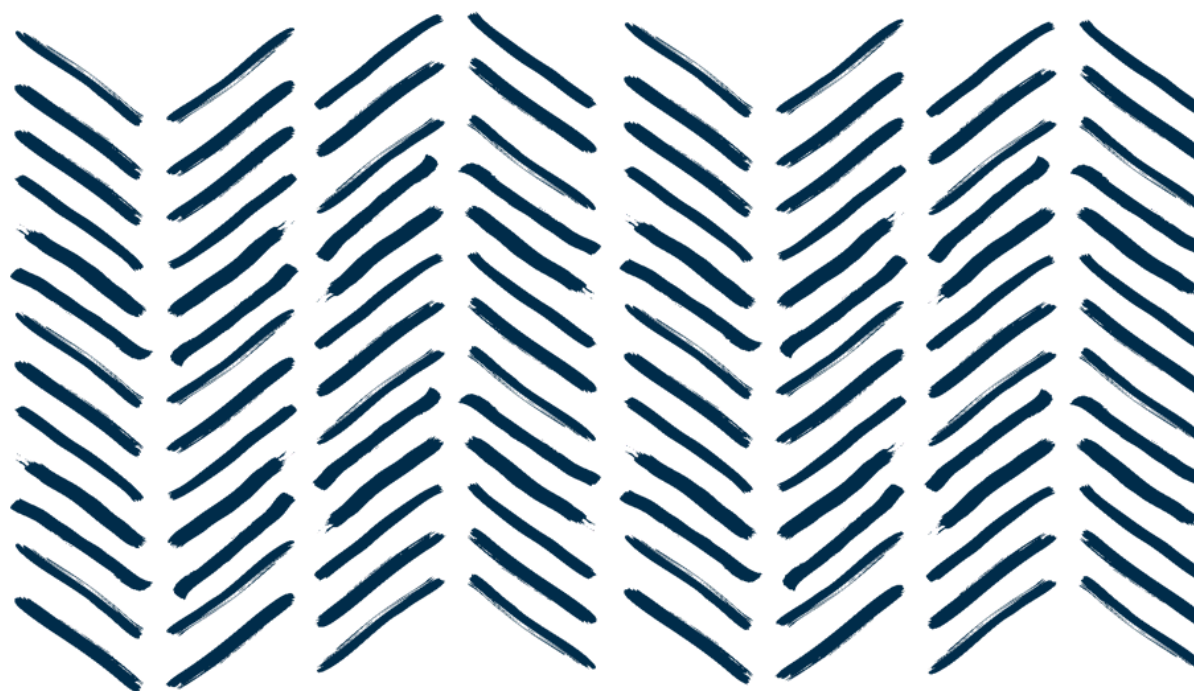
City of Parramatta Council, Development Engineering guidelines June 2018

Upper Parramatta River Catchment Trust Handbook, Edition 4.

City of Parramatta Council

Melrose Park Southern Structure Plan

Adopted by Council on 16 December 2019



Melrose Park Southern Structure Plan

Adopted by Council on 16 December 2019

Southern Precinct Land Ownership



Melrose Park Southern Structure Plan

Adopted by Council on 16 December 2019

Southern Precinct Development Scheme



Melrose Park Southern Structure Plan

Adopted by Council on 16 December 2019

Southern Precinct Density Table

	Site Area	GFA	FSR	Max Height (m)
LOT S1 (TBC)	12608	12608	1.0	12
LOT S2	4178	11643	2.8	20
LOT S4	4186	8812	2.1	20
LOT S3	8074	18533	2.3	20
LOT S5	7948	30465	3.8	58
LOT S16	11093	43355	3.9	58
LOT S6	5128	14991	2.9	26
LOT S8	10458	26515	2.5	26
LOT S7	4754	15600	3.3	58
LOT S9	6380	16656	2.6	58
LOT S10	9539	45436	4.8	63
LOT S12	9508	32241	3.4	64
LOT S13	7328	16429	2.2	26
LOT S14	6217	22135	3.6	26
LOT S15	6763	12230	1.8	26
Overall Net FSR	114160	327649	2.9	:1
Mixed Precinct	24390	33064	1.36	:1
Site Area (Holdmark West)	51607	92353	1.79	:1
Site Area (George Weston)	22823	41506	1.82	:1
Site Area (Powerlines)	16472	32256	1.96	:1
Site Area (Goodman)	25593	45436	1.78	:1
Site Area (Holdmark East)	42694	70805	1.66	:1
Site Area (Hope St sites)	6740	12230	1.81	:1
Total	190319	327649	1.72	:1

The above densities are the maximum achievable on each development site. Planning Proposals are required to be consistent with the allocated GFAs, FSRs and heights for each site. Note that some minor variation to the building heights may be considered if it is demonstrated that it will enable a better built form outcome to be achieved on the site.

DRAFT For Exhibition

Voluntary Planning Agreement

City of Parramatta Council
ABN 49 907 174 773

Wharf and Hughes Developments Pty Ltd
ACN 655 633 426

112 Wharf Road Pty Limited
ACN 606 374 538

357 Hughes Avenue Pty Limited
ACN 629 274 675

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Agreement

Date

Parties

First party

Name	City of Parramatta Council (Council)
ABN	49 907 174 773
Address	126 Church Street, Parramatta
Contact	Manager, Land Use Planning
Telephone	(02) 9806 5050

Second party

Name	Wharf and Hughes Developments Pty Ltd (Developer)
ACN	655 633 426
Address	Suite 2, 2-4 Giffnock Avenue, Macquarie Park NSW 2113
Contact	General Counsel
Telephone	02 9889 5540

Third party

Name	112 Wharf Road Pty Limited (112 Wharf)
ACN	606 374 538
Address	Suite 2, 2-4 Giffnock Avenue, Macquarie Park NSW 2113
Contact	General Counsel
Telephone	02 9889 5540

Fourth party

Name	357 Hughes Avenue Pty Limited (357 Hughes)
ACN	629 274 675
Address	Suite 2, 2-4 Giffnock Avenue, Macquarie Park NSW 2113
Contact	General Counsel
Telephone	02 9889 5540

Background

- A. The Developer has submitted the Planning Proposal seeking amendments to the LEP for the purpose of making Development Applications to the Council for Development Consent to carry out the Development on the Land.
- B. Gateway Determination was issued on 17 August 2021.
- C. The Developer and Landowner have offered to enter into this agreement to make contributions for public purposes in connection with the Instrument Change and the Development.

Operative part

1 Definitions

In this agreement, unless the context indicates a contrary intention:

Act means the *Environmental Planning and Assessment Act 1979* (NSW);

Address means a party's address set out in the Notices clause of this agreement;

Affordable Housing Unit means a strata lot containing a Dwelling and any associated car parking that is intended to be managed by a Community Housing Provider and rented exclusively to very low income households, low income households or moderate income households, being such households as are prescribed in clause 6 of *State Environmental Planning Policy (Affordable Rental Housing) 2009*;

Approval means any certificate, licence, consent, permit, approval or other requirement of any Authority having jurisdiction in connection with the activities contemplated by this agreement;

Associated Entity has the same meaning as in section 50AAA of the *Corporations Act 2001* (Cth);

Authority means any government, semi-governmental, statutory, administrative, fiscal or judicial body, department, commission, authority, tribunal, public or other person;

Bank Guarantee means an irrevocable and unconditional undertaking that is not limited in time and does not expire by one of the following trading banks:

- (a) Australia and New Zealand Banking Group Limited,
- (b) Commonwealth Bank of Australia,
- (c) Macquarie Bank,
- (d) National Australia Bank,
- (e) St George Bank Limited,
- (f) Westpac Banking Corporation, or
- (g) Other financial institution approved by the Council,

to pay an amount or amounts of money to the Council on demand and containing terms and conditions reasonably acceptable to the Council;

Business Day means a day on which banks are open for general banking business in Sydney, excluding Saturdays and Sundays;

Certificate of Practical Completion means the written certificate confirming the Works, or part of the Works, have been completed to the Council's satisfaction issued under clause 10.1(b)(i) of the Construction Terms;

Certification Regulation means the *Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021*;

Claim means any claim, loss, liability, damage, proceeding, order, judgment or expense arising out of the operation of this agreement;

Construction Certificate means a construction certificate as defined under section 6.4 of the Act;

Construction Terms means the terms set out in Schedule 2;

Contribution and **Contribution Item** mean an item from the Contributions Table;

Contributions Plan has the same meaning as under the Act;

Contributions Table means the table at Schedule 1;

CPI means the All Groups Consumer Price Index applicable to Sydney published by the Australian Bureau of Statistics;

Damages means all liabilities, losses, damages, costs and expenses, including legal fees and disbursements and costs of investigation, litigation, settlement, judgment, interest and penalties;

Dealing, in relation to the Land, means, without limitation, selling, transferring, assigning, mortgaging, charging, encumbering or otherwise dealing with the Land;

Dedication Land means that part of the Land to be dedicated to Council in accordance with this agreement, as shown on the Land Dedication Plan at Annexure A;

Development means the re-development of the Land for mixed-use, residential, commercial and public recreation uses in accordance with the LEP once the Instrument Change occurs;

Development Application has the same meaning as in the Act;

Development Consent has the same meaning as in the Act;

Dwelling has the same meaning as in the LEP;

Easement Site means the proposed location of the Public Access Easement limited in as described in Annexure B and shown on the plan at Annexure D;

Easement Terms means the terms of the Public Access Easement as set out in Schedule 7;

East Site means that part of the Land described as such in Schedule 4;

Final Lot means a strata or stratum lot in the Development that is not to be further developed or subdivided as part of the Development (but may be later redeveloped or subdivided by a future owner);

GST has the same meaning as in the GST Law;

GST Law has the meaning given to that term in *A New Tax System (Goods and Services Tax) Act 1999* (Cth) and any other Act or regulation relating to the imposition of or administration of the GST;

Insolvent means, in relation to a party:

- (a) that party makes an arrangement, compromise or composition with, or assignment for, the benefit of its creditors or a class of them;
- (b) a receiver, receiver and manager, administrator, provisional liquidator, trustee, controller, inspector or analogous person is appointed in relation to, or over, all or any part of that party's business, assets or securities;
- (c) a presumption of insolvency has arisen under legislation because of the party's failure to comply with a statutory demand or analogous process;
- (d) an application for the winding up of, or for the appointment of a receiver to, that party, other than winding up for the purpose of solvent reconstruction or re amalgamation, is presented and not withdrawn or dismissed within 21 days (or such longer period agreed to by the parties), or an order is made or an effective resolution is passed for the winding up of, or for the appointment of a receiver to, that party, or any analogous application is made or proceedings initiated;
- (e) any shareholder or director of that party convenes a meeting for the purpose of considering or passing any resolution for the winding up or administration of that party;
- (f) that is an individual, a creditor's petition or a debtor's petition is presented to the Official Receiver or analogous authority in relation to that party;
- (g) an execution or analogous process is levied or enforced against the property of that party;
- (h) that party ceases or suspends, or threatens to cease or suspend, the conduct of all or a substantial part of its business;
- (i) that party disposes of, or threatens to dispose of, a substantial part of its assets;
- (j) that party stops or suspends, or threatens to stop or suspend, payment of all or a class of its debts; or
- (k) that party is unable to pay the party's debts as and when they become due and payable.

Instrument Change means an amendment to the LEP in response to the Planning Proposal;

Land means the land described in Schedule 4;

Landowner means in respect of the East Site, 112 Wharf and in respect of the West Site, 357 Hughes;

Law means:

- (a) any law applicable including legislation, ordinances, regulations, by-laws and other subordinate legislation;
- (b) any Approval, including any condition or requirement under it; and
- (c) any fees and charges payable in connection with the things referred to in paragraphs (a) and (b);

LEP means the *Parramatta Local Environmental Plan 2011*;

Modification Application means any application to modify the Development Consent under section 4.55 of the Act;

Monetary Contribution means a monetary contribution payable by the Developer under clause 7.1 of this agreement;

Occupation Certificate means an occupation certificate as defined under section 6.4 of the Act and includes Occupation Certificate for a part of a building;

Park Works means those Works required for Contribution Item No's 2, 3 and 5;

Planning Proposal means Planning Proposal PP-2020-4038 seeking amendments to the LEP to rezone the Land, increase height and floor space ratio controls applying to the Land, apply a minimum non-residential floor space ratio control, provide for additional permitted uses and introduce design excellence provisions, as generally described in Schedule 5;

Proposed Cost means the proposed cost of carrying out the Development or any part of the Development, determined in accordance with clause 208 of the Regulation;

Public Access Easement means the public access easement to be granted under clause 7.6 of this agreement;

Public Reserve has the same meaning as in the *Local Government Act 1993*;

Public Road has the same meaning as in the *Roads Act 1993*;

Register means the Torrens title register maintained under the *Real Property Act 1900* (NSW);

Regulation means the *Environmental Planning and Assessment Regulation 2021*;

Related Body Corporate has the meaning given to that term in s 9 of the *Corporations Act 2001* (Cth);

Residential Lot means a strata lot containing a Dwelling that is not an Affordable Housing Unit and, for the avoidance of doubt, includes Residential Lots in the Town Centre;

Road Works means those Works required for Contribution Item No. 6;

Stage means a numbered stage of the Development as shown on the Staging Plan;

Staging Plan means the plan at Schedule 6, separating the Development into several stages;

Strata Certificate has the same meaning as in the *Strata Schemes Act*;

Strata Plan means a strata plan, a strata plan of subdivision or a strata plan of consolidation that is registered in accordance with the *Strata Schemes Act*; and

Strata Schemes Act means the *Strata Schemes Development Act 2015*;

Subdivision Plan means a plan of subdivision as defined under section 195 of the *Conveyancing Act 1919*;

Super Lot means a torrens title lot that is intended for further subdivision as set out in the Staging Plan;

Total Contribution Value means the total value of all Contributions to be provided under this agreement as specified in the Contributions Table, as adjusted, where necessary, for CPI;

Transferee has the meaning given in clause 13.2(a); and

West Site means that part of the Land described as such in Schedule 4;

Works means the Park Works, the Road Works and any work required to construct the Affordable Housing Units as set out in the Contributions Table.

2 Interpretation

In this agreement, unless the context indicates a contrary intention:

- (a) **(documents)** a reference to this agreement or another document includes any document which varies, supplements, replaces, assigns or novates this agreement or that other document;
- (b) **(references)** a reference to a party, clause, paragraph, schedule or annexure is a reference to a party, clause, paragraph, schedule or annexure to or of this agreement;
- (c) **(headings)** clause headings and the table of contents are inserted for convenience only and do not affect interpretation of this agreement;
- (d) **(person)** a reference to a person includes a natural person, corporation, statutory corporation, partnership, the Crown and any other organisation or legal entity and their personal representatives, successors, substitutes (including persons taking by novation) and permitted assigns;
- (e) **(party)** a reference to a party to a document includes that party's personal representatives, executors, administrators, successors, substitutes (including persons taking by novation) and permitted assigns;
- (f) **(president, CEO, general manager or managing director)** the president, CEO, general manager or managing director of a body or Authority includes any person acting in that capacity;
- (g) **(requirements)** a requirement to do any thing includes a requirement to cause that thing to be done, and a requirement not to do any thing includes a requirement to prevent that thing being done;
- (h) **(including)** including and includes are not words of limitation, and a list of examples is not limited to those items or to items of a similar kind;
- (i) **(corresponding meanings)** a word that is derived from a defined word has a corresponding meaning;
- (j) **(singular)** the singular includes the plural and vice-versa;
- (k) **(gender)** words importing one gender include all other genders;
- (l) **(parts)** a reference to one or more things includes each part and all parts of that thing or group of things but nothing in this clause implies that part performance of an obligation constitutes performance of that obligation;
- (m) **(rules of construction)** neither this agreement nor any part of it is to be construed against a party on the basis that the party or its lawyers were responsible for its drafting;
- (n) **(legislation)** a reference to any legislation or provision of legislation includes all amendments, consolidations or replacements and all regulations or instruments issued under it;

- (o) **(time and date)** a reference to a time or date in connection with the performance of an obligation by a party is a reference to the time and date in Sydney, Australia, even if the obligation is to be performed elsewhere;
- (p) **(joint and several)** an agreement, representation, covenant, right or obligation:
 - (i) in favour of two or more persons is for the benefit of them jointly and severally; and
 - (ii) on the part of two or more persons binds them jointly and severally;
- (q) **(writing)** a reference to a notice, consent, request, approval or other communication under this agreement or an agreement between the parties means a written notice, request, consent, approval or agreement;
- (r) **(replacement bodies)** a reference to a body (including an institute, association or Authority) which ceases to exist or whose powers or functions are transferred to another body is a reference to the body which replaces it or which substantially succeeds to its power or functions;
- (s) **(Australian currency)** a reference to dollars or \$ is to Australian currency;
- (t) **(month)** a reference to a month is a reference to a calendar month; and
- (u) **(year)** a reference to a year is a reference to twelve consecutive calendar months.

3 Planning Agreement under the Act

- (a) The parties agree that this agreement is a planning agreement within the meaning of section 7.4 of the Act.
- (b) Schedule 3 of this agreement summarises the requirements for planning agreements under section 7.4 of the Act and the way this agreement addresses those requirements.
- (c) The parties acknowledge and agree that, in accordance with section 4.15 of the Act, the terms of this agreement must be considered by any consent authority when determining a Development Application for the Development, or any part of the Development.

4 Application of this agreement

This agreement applies to:

- (a) the Instrument Change;
- (b) the Development; and
- (c) the Land.

5 Operation of this agreement

- (a) This agreement commences on and from the date it is executed by all parties.
- (b) For the avoidance of doubt, the obligations to deliver contributions under clause 7 do not take effect until the Instrument Change has been published on the NSW legislation website.

6 Staged provision of Contributions

- (a) Subject to (b), below, each Contribution Item must be delivered by no later than the timeframe specified in the Contributions Table. However, the Developer may complete and deliver a Contribution Item earlier than the timeframe specified in the Contributions Table.
- (b) Council may, at its sole discretion, agree to the delayed delivery of a Contribution Item, provided security is provided by the Developer to the Council's satisfaction. Council's decision regarding the delayed delivery of a Contribution Item may not be the subject of a dispute under this agreement.

7 Contributions to be made under this agreement

7.1 Monetary Contributions

- (a) The Developer will pay to Council monetary contributions specified in Contribution Item 1 in the Contributions Table, increased but not decreased in accordance with the following formula:

$$\begin{array}{rcccl} \text{Monetary} & & \text{Amount specified} & & \text{The CPI at the time of payment} \\ \text{Contribution} & & \text{in the} & & \\ \text{payable} & = & \text{Contributions} & \times & \hline & & \text{Table} & & \text{The CPI at the date of this} \\ & & & & \text{agreement} \end{array}$$

- (b) Each Monetary Contribution must be paid in accordance with the timeframes specified in the Contributions Table.
- (c) A Monetary Contribution must be paid by way of bank cheque in favour of Council or by deposit by means of electronic funds transfer into an account specified by Council.
- (d) A Monetary Contribution will be taken to have been made when the Council notifies the Developer in writing that the bank cheque has been received and cleared funds or electronic funds have been deposited in the Council's bank account.
- (e) The parties agree and acknowledge that the Monetary Contribution will be used by the Council towards the public purpose specified in the Contributions Table.

7.2 Works

- (a) The Developer will carry out the Works in accordance with this agreement, including the Construction Terms and any Development Consent granted for the Works.
- (b) The Works or any part of the Works required under this agreement will be taken to have been completed for the purposes of this agreement when a Certificate of Practical Completion has been issued for those Works.
- (c) The Works or any part of the Works required under this agreement will be taken to have been delivered to Council when the land on which those Works are located is dedicated to Council.
- (d) The Works must be delivered to the Council in accordance with the timeframes provided in the Contributions Table.

- (e) The parties agree and acknowledge that the Works serve the public purposes specified in the Contributions Table.

7.3 Dedication of Land

- (a) Each Landowner must dedicate or cause to be transferred to the Council, at no cost to the Council, the relevant part of the Dedication Land owned by it.
- (b) On dedication or transfer to Council, the Dedication Land must be freed and discharged from all estates, interests, trusts, restrictions, dedications, reservations, easements, rights, charges, rates and contracts in, over or in connection with the land, including but not limited to, any outstanding municipal rates and charges, water rates and land tax, except:
 - (i) any easements existing at the date of this agreement if it is necessary to retain those easements and they will not interfere with the intended use of the Dedication Land; and
 - (ii) any interests as permitted by Council prior to the creation of the interest.
- (c) The Landowner must not:
 - (i) grant or allow, or agree to grant or allow, the registration of any estate, interest, easement or right in or over the Dedication Land, other than a mortgage that will be discharged prior to the Dedication Land being transferred or dedicated to Council, or
 - (ii) construct any works, other than the Works under a Development Consent, on the Dedication Land over which an estate, interest, easement or right will be required,
 unless Council has provided its prior written consent.
- (d) A Contribution comprising the dedication of land is made for the purposes of this agreement when either:
 - (i) a Certificate of Title (or electronic equivalent) is issued by NSW Land Registry Services for the relevant Dedication Land identifying the Council as the registered proprietor of that land without encumbrances as required by clause 7.3(b); or
 - (ii) where the relevant Dedication Land is a Public Reserve, when a subdivision plan is registered by NSW Land Registry Services which shows the relevant Dedication Land as being a "public reserve" in accordance with section 49 of the *Local Government Act 1993*; or
 - (iii) where the relevant Dedication Land is a Public Road, when a plan is registered by NSW Land Registry Services which shows the relevant Dedication Land as being a "public road" in accordance with section 9 of the *Roads Act 1993*.
- (e) The Dedication Land must be dedicated or transferred to Council in accordance with the timeframes provided in the Contributions Table.
- (f) The parties agree and acknowledge that the embellishment and dedication of the Dedication Land serve the public purposes specified in the Contributions Table.

7.4 Maintenance of Works

- (a) In this clause, the following definitions apply:

Maintain means works to bring an item to a state of reasonable condition and in accordance with relevant standards applicable at the time of construction of the item, including:

- (i) repairing any defects due to use of poor materials or due to poor workmanship; and
- (ii) removing graffiti or repairing or replacing any item damaged as a consequence of vandalism, provided that works required as a consequence of graffiti or vandalism do not exceed \$100,000 per annum.

Maintained and **Maintenance** have corresponding meanings.

Maintenance Bond means a Bank Guarantee in the amount of 2.5% of the cost of the Park Works to be Maintained and 5% of the cost of the Road Works to be Maintained.

Maintenance Period is:

- (a) for hard landscaping components of the Park Works and all Road Works, the period of 2 years, and
- (b) for soft landscaping components of the Park Works, the period of 5 years, commencing from the time the relevant item of Work is delivered to Council in accordance with this agreement.

Maintenance Schedule means the schedule of proposed Maintenance works as required by clause 7.4(g).

- (b) The Park Works must be Maintained by the Developer to the reasonable satisfaction of the Council for the Maintenance Period.
- (c) The Developer is responsible for rectifying all defects in the Road Works during the Maintenance Period and must comply with any written notice from Council issued during that period requiring rectification of such defects, within the time specified in the written notice, which must not be unreasonable having regard to the work required.
- (d) If, during the Development, construction vehicles used for the Development travel on roads that have been constructed and dedicated to Council in accordance with this agreement, the Developer must Maintain those roads to Council's satisfaction acting reasonably, during and immediately after any such period of use by construction vehicles.
- (e) Council will permit the Developer and its contractors and agents to access the relevant land to carry out any Maintenance required under clause 7.4(b), (c) and (d). The Developer must provide at least two Business Days' notice prior to entering the land to carry out the Maintenance.
- (f) The Developer must follow relevant Council policies and obtain all Approvals necessary to carry out the Maintenance required under this clause.

- (g) Prior to the issue of a Certificate of Practical Completion for any part of the Works or Road Works, the Developer must provide to Council:
 - (i) a Maintenance Schedule setting out the proposed Maintenance works (if any),
 - (ii) details of the costs of the relevant Works prepared by a suitably qualified quantity surveyor or otherwise established by reference to invoices provided by contractors who carried out the Works; and
 - (iii) the Maintenance Bond.
- (h) The Council agrees to promptly return the Maintenance Bond provided under paragraph (g) of this clause at the end of the Maintenance Period for the relevant item of Works, subject to paragraphs (d), (m) and (n) of this clause.
- (i) Forty Business Days prior to the end of any Maintenance Period, the Developer must request Council to carry out an inspection of the relevant Works or any part of those Works.
- (j) The Council must carry out the inspection as requested by the Developer within 10 Business Days of the request.
- (k) The Council may, within 10 Business Days of carrying out the inspection notify the Developer of any Maintenance work required, including any Maintenance required in addition to the work set out in the Maintenance Schedule.
- (l) If the Developer is issued with a notice to carry out Maintenance work under paragraph (k) of this clause, the Developer must, at the Developer's cost, carry out the Maintenance work as specified in the notice and in the timeframe specified by the notice.
- (m) If the Council issues a notice under paragraph (k) of this clause, the Council may retain any Maintenance Bond provided by the Developer under paragraph (g) of this clause until the Maintenance work required under the notice has been completed, or any dispute about the notice has been resolved, despite the expiration of any Maintenance Period.
- (n) If the Developer fails to substantially comply with an approved Maintenance Schedule or does not rectify any defects in the Works as required, and does not rectify that failure within 21 Business Days of being notified of that failure or within a reasonable period of time agreed between the parties, or if the Developer fails to comply with a notice issued under paragraph (k) of this clause, the Council may, by itself, its employees, contractors or agents, carry out the required works and may:
 - (i) call on the Maintenance Bond provided under paragraph (g) of this clause in satisfaction of the costs of carrying out the maintenance work; and
 - (ii) recover as a debt due to the Council by the Developer in a court of competent jurisdiction, any difference between the amount of the Maintenance Bond and the costs incurred by the Council in carrying out the maintenance work.

7.5 Affordable Housing Units

- (a) The Developer will dedicate or transfer, at no cost to Council, 24 fully completed and fitted out Affordable Housing Units, containing at least 31 bedrooms, within the Development to Council.
- (b) The Affordable Housing Units will be constructed, completed and transferred to Council in the manner and timeframes specified in the Contributions Table.
- (c) An Affordable Housing Unit must not be transferred to Council unless and until an Occupation Certificate has been issued for that unit.
- (d) On transfer to Council:
 - (i) each Affordable Housing Unit must be freed and discharged from all estates, interests, trusts, restrictions, dedications, reservations, easements, rights, charges, rates and contracts in, over or in connection with the land, including but not limited to, any outstanding municipal rates and charges, water rates, land tax and strata levies, except as permitted by Council; and
 - (ii) the Developer must ensure that Council receives the benefit of and is entitled to claim against any warranties, bonds and insurance for the Affordable Housing Units, including but not limited to statutory warranties, bonds and insurance, applicable to other Residential Lots in the Development.
- (e) The Developer and Landowner must not grant or allow, or agree to grant or allow, the registration of any estate, interest, easement or right in or over an Affordable Housing Unit, and must not permit the construction of any works over or within an Affordable Housing Unit, other than the construction and fit out of the Affordable Housing Unit itself, for which such an interest will be created, unless Council has provided its prior written consent.
- (f) A Contribution comprising the dedication or transfer of an Affordable Housing Unit is made for the purposes of this agreement when a Certificate of Title (or electronic equivalent) is issued by NSW Land Registry Services for the relevant Affordable Housing Unit identifying the Council as the registered proprietor of that land without encumbrances as required by clause 7.5(d).
- (g) The parties agree and acknowledge that the provision of Affordable Housing Units under this clause serves the public purposes of providing affordable housing in the vicinity of the Development and the Council intends to engage an approved community housing provider for the ongoing management of the Affordable Housing Units.

7.6 Public Access Easement

- (a) The Developer and Landowner will, at no cost to Council, register against the title to the Land:
 - (i) a covenant prohibiting any building or structures, including pillars, other than structures approved by the Council (acting reasonably) for the purposes of enhancing public domain areas, to be constructed the Easement Site; and

- (ii) an easement in gross burdening that part of the Land forming the Easement Site in favour of the Council permitting public access to the Easement Site and generally in accordance with the Easement Terms.
- (b) Any requirement to register an easement, covenant or other instrument against the title to the Land will be satisfied when the Developer and Landowner provide to the Council a copy of the relevant title search showing the registration of the instrument.
- (c) Any covenant or easement, required under clause (a) must be registered prior to the issue of an Occupation Certificate for any building on the Land within Stage 3 of the Development.
- (d) The parties agree that the proposed covenant and easement under this clause will serve the following public purposes:
 - (i) To increase the amount of and improve existing public open space areas in the vicinity of the Land;
 - (ii) To improve pedestrian circulation and the amenity of the public domain in the vicinity of the Land.
- (e) The Developer and Landowner agree and acknowledge that the obligations under this clause 7.6 are relevant considerations for the Council or any other consent authority when determining a Development Application or Modification Application relating to the Land and that a failure to comply with those obligations or any inconsistency with the requirements in those clauses may constitute a reason for refusal of such a Development Application or Modification Application.

7.7 Access to Council owned land

- (a) The Council agrees to permit the Developer on terms to be determined by Council, to enter, pass through or occupy any Council owned or controlled land in order to enable the Developer to properly perform its obligations under this agreement, provided the Developer gives at least 15 Business Days' notice. Nothing in this clause creates or gives the Developer any estate or interest in any part of the Council owned or controlled land.
- (b) The Developer indemnifies the Council, its employees, officers, agents and contractors from and against all Claims in connection with the entry or access by the Developer to, or any presence of the Developer on, Council owned or controlled land for the purposes of performing its obligations under this agreement, except to the extent such Claim arises directly as a result of the negligence, default, act or omission of Council or its employees, officers, agents, contractors or workmen.

7.8 Contribution Values

The parties acknowledge and agree that the contribution values set out in the Contributions Table are estimates only and:

- (a) the Developer assumes all cost and risk in relation to the provision and the making of the Contributions, including any variations over time to the value of land to be dedicated or the cost of carrying out the Works, and

- (b) the Developer must provide the Contributions notwithstanding that the actual cost of Works or the value of a land dedication may be different to the indicative cost in the Contributions Table.

7.9 Additional Monetary Contribution

- (a) The Developer will pay to Council an additional monetary contribution in the amount calculated in accordance with the following formula:

$$\begin{array}{rcccl} \text{Additional} & & 1\% \text{ of} & & \text{The CPI at the time of payment} \\ \text{Monetary} & = & \text{Proposed} & \times & \\ \text{Contribution} & & \text{Cost} & & \text{The CPI at the date the} \\ & & & & \text{Proposed Cost is determined} \end{array}$$

- (b) The Additional Monetary Contribution must be paid in instalments prior to the issue of each Construction Certificate for the Development, with the amount of each instalment calculated in accordance with clause 7.9(a) based on the Proposed Cost of that part of the Development subject to the Construction Certificate to be issued.
- (c) Notwithstanding clause 7.9(b), if the Act or Regulation is amended, or a Ministerial direction is made under section 7.17 of the Act that would ordinarily apply to contributions payable under sections 7.11 or 7.12 for the Development, and that amendment or direction provides that monetary contributions are to be paid prior to the issue of an Occupation Certificate, Council will agree to deferred payment of the Additional Monetary Contribution so that each instalment is paid prior to the issue of an Occupation Certificate, with the amount of each instalment calculated in accordance with clause 7.9(a) based on the Proposed Cost of that part of the Development subject to the Occupation Certificate to be issued.
- (d) The Additional Monetary Contribution must be paid by way of bank cheque in favour of Council or by deposit by means of electronic funds transfer into an account specified by Council.
- (e) The Additional Monetary Contribution will be taken to have been made when the Council notifies the Developer in writing that the bank cheque has been received and cleared funds or electronic funds have been deposited in the Council's bank account.
- (f) The parties agree and acknowledge that the Additional Monetary Contribution will be used by the Council towards the public purposes specified in any Contributions Plan adopted by Council at the time the Additional Monetary Contribution is received.

8 Application of s 7.11, s 7.12 and s 7.24 of the Act to the Development

- (a) This agreement excludes the application of sections 7.11 and 7.24 of the Act to the Development, but only to the extent that the Residential Gross Floor Area of the Development does not exceed:
- (i) 70,805 square metres on the East Site; or
 - (ii) 92,353 square metres on the West Site.

- (b) This agreement does not exclude the application of section 7.24 of the Act to the Development.
- (c) For the avoidance of doubt, if the Residential Gross Floor Area of the Development exceeds 70,805 square metres on the East Site or 92,353 square metres on the West Site:
 - (i) sections 7.11 and 7.12 of the Act will apply to the extent of the exceedance; and
 - (ii) the requirement to pay the Additional Monetary Contribution under clause 7.9 will not apply to the extent of the exceedance.

9 Registration of this agreement

9.1 Landowner Interest

Each Landowner represents and warrants to the Council that on the date of this agreement it is the registered proprietor of the relevant part of the Land, as set out in Schedule 4.

9.2 Registration of this agreement

- (a) Each Landowner agrees to procure the registration of this agreement under the *Real Property Act 1900* (NSW) in the relevant folios of the Register of the Land in accordance with section 7.6 of the Act.
- (b) Each Landowner, at its own expense, must:
 - (i) procure the lodgement of this agreement with the Registrar-General as soon as reasonably practicable after this agreement comes into operation, but in any event, no later than 10 Business Days after that date;
 - (ii) procure the registration of this agreement by the Registrar-General in the relevant folios of the Register for the Land as soon as reasonably practicable after this agreement is lodged for registration; and
 - (iii) provide documentary evidence that the registration of this agreement has been completed to Council within 5 Business Days of receiving confirmation that the registration has occurred.
- (c) Each Landowner must at its own expense take all practical steps, and otherwise do anything that the Council reasonably requires to procure:
 - (i) the consent of each person who:
 - (A) has an estate or interest in the relevant Land registered under the *Real Property Act 1900* (NSW); or
 - (B) is seized or possessed of an estate or interest in the Land,
 - (ii) an acceptance of the terms of this agreement and an acknowledgement in writing from any existing mortgagee in relation to the relevant land that the mortgagee will adhere to the provisions of this agreement if it takes possession of the land as mortgagee in possession,
 - (iii) the execution of any documents; and
 - (iv) the production of the relevant duplicate certificates of title,
 to enable the registration of this agreement in accordance with this clause 9.2.

- (d) Each Landowner consents to the registration of the agreement in accordance with this clause 9.2.

9.3 Removal from Register

- (a) The Council will provide a release and discharge of this agreement so that it may be removed from the folios of the Register for the Land (or any part of it) provided the Council is satisfied the Developer has duly fulfilled its obligations under this agreement, and is not otherwise in default of any of the obligations under this agreement.
- (b) For the avoidance of doubt, the Council may provide a release and discharge allowing removal of this agreement from the folios of the Register for any proposed Final Lot, provided that the Developer has fulfilled any obligations under this agreement that, in accordance with the Contributions Table, will be due at the time an Occupation Certificate is to be issued for the Final Lot to be released. Where a building contains Affordable Housing Units, and Council has confirmed its satisfaction under clause 12.4(b)(ii), Council may provide a release and discharge allowing removal of this agreement from the folios of the Register in relation to Final Lots to be created within that building, but may require this agreement to be registered on the folios of the Register for the Affordable Housing Units within that building.

9.4 Caveat

- (a) Each Landowner acknowledges and agrees that:
 - (i) when this agreement is executed, the Council is deemed to have acquired and the Landowner is deemed to have granted, an equitable estate and interest in the Land for the purposes of section 74F(1) of the *Real Property Act 1900* (NSW) and consequently the Council will have a sufficient interest in the Land in respect of which to lodge a caveat over the Land notifying that interest;
 - (ii) it will not object to the Council lodging a caveat in the relevant folios of the Register for the Land nor will it seek to remove any caveat lodged by the Council provided the caveat does not prevent registration of any dealing or plan other than a transfer.
- (b) The Council must, at the Landowner's cost, register a withdrawal of any caveat in respect of the Land within five Business Days after the Developer complies with clause 9.2 and must not lodge any other caveats on the titles to any of the Land, other than in accordance with clause 9.4(c).
- (c) The Landowner acknowledges and agrees that:
 - (i) when this agreement is executed, Council is deemed to have acquired, and the Landowner is deemed to have granted, an equitable estate and interest in the Dedication Land and each Affordable Housing Unit for the purposes of section 74F(1) of the *Real Property Act 1900* (NSW) and consequently Council has sufficient interest in the Dedication Land each Affordable Housing Unit in respect of which to lodge a caveat over that land notifying Council's interest;

- (ii) it will notify the Council that any subdivision plan or Strata Plan creating a lot consisting wholly of Dedication Land or an Affordable Housing Unit has been registered within 2 Business Days of registration; and
- (iii) it will not object to Council lodging a caveat over the Dedication Land or any Affordable Housing Unit once the relevant title has been created, nor will it seek to remove any such caveat lodged by Council.

10 Review of this agreement

- (a) This agreement may be reviewed or modified. Any review or modification of this agreement will be conducted in the circumstances and in the manner determined by the parties.
- (b) No modification or review of this agreement will be of any force or effect unless it is in writing and signed by the parties to this agreement.
- (c) A party is not in breach of this agreement if it does not agree to an amendment to this agreement requested by a party in, or as a consequence of, a review.

11 Dispute Resolution

11.1 *Reference to Dispute*

If a dispute arises between the parties in relation to this agreement, the parties must not commence any court proceedings relating to the dispute unless the parties have complied with this clause, except where a party seeks urgent interlocutory relief.

11.2 *Notice of Dispute*

The party wishing to commence the dispute resolution process must give written notice (**Notice of Dispute**) to the other parties of:

- (a) The nature of the dispute,
- (b) The alleged basis of the dispute, and
- (c) The position which the party issuing the Notice of Dispute believes is correct.

11.3 *Representatives of Parties to Meet*

- (a) The representatives of the parties must promptly (and in any event within 20 Business Days of the Notice of Dispute) meet in good faith to attempt to resolve the notified dispute.
- (b) The parties may, without limitation:
 - (i) resolve the dispute during the course of that meeting,
 - (ii) agree that further material or expert determination in accordance with clause 11.6 about a particular issue or consideration is needed to effectively resolve the dispute (in which event the parties will, in good faith, agree to a timetable for resolution); or
 - (iii) agree that the parties are unlikely to resolve the dispute and, in good faith, agree to a form of alternative dispute resolution (including expert determination, arbitration or mediation) which is appropriate for the resolution of the relevant dispute.

11.4 Further Notice if Not Settled

If the dispute is not resolved within 10 Business Days after the nominated representatives have met, either party may give to the other a written notice calling for determination of the dispute (**Determination Notice**) by mediation under clause 11.5 or by expert determination under clause 11.6.

11.5 Mediation

If a party gives a Determination Notice calling for the dispute to be mediated:

- (a) The parties must agree to the terms of reference of the mediation within 15 Business Days of the receipt of the Determination Notice (the terms shall include a requirement that the mediation rules of the Institute of Arbitrators and Mediators Australia (NSW Chapter) apply);
- (b) The mediator will be agreed between the parties, or failing agreement within 15 Business Days of receipt of the Determination Notice, either Party may request the President of the Institute of Arbitrators and Mediators Australia (NSW Chapter) to appoint a mediator;
- (c) The mediator appointed pursuant to this clause 11.5 must:
 - (i) Have reasonable qualifications and practical experience in the area of the dispute; and
 - (ii) Have no interest or duty which conflicts or may conflict with his or her function as a mediator he or she being required to fully disclose any such interest or duty before his or her appointment;
- (d) The mediator shall be required to undertake to keep confidential all matters coming to his or her knowledge by reason of his or her appointment and performance of his or her duties;
- (e) The parties must within 15 Business Days of receipt of the Determination Notice notify each other of their representatives who will be involved in the mediation (except if a resolution of the Council is required to appoint a representative, the Council must advise of the representative within 5 Business Days of the resolution);
- (f) The parties agree to be bound by a mediation settlement and may only initiate judicial proceedings in respect of a dispute which is the subject of a mediation settlement for the purpose of enforcing that mediation settlement; and
- (g) In relation to costs and expenses:
 - (i) Each party will bear its own professional and expert costs incurred in connection with the mediation; and
 - (ii) The costs of the mediator will be shared equally by the parties unless the mediator determines that a party has engaged in vexatious or unconscionable behaviour in which case the mediator may require the full costs of the mediation to be borne by that party.

11.6 Expert determination

If the dispute is not resolved under clause 11.3 or clause 11.5, or the parties otherwise agree that the dispute may be resolved by expert determination, the parties may refer the dispute to an expert, in which event:

- (a) The dispute must be determined by an independent expert in the relevant field:
 - (i) Agreed upon and appointed jointly by the parties; and
 - (ii) In the event that no agreement is reached or no appointment is made within 20 Business Days of the agreement to refer the dispute to an expert, appointed on application of a party by the then President of the Law Society of New South Wales;
- (b) The expert must be appointed in writing and the terms of the appointment must not be inconsistent with this clause;
- (c) The determination of the dispute by such an expert will be made as an expert and not as an arbitrator and will be in writing and contain the reasons for the determination;
- (d) The expert will determine the rules for the conduct of the process but must conduct the process in accordance with the rules of natural justice;
- (e) Each party will bear its own costs in connection with the process and the determination by the expert and will share equally the expert's fees and costs; and
- (f) Any determination made by an expert pursuant to this clause is final and binding upon the parties except unless:
 - (i) Within 20 Business Days of receiving the determination, a party gives written notice to the other party that it does not agree with the determination and commences litigation; or
 - (ii) The determination is in respect of, or relates to, termination or purported termination of this agreement by any party, in which event the expert is deemed to be giving a non-binding appraisal.

11.7 *Litigation*

If the dispute is not *finally* resolved in accordance with this clause 11, then either party is at liberty to litigate the dispute.

11.8 *No suspension of contractual obligations*

Subject to any interlocutory order obtained under clause 11.1, the referral to or undertaking of a dispute resolution process under this clause 11 does not suspend the parties' obligations under this agreement.

12 *Enforcement*

12.1 *Default*

- (a) In the event a party considers another party has failed to perform and fulfil an obligation under this agreement, it may give notice in writing to the other party (**Default Notice**) giving all particulars of the matters in respect of which it considers default has occurred and by such notice require the default to be remedied within a reasonable time not being less than 21 days.
- (b) In determining a reasonable time, regard must be had to both the nature of the default and the work or other action required to remedy it and whether or not the continuation of the default constitutes a public nuisance or raises other circumstances of urgency or emergency.

- (c) If a party disputes the Default Notice it may refer the dispute to dispute resolution under clause 11 of this agreement.

12.2 Security for Works

- (a) The Developer must provide to the Council:
 - (i) a Bank Guarantee or Bank Guarantees to secure the completion of the Park Works (**Park Works Security**) ; and
 - (ii) a Bank Guarantee to secure the completion of the Road Works in the amount that is 25% of the total estimated cost of Roads Works (**Road Works Security**).
- (b) At all times, the Park Works Security must have a minimum value of:
 - (i) an amount equivalent to the value of the Park Works that have not been Completed in each Stage of the Development for which a Construction Certificate has been issued for above-ground works; or
 - (ii) \$5,000,000.00 plus indexation in accordance with increases in the CPI from the date of this agreement,

whichever is the least.
- (c) Prior to the issue of the first Construction Certificate for above-ground works in each Stage of the Development, the Developer must:
 - (i) assess the value of the Bank Guarantee that will be required under clause 12.2(b) once the Construction Certificate is issued; and
 - (ii) provide any additional or replacement Bank Guarantee so that the requirements of that clause are met.
- (d) The Council may reject any Bank Guarantee that contains errors, or if it has received the Bank Guarantee, require at any time the Developer to obtain a replacement Bank Guarantee that rectifies any such errors or otherwise obtain rectification of the errors. The Developer must provide the replacement Bank Guarantee, or otherwise obtain rectification of the errors, within 5 Business Days of receiving the Council's request.
- (e) The Council may call on a Bank Guarantee provided under this clause if:
 - (i) the Developer is in material or substantial breach of this agreement in failing to deliver a Contribution Item within the timeframe required by the Contributions Table, or where a revised timeframe has been agreed by Council, within that revised timeframe and has failed to rectify the breach within a reasonable period of time after having been given reasonable notice (which must not be less than 21 Business Days) in writing to do so in accordance with clause 12.1 of this agreement; or
 - (ii) the Developer becomes Insolvent.
- (f) Within 20 Business Days of each anniversary of a Bank Guarantee provided under clause (a), the Developer must provide Council with one or more replacement Bank Guarantees (**Replacement Bank Guarantee**) in an amount calculated in accordance with the following:

$$A = \frac{B \times D}{C}$$

Where:

A is the amount of the Replacement Bank Guarantee,

B is the amount of the Bank Guarantee to be replaced,

C is the CPI for the quarter ending immediately before the date of the Bank Guarantee to be replaced,

D is the CPI for the quarter ending immediately before the date of the Replacement Bank Guarantee,

provided A is greater than B.

- (g) On receipt of a Replacement Bank Guarantee provided under clause 12.2(f), the Council must release and return to the Developer, as directed, the Bank Guarantee that has been replaced as soon as reasonably practicable.
- (h) At any time following the provision of a Bank Guarantee under this clause, the Developer may provide the Council with one or more replacement Bank Guarantees totalling the amount of all Bank Guarantees required to be provided under this clause for the time being. On receipt of such replacement Bank Guarantee, the Council must release and return to the Developer, as directed, the Bank Guarantee(s) which it holds that have been replaced as soon as reasonably practicable.
- (i) The amount of the Road Works Security may be reduced by agreement between the parties, if the estimated cost of all outstanding Road Works under this agreement (as determined by a report prepared by a qualified Quantity Surveyor at the Developer's cost) is less than the amount required to be held by Council under clause 12.2(a)(ii).
- (j) Subject to clause 12.2(e), the Council may apply the proceeds of a Bank Guarantee in satisfaction of:
 - (i) any obligation of the Developer to deliver the Contribution Item that is secured by the Bank Guarantee; and
 - (ii) any associated liability, loss, cost, charge or expense directly or indirectly incurred by the Council because of the failure by the Developer to comply with this agreement.
- (k) If Council calls on a Road Works Security at any time, the Developer must provide a further Bank Guarantee to Council so that Council holds security in an amount that is equivalent to 25% of the total estimated cost of the Road Works at all times, unless that amount has been reduced in accordance with clause 12.2(i), in which case the amount of the Road Works Security must be equivalent to the agreed reduced amount under that clause.
- (l) The Council must promptly return a Bank Guarantee to the Developer when the Contribution to which the Bank Guarantee relates is discharged by the delivery of a Contribution Item and the Developer has provided any Security for maintenance required under clause 7.4(g) and for defects liability required under the

Construction Terms. For the avoidance of doubt, the Road Works Security is to be released by Council on completion of the final stage of the Road Works.

- (m) Nothing in this clause 12.2 prevents or restricts the Council from taking any enforcement action in relation to:
 - (i) any obligation of the Developer under this agreement; or
 - (ii) any associated liability, loss, cost, charge or expense directly or indirectly incurred by the Council because of the failure by the Developer to comply with this agreement,

that is not or cannot be satisfied by calling on a Bank Guarantee.

12.3 *Compulsory Acquisition*

- (a) If the Developer does not dedicate the Dedication Land to Council or grant the Public Access Easement as required by this agreement, the Council may compulsorily acquire the relevant land or interest, in which case the Developer consents to the Council compulsorily acquiring that land or interest for compensation in the amount of \$1.00 without having to follow the pre-acquisition procedures in the *Land Acquisition (Just Terms Compensation) Act 1991* and may call upon any Bank Guarantee provided under clause 12.2 to cover any costs, including legal costs, incurred by the Council on acquisition of the land or interest.
- (b) Clause 12.3(a) constitutes an agreement for the purposes of section 30 of the *Land Acquisition (Just Terms Compensation) Act 1991*.
- (c) Except as otherwise agreed between the Developer and Council, the Developer must ensure the Dedication Land is freed and discharged from all estates, interests, trusts, restrictions, dedications, reservations, rights, charges, rates, strata levies and contracts, except as may be permitted by this agreement on the date that the Council will acquire the land in accordance with clause 12.3(a).
- (d) The Developer indemnifies and keeps indemnified the Council against all Claims made against the Council as a result of any acquisition by the Council of the whole or any part of the relevant land or interest under clause 12.3(a).
- (e) The Developer must pay the Council, promptly on demand, an amount equivalent to all costs, including legal costs, incurred by the Council acquiring the whole or any part of the relevant land or interest under clause 12.3(a) that are not or cannot be recovered by calling on a Bank Guarantee.

12.4 *Security for Affordable Housing Units*

- (a) Any Development Application for the erection of a building that will contain an Affordable Housing Unit or Units to be dedicated to Council under this agreement must identify the following:
 - (i) The Affordable Housing Unit or Units proposed to be dedicated to Council.
 - (ii) The parking space or spaces associated with each Affordable Housing Unit.
 - (iii) The location of each Affordable Housing Unit in the building.
 - (iv) The proposed layout and fit out of each Affordable Housing Unit in the building.

- (b) Prior to the issue of an Occupation Certificate for any building containing an Affordable Housing Unit, or any part of such a building, the Developer must:
 - (i) provide access to the Council to inspect the Affordable Housing Unit and any other part of the building if required by Council; and
 - (ii) obtain written confirmation from Council that it is satisfied the Affordable Housing Unit has been completed and fitted out in accordance with the requirements of this agreement.
- (c) An Occupation Certificate applying to an Affordable Housing Unit must be provided before that unit can be transferred to Council.

12.5 Restriction on the issue of Certificates

- (a) In accordance with section 6.8 of the Act and clause 21 of the Certification Regulation a Construction Certificate must not be issued for any part of the Development unless:
 - (i) relevant obligations to provide Bank Guarantees under clause 12.2 have been satisfied; and
 - (ii) any Monetary Contributions payable in accordance with clauses 7.1 and 7.8 and the Contributions Table have been paid; and
 - (iii) any other obligations required prior to the issue of the Construction Certificate as specified in the Contributions Table or under this agreement have been met.
- (b) In accordance with section 6.10 of the Act and clause 48 of the Certification Regulation an Occupation Certificate must not be issued for any part of the Development unless:
 - (i) Council has issued written confirmation that any Affordable Housing Unit located within the building subject to the Occupation Certificate has been completed and fitted out in accordance with this agreement;
 - (ii) any obligation to deliver a Contribution required prior to the issue of that Occupation Certificate as specified in the Contributions Table or under this agreement has been met;
 - (iii) any Bank Guarantee for maintenance required under clause 7.4 has been provided; and
 - (iv) any Bank Guarantee for defects liability required under the Construction Terms has been provided.

12.6 General Enforcement

- (a) Without limiting any other remedies available to the parties, this agreement may be enforced by any party in any Court of competent jurisdiction.
- (b) Nothing in this agreement prevents:
 - (i) a party from bringing proceedings in the Land and Environment Court to enforce any aspect of this agreement or any matter to which this agreement relates; and

- (ii) the Council from exercising any function under the Act or any other Act or law relating to the enforcement of any aspect of this agreement or any matter to which this agreement relates.

13 Assignment and Dealings

13.1 Assignment

- (a) A party must not assign or deal with any right under this agreement without the prior written consent of the other parties.
- (b) Any change of ownership or control (as defined in section 50AA of the *Commonwealth Corporations Act 2001*) of a party (excluding the Council) shall be deemed to be an assignment of this agreement for the purposes of this clause.
- (c) Any purported dealing in breach of this clause is of no effect.

13.2 Transfer of Land

- (a) The Landowner may not transfer, assign or dispose of the whole or any part of its right, title or interest in the Land (present or future) or in the Development to another person (**Transferee**) unless before it sells, transfers or disposes of that right, title or interest:
 - (i) the Landowner satisfies the Council that the proposed Transferee is financially capable of complying with the Landowner's obligations under this agreement;
 - (ii) the Landowner satisfies the Council that the rights of the Council will not be diminished or fettered in any way;
 - (iii) the Transferee delivers to the Council a novation deed signed by the Transferee in a form and of such substance as is acceptable to the Council containing provisions under which the Transferee agrees to comply with all the outstanding obligations of the Landowner under this agreement;
 - (iv) the Transferee delivers to the Council replacement Bank Guarantees as required by this agreement;
 - (v) any default under any provisions of this agreement has been remedied or waived by the Council, on such conditions as the Council may determine, and
 - (vi) the Landowner and the Transferee pay the Council's reasonable costs in relation to the assignment.

13.3 Right to transfer Strata or Stratum Lots

- (a) Notwithstanding clause 13.2, the Landowner may enter into a contract for sale with a Transferee for a Final Lot on a proposed Strata Plan or Subdivision Plan that has not yet been registered, without having to obtain consent from Council.
- (b) For the avoidance of doubt, the transfer of a Final Lot is not permitted under clause 13.3(a) unless the Council has provided a written release and discharge of this agreement under clause 9.3.

13.4 Exempt Transfers

- (a) Clause 13.2 does not apply where the Landowner transfers:

- (i) any part of the Land it owns to an Associated Entity of the Landowner or Developer or to Council in accordance with this agreement; or
- (ii) a Super Lot where the Contribution for the Super Lot has already been provided or otherwise secured;

and this agreement has been registered against the title to the relevant land, or Council has provided a written release and discharge of this agreement for the relevant land under clause 9.3.

- (b) The Landowner must notify the Council in writing:
 - (i) 20 Business Days prior to any transfer under clause 13.4(a) identifying the part of the Land that is to be transferred and the proposed transferee; and
 - (ii) 5 Business Days after the transfer has taken place, confirming any changes to representatives of the Landowner or Developer for the purposes of this agreement and clause 16.

14 Approvals and consents

Except as otherwise set out in this agreement, and subject to any statutory obligations, a party may give or withhold an approval or consent to be given under this agreement in that party's absolute discretion and subject to any conditions determined by the party. A party is not obligated to give its reasons for giving or withholding consent or for giving consent subject to conditions.

15 No fetter

15.1 Discretion

This agreement is not intended to operate to fetter, in any manner, the exercise of any statutory power or discretion of the Council, including, but not limited to, any statutory power or discretion of the Council relating to the Development Application or any other application for Development Consent (all referred to in this agreement as a "**Discretion**").

15.2 No fetter

No provision of this agreement is intended to constitute any fetter on the exercise of any Discretion. If, contrary to the operation of this clause, any provision of this agreement is held by a court of competent jurisdiction to constitute a fetter on any Discretion, the parties agree:

- (a) They will take all practical steps, including the execution of any further documents, to ensure the objective of this clause is substantially satisfied,
- (b) In the event that (a) cannot be achieved without giving rise to a fetter on the exercise of a Discretion, the relevant provision is to be severed and the remainder of this agreement has full force and effect, and
- (c) To endeavour to satisfy the common objectives of the parties in relation to the provision of this agreement which is to be held to be a fetter on the extent that is possible having regard to the relevant court judgment.

15.3 Planning Certificates

The Developer acknowledges that Council may, at its discretion, include advice on any planning certificate issued under section 10.7 of the Act that this agreement affects the Land.

16 Notices

16.1 Notices

Any notice given under or in connection with this agreement (**Notice**):

- (a) must be in writing and signed by a person duly authorised by the sender;
- (b) must be addressed as follows and delivered to the intended recipient by hand, by prepaid post or by email at the address below, or at the address last notified by the intended recipient to the sender after the date of this agreement:
 - (i) to City of Parramatta Council: PO Box 32, Parramatta, NSW 2124
Email: council@cityofparramatta.nsw.gov.au
Attention: Manager, Land Use Planning
 - (ii) to Wharf and Hughes Development Pty Ltd [Address]
Email: [Email]
Attention: [Contact]
 - (iii) to 112 Wharf Road Pty Limited [Address]
Email: [Email]
Attention: [Contact]
 - (iv) to 37 Hughes Avenue Pty Limited [Address]
Email: [Email]
Attention: [Contact]
- (c) is taken to be given or made:
 - (i) in the case of hand delivery, when delivered;
 - (ii) in the case of delivery by post, three Business Days after the date of posting (if posted to an address in the same country) or seven Business Days after the date of posting (if posted to an address in another country); and
 - (iii) in the case of an email, when the sender receives an email acknowledgement from the recipient's information system showing the email has been delivered to the email address for the recipient stated in clause 16.1(b); and
- (d) if under clause (c) a Notice would be taken to be given or made on a day that is not a Business Day in the place to which the Notice is sent, or later than 4.00 pm (local time), it is taken to have been given or made at the start of business on the next Business Day in that place.

17 Release and Discharge

The Council will notify the Developer and the Landowner in writing that they are released and discharged from their obligations under this agreement if any of the following occur:

- (a) The Instrument Change is declared void or invalid by a Court of competent jurisdiction and all opportunities for appeal have been exhausted.
- (b) The Developer and Landowner have fulfilled all of their obligations under this agreement to the Council's reasonable satisfaction.
- (c) The parties agree in writing to terminate the agreement on the basis that the performance of the agreement has been frustrated by an event outside the control of the parties to this agreement.
- (d) A decision is made by the NSW Government to not make the Instrument Change and communicated to the parties in writing, and Council (acting reasonably) is satisfied that the Instrument Change will not be made.

18 General

18.1 *Relationship between parties*

- (a) Nothing in this agreement:
 - (i) constitutes a partnership between the parties; or
 - (ii) except as expressly provided, makes a party an agent of another party for any purpose.
- (b) A party cannot in any way or for any purpose:
 - (i) bind another party; or
 - (ii) contract in the name of another party.
- (c) If a party must fulfil an obligation and that party is dependent on another party, then that other party must do each thing reasonably within its power to assist the other in the performance of that obligation.

18.2 *Landowner Obligations*

Any clause of this agreement that requires the Developer to do any thing or imposes an obligation on the Developer, constitutes a requirement for the Landowner to procure that thing to be done or that obligation to be met, either by the Landowner, the Developer or another entity, so far as the requirement or obligation applies to that part of the Land owned by the Landowner.

18.3 *Time for doing acts*

- (a) If the time for doing any act or thing required to be done or a notice period specified in this agreement expires on a day other than a Business Day, the time for doing that act or thing or the expiration of that notice period is extended until the following Business Day.
- (b) If any act or thing required to be done is done after 5.00 pm on the specified day, it is taken to have been done on the following Business Day.

18.4 Further assurances

Each party must promptly execute all documents and do all other things reasonably necessary or desirable to give effect to the arrangements recorded in this agreement.

18.5 Joint and individual liability and benefits

Except as otherwise set out in this agreement, any agreement, covenant, representation or warranty under this agreement by two or more persons binds them jointly and each of them individually, and any benefit in favour of two or more persons is for the benefit of them jointly and each of them individually.

18.6 Variations and Amendments

A provision of this agreement can only be varied by a later written document executed by or on behalf of all parties and in accordance with the provisions of the Act.

18.7 Counterparts

This agreement may be executed in any number of counterparts. All counterparts taken together constitute one instrument.

18.8 Legal expenses and stamp duty

- (a) The Developer must pay the Council's legal costs and disbursements in connection with the negotiation, preparation, execution, carrying into effect, enforcement and release and discharge of this agreement, including the reasonable costs of obtaining any legal advice in connection with this agreement, no later than 10 Business Days after receiving a demand from the Council to pay such costs.
- (b) The Developer agrees to pay or reimburse the costs and expenses incurred by Council in connection with the advertising and exhibition of this agreement in accordance with the Act.
- (c) The Developer agrees to pay Council any administrative fees as required by Council, acting reasonably, in connection with the administration of this agreement.

18.9 Entire agreement

The contents of this agreement constitute the entire agreement between the parties and supersede any prior negotiations, representations, understandings or arrangements made between the parties regarding the subject matter of this agreement, whether orally or in writing.

18.10 Representations and warranties

The parties represent and warrant that they have the power and authority to enter into this agreement and comply with their obligations under the agreement and that entry into this agreement will not result in the breach of any law.

18.11 Severability

If a clause or part of a clause of this agreement can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way. If any clause or part of a clause is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this agreement, but the rest of this agreement is not affected.

18.12 Invalidity

- (a) A word or provision must be read down if:
 - (i) this agreement is void, voidable, or unenforceable if it is not read down;
 - (ii) this agreement will not be void, voidable or unenforceable if it is read down; and
 - (iii) the provision is capable of being read down.
- (b) A word or provision must be severed if:
 - (i) despite the operation of clause (a), the provision is void, voidable or unenforceable if it is not severed; and
 - (ii) this agreement will be void, voidable or unenforceable if it is not severed.
- (c) The remainder of this agreement has full effect even if clause 18.12(b) applies.

18.13 Waiver

- (a) A right or remedy created by this agreement cannot be waived except in writing signed by the party entitled to that right. Delay by a party in exercising a right or remedy does not constitute a waiver of that right or remedy, nor does a waiver (either wholly or in part) by a party of a right operate as a subsequent waiver of the same right or of any other right of that party.
- (b) The fact that a party fails to do, or delays in doing, something the party is entitled to do under this agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another party. A waiver by a party is only effective if it is in writing. A written waiver by a party is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

18.14 GST

- (a) Words and expressions which are not defined in this agreement but which have a defined meaning in GST Law have the same meaning as in the GST Law.
- (b) Unless otherwise expressly stated, all prices or other sums payable or consideration to be provided under this agreement are exclusive of GST.
- (c) If GST is imposed on any supply made under or in accordance with this agreement, the Developer must pay the GST or pay to the Council an amount equal to the GST payable on or for the taxable supply, whichever is appropriate in the circumstances.
- (d) If the Council is obliged to pay any GST on any supply made under or in accordance with this agreement, the Developer indemnifies the Council for the amount of any such payment is required to make.

18.15 Governing law and jurisdiction

- (a) The laws applicable in New South Wales govern this agreement.
- (b) The parties submit to the non-exclusive jurisdiction of the courts of New South Wales and any courts competent to hear appeals from those courts.

Schedule 1 Contributions Table

No.	Item	Public Purpose	Type of Contribution	Scope	Timing of Provision	Timing for provision of Bank Guarantee	Estimated Amount / Value of Item
1	Monetary Contribution	Ermington Community Hub, public library, community facilities at the discretion of Council	Monetary Contribution	\$19,349 per Dwelling for any Dwelling in the Development in excess of 1,925 Dwellings	Prior to the issue of a Construction Certificate for the relevant Dwelling	N/A	\$0 on the basis that as at the date of this agreement the Developer proposes a maximum of 1,925 Dwellings
2	Stage 1 Open Space	Open space and recreation	Works	Construction and embellishment of a minimum of 3,907 sqm of open space in accordance with the indicative landscape design in Annexure B and this agreement	Works to be completed prior to the dedication of land.	Park Works Security in accordance with clause 12.2 required prior to the issue of a Construction Certificate for any above-ground works in Stage 1.	See below total
			Works – Maintenance	Maintenance in accordance with the Maintenance Schedule required under this agreement	In accordance with clause 7.4.	Prior to practical completion, in accordance with clause 7.4(g)	2.5% of the cost of the Works.
			Land Dedication	Dedication to Council of a minimum of 3,907 sqm of land identified for open space in	Land to be dedicated to Council prior to the issue of an Occupation Certificate for the last building in Stage	N/A	Nil

No.	Item	Public Purpose	Type of Contribution	Scope	Timing of Provision	Timing for provision of Bank Guarantee	Estimated Amount / Value of Item
				Stage 1 in Annexure A to Council.	1 of the Development, or prior to the issue of an Occupation Certificate in any subsequent Stage, whichever occurs first.		
3	Stage 2 Open Space	Open space and recreation	Works	Construction and embellishment of a minimum of 7,212 sqm of open space in accordance with the indicative landscape design in Annexure B and this agreement	Works to be completed prior to the dedication of land.	Park Works Security required in accordance with clause 12.2 prior to the issue of a Construction Certificate for any above-ground works in Stage 2.	See below total
			Works – Maintenance	Maintenance in accordance with the Maintenance Schedule required under this agreement	In accordance with clause 7.4.	Prior to practical completion, in accordance with clause 7.4(g)	2.5% of the cost of the Works.

No.	Item	Public Purpose	Type of Contribution	Scope	Timing of Provision	Timing for provision of Bank Guarantee	Estimated Amount / Value of Item
			Land Dedication	Dedication to Council of a minimum of 7,212 sqm of land identified for open space in Stage 2 in Annexure A to Council.	Land to be dedicated to Council prior to the issue of an Occupation Certificate for the last building in Stage 2 of the Development, or prior to the issue of an Occupation Certificate in any subsequent Stage, whichever occurs first.	N/A	Nil
Estimated Total for Contribution Items 2 and 3 plus road works in the East Site							\$10,480,924
4	Stage 3 Public Access Easement	Public pedestrian thoroughfare	Works	Construction and embellishment, at no cost to Council, of the Easement Site to provide for a public pedestrian thoroughfare in accordance with any Development Consent granted for those works.	Works to be completed prior to grant of the Public Access Easement.	N/A	N/A – no value attributed to the works on the Public Access Easement
			Grant of Public Access Easement	Registration of a public access easement over the Easement Site in accordance with clause 7.6.	In accordance with clause 7.6	N/A	Nil

No.	Item	Public Purpose	Type of Contribution	Scope	Timing of Provision	Timing for provision of Bank Guarantee	Estimated Amount / Value of Item
5	Stage 4 Open Space	Open space and recreation	Works	Construction and embellishment of a minimum of 14,914 sqm of open space in accordance with the indicative landscape design in Annexure B and this agreement	Works to be completed prior to the dedication of land.	Park Works Security required in accordance with clause 12.2 prior to the issue of a Construction Certificate for any above-ground works in Stage 4.	See below total
			Works – Maintenance	Maintenance in accordance with the Maintenance Schedule required under this agreement	In accordance with clause 7.4.	Prior to practical completion, in accordance with clause 7.4(g)	2.5% of the cost of the Works.
			Land Dedication	Dedication to Council of a minimum of 14,914 sqm of land identified for open space in Stage 4 in Annexure A to Council.	Land to be dedicated to Council prior to the issue of the first Occupation Certificate a building in Stage 4 of the Development.	N/A	Nil
Estimated Total for Contribution Items 4 and 5 plus road works in the West Site							\$10,596,490

No.	Item	Public Purpose	Type of Contribution	Scope	Timing of Provision	Timing for provision of Bank Guarantee	Estimated Amount / Value of Item
6	Affordable Housing Units	Housing Affordability	Works	<p>Construction and fit out of 24 Affordable Housing Units, with a minimum of 34 bedrooms within the Development, in accordance with the specifications at Annexure C and the terms of this agreement.</p> <p>12 Affordable Housing Units will be located within Stage 1 and 12 Affordable Housing Units will be located in Stage 3.</p>	Affordable Housing Units to be constructed, completed and an Occupation Certificate issued for the relevant Strata Lot prior to dedication.	N/A	See below total

No.	Item	Public Purpose	Type of Contribution	Scope	Timing of Provision	Timing for provision of Bank Guarantee	Estimated Amount / Value of Item
			Land Dedication	Dedication of 24 Affordable Housing Units to Council in accordance with clause 7.5	<p>12 Affordable Housing Units are to be dedicated to Council before the issue of the last Occupation Certificate for Stage 1 of the Development, or before the issue of an Occupation Certificate in any subsequent Stage, whichever occurs first.</p> <p>12 Affordable Housing Units are to be dedicated to Council before the issue of the last Occupation Certificate for Stage 3 of the Development, or before the issue of an Occupation Certificate in any subsequent Stage, whichever occurs first.</p>	Nil	See below total
Estimated Total for Contribution Item 6							\$16,169,411
7	Roadworks	Public Road, Roadworks, Regional traffic network	Works	Construction of roads, cycleways and footpaths in accordance with the indicative concept designs in Annexure B.	Prior to dedication of land for public road.	Prior to the issue of a Construction Certificate for the first building in a	Road works costs included in subtotals above

No.	Item	Public Purpose	Type of Contribution	Scope	Timing of Provision	Timing for provision of Bank Guarantee	Estimated Amount / Value of Item
			Land Dedication	Land for new roads as identified on the Land Dedication Plan at Annexure A to be dedicated to Council as a public road.	Prior to the issue of an Occupation Certificate for any building in the Stage containing the road to be dedicated	Stage that includes Road Works.	
TOTAL OF ALL CONTRIBUTION ITEMS (excluding Maintenance)							\$37,246,825

Schedule 2 Construction terms for the Works

1 Interpretation

For the purposes of this Schedule 2, the defined terms in clause 1 of this agreement and the Interpretation principles in clause 2 of this agreement will apply and, unless the context indicates a contrary intention:

Builder means any entity contracted under the Construction Contract to carry out the Works.

Construction Contract means the contract to carry out the Works (whether or not that is a contract for the Works only or forms part of a contract for the building of other components of the Development).

Defects Liability Period means in respect of the Works to which clause 10.4 of this Schedule applies, the period of 6 months from the date on which the Certificate of Practical Completion is issued for the Works.

Detailed Design means the final specifications and finishes for the Works prepared in accordance with clause 5.2 or clause 5.3 of this Schedule 2 and will include the design of the Works, the location for the Works, installation specifications and estimated costs of construction and/or installation.

Services means all water, gas, electricity, television, drainage, sewerage, cable TV, data communications, telecommunications and other services which are required under a development consent within the meaning of the Act or an Approval and which are necessary or desirable for the construction or operation of the Development.

Superintendent means the Superintendent appointed under any Construction Contract.

Works includes any part of the Works.

2 Requirements of Authorities and Approvals

2.1 These Construction Terms must be read and construed subject to:

- (a) any requirements or conditions of any Development Consent;
- (b) the requirements of and conditions imposed by all relevant Authorities and all Laws relating to the Development and the construction of the Development.

2.2 If the Developer requires any Approvals in order to carry out the obligations under this agreement, then the Developer will acquire all Approvals necessary to carry out the Works at its own cost.

2.3 The Developer must ensure that the Works carried out under this agreement are carried out:

- (a) in accordance with the relevant Development Consent for the Works and all Approvals and the requirements of all Laws, including without limitation, work health and safety legislation; and
- (b) in a good and workmanlike manner and so that they are diligently progressed until completion;

AND it is acknowledged that to the extent that there is any inconsistency between this agreement and any Approval the terms of the Approval shall take precedence.

3 Costs of Works

All costs of the Works must be borne by the Developer in accordance with clause 7.8 of this agreement.

4 Project Management and Contractor Engagement

4.1 The Developer will be responsible for managing the Works.

4.2 The Developer will ensure that any contractor it engages to carry out the Works agrees to:

- (a) carry out the Developer's obligations in these Construction Terms as part of any Construction Contract; and
- (b) request a Council representative to be present at each on-site meeting attended by the Superintendent and to ensure the Council representative is present at the meeting.

5 Design Development and Approvals

5.1 Concept Design for Works

Council and the Developer have worked in consultation with each other to prepare and agree the concept plans (**Concept Design**) for the Works at Annexure B.

5.2 Detailed Design for Park Works and Road Works

- (a) This clause 5.2 applies to the preparation of a Detailed Design for the Park Works, Road Works and any works to be carried out on the Easement Site.
- (b) Prior to submitting any Development Application or application for any other Approval for the Works, the Developer must provide a copy of the draft Detailed Design to the Council for approval, prepared in accordance with:
 - (i) the Concept Design;
 - (ii) any relevant Australian Standard; and
 - (iii) any relevant design standards or guidelines and any other requirements or policies applied by the Council from time to time in assessing the adequacy of any works or improvements proposed for public domain areas or public roads.
- (c) The Developer will obtain any relevant standards (including design standards), specifications, or guidelines and any other requirements or policies referred to in clause 5.2(b)(iii) of this Schedule from Council if the Council fails to deliver them to the Developer.
- (d) Within 28 Business Days of receiving the draft Detailed Design, Council will respond to the Developer with any suggested amendments to the Detailed Design.
- (e) Council and the Developer must work in consultation with each other to prepare and agree the Detailed Design and must both act reasonably, promptly and in good faith in their consultations with each other.
- (f) If the Detailed Design is not completed and agreed within 28 Business Days of Council providing its suggested amendments in accordance with clause 5.2(d) of this Schedule 2, to avoid possible delays to the issue of a Certificate of Practical Completion, the Council will, in its sole discretion, be entitled to decide on any outstanding or undecided matter or item relating to areas that are to be

accessible to the public, provided that any decision made by Council under this clause:

- (i) is consistent with the Concept Design for the Works;
 - (ii) is consistent with the obligation to carry out the Works and dedicate the Dedication Land under this agreement;
 - (iii) does not materially and adversely affect the Development; and
 - (iv) is not unreasonable.
- (g) Any acceptance by the Council of the Detailed Design under this clause 5.2 of Schedule 2 is not to be taken as approval of or to any Development Application or application for any other Approval for the Works.

5.3 Detailed Design for Affordable Housing Units

- (a) This clause 5.3 applies to the preparation of a Detailed Design for Affordable Housing Units.
- (b) Prior to submitting a Development Application for any building that will contain an Affordable Housing Unit or Units to be dedicated to Council under this agreement, the Developer must provide to Council draft plans for the building showing the location and layout of each Affordable Housing Unit in the building and specifications for fit out of each Affordable Housing Unit (together referred to in this clause as the Detailed Design).
- (c) The Affordable Housing Units must be designed in accordance with:
 - (i) the specifications in Annexure C;
 - (ii) any relevant design guidelines for affordable housing or residential flat buildings; and
 - (iii) so the Affordable Housing Units are of a quality and standard equivalent to other Residential Lots in the same building.
- (d) The Developer will obtain any relevant standards (including design standards), specifications, or guidelines and any other requirements referred to in clause 5.3(c) of this Schedule from Council, if the Council fails to deliver them to the Developer.
- (e) Within 28 Business Days of receiving the draft Detailed Design for Affordable Housing Units, Council will respond to the Developer with suggested amendments. For the avoidance of doubt, Council may request a change to the location and layout of any Affordable Housing Unit in the relevant building and the proposed fit out of each Affordable Housing Unit.
- (f) The Developer must make any changes to the Detailed Design requested by Council and provide final plans and specifications for approval within 15 Business Days of receiving the Council's response, provided that the requested changes:
 - (i) are consistent with the obligation to deliver the Affordable Housing Units under this agreement;
 - (ii) do not require construction standards and quality of materials for Affordable Housing Units to be higher than those applied to or used in other Residential Lots in the building; and

(iii) are not unreasonable.

- (d) Council and the Developer must act reasonably, promptly and in good faith to finalise the Detailed Design for Affordable Housing Units.
- (e) For the avoidance of doubt, any acceptance by the Council of the Detailed Design for Affordable Housing Units under this clause 5.3 is not to be taken as approval of or to any Development Application relating to those Affordable Housing Units.

6 Construction Drawings

- 6.1 Prior to applying for a Construction Certificate for any Works, or if a Construction Certificate is not required, prior to commencement of the Works, the Developer must provide to Council for approval draft construction drawings for those Works prepared in accordance with the Detailed Design.
- 6.2 Within 15 Business Days of receiving the draft construction drawings, Council may, acting reasonably, require a variation to the construction drawings to comply with the Detailed Design, the Building Code of Australia, any relevant Australian standard or any relevant design standards or guidelines referred to in clause 5.2(b) or clause 5.3(c) of this Schedule.
- 6.3 The Developer must amend the construction drawings in accordance with a requirement issued by Council under clause 6.2 of this Schedule.
- 6.4 For the avoidance of doubt, any approval of the construction drawings provided by the Council under this clause 6 is not to be taken as approval of or to any Construction Certificate for the Works.

7 Review of Construction Document

The Developer acknowledges and agrees that:

- (a) Council may, but is not obliged to critically analyse the draft Detailed Design and draft construction drawings for the Works in accordance with clauses 5 and 6 of this Schedule;
- (b) Council is not responsible for any errors, omissions or non-compliance with any Law or the requirement of any Authority by reason of approving the Detailed Design and construction drawings for the Works;
- (c) Council is not liable for any liability, loss or cost incurred by the Developer Parties, or any Claim made against the Developer Parties, because of any defect in the design or construction of any part of the Works; and
- (d) no comment, review or information supplied to the Developer by Council alters or alleviates the obligation to construct and complete the Works in accordance with this agreement.

8 Carrying out of Works

8.1 Communication

The Developer must keep Council reasonably informed of progress of the Works and provide to Council such information about the Works as Council reasonably requests.

8.2 Standard of Works

- (a) The Developer must procure the execution and completion of the Works and must cause the Builder to use suitable new materials and proper and tradesmanlike workmanship when carrying out the Works.
- (b) The Works must be diligently progressed to Practical Completion in accordance with:
 - (i) the Detailed Design and construction drawings approved by Council under this Schedule;
 - (ii) any Development Consent and Approvals applying to the Works;
 - (iii) the requirements of all Laws, including without limitation, workplace health and safety legislation; and
 - (iv) the obligations of this agreement.
- (c) The Developer must not commence construction of any Works until it has given the Council copies of all Approvals necessary for the construction of the Works.
- (d) The Developer may but is not obliged to reinstate any Works where damage or destruction is as a result of:
 - (i) any act or omission of the Council or its employees, consultants or agents relating to any part of the Works under this agreement; or
 - (ii) the use or occupation by the Council or its employees, consultants or agents, Council's representatives or other contractor of the Council of any part of the Works.

8.3 Damage to people, property & utilities

- (a) The Developer is to ensure to the fullest extent reasonably practicable that, in performing its obligations under this agreement:
 - (i) all necessary measures are taken to protect people and property;
 - (ii) unnecessary interference with the passage of people and vehicles is avoided; and
 - (iii) nuisances and unreasonable noise and disturbances are prevented.
- (b) Without limiting clause 8.3(a) of this Schedule, the Developer is not to obstruct, interfere with, impair or damage any public road, public footpath, public cycleway or other public thoroughfare, or any pipe, conduit, drain, watercourse or other public utility or service on any land except as authorised in writing by the Council or any relevant Authority.

9 Inspection

- (a) On completion of the Detailed Design, the Council will provide a schedule of inspections to be undertaken by Council (**Inspection Schedule**) to occur at specified stages of the construction of the Works (**Inspection Stage**). If the Council does not provide the Inspection Schedule, the Developer must request the Inspection Schedule from the Council prior to the Works commencing.

- (b) Ten (10) Business Days prior to reaching an Inspection Stage as set out in the Inspection Schedule, the Developer must notify the Council of the proposed inspection date (**Inspection Date**).
- (c) On the Inspection Date, or other agreed date, the Developer must ensure that any employees, contractors, agents or representatives of Council have access to and may enter the Land to inspect the Works.
- (d) In addition to carrying out inspections in accordance with the Inspection Schedule, the Council may enter the Land or any part of the Land on which the Works are located to inspect the progress of the Works, subject to:
 - (i) the terms of the Construction Contract (save for any clause of the Construction Contract which prevents the Council from accessing the Land);
 - (ii) giving reasonable notice to the Developer;
 - (iii) complying with all reasonable directions of the Developer; and
 - (iv) being accompanied by the Developer or a nominee, or as otherwise agreed.
- (e) The Council may, acting reasonably, within 5 Business Days of carrying out an inspection (either under clause 9(c) or 9(d) of this Schedule 2), notify the Developer of any defect or non-compliance in the Works and direct the Developer to carry out work to rectify that defect or non-compliance within a reasonable period of time. Such work may include, but is not limited to:
 - (i) removal of defective or non-complying material;
 - (ii) demolishing defective or non-complying work;
 - (iii) reconstructing, replacing or correcting any defective or non-complying work; and
 - (iv) not delivering any defective or non-complying material to the site of the Works.
- (f) If the Developer is issued a direction to carry out further work under clause 9(e) of this Schedule 2, the Developer must, at its cost, rectify the defect or non-compliance specified in the Notice within the time period specified in the Notice, provided that it is reasonable having regard to the nature of the works.
- (g) If the Developer fails to comply with a direction to carry out work given under 9(e) of this Schedule 2, the Council will be entitled to refuse to accept that the Works (or the relevant part of the Works) meet the Council's standards and specifications and may refuse to issue a Certificate of Practical Completion, until the required Works have been completed to the Council's satisfaction, acting reasonably.
- (h) For the avoidance of doubt, any acceptance by the Council that the Developer has rectified a defect or non-compliance identified in a notice issued under 9(e) of this Schedule 2 does not constitute:
 - (i) acceptance by the Council that the Works comply with all Approvals and Laws; or
 - (ii) an Approval by the Council in respect of the Works; or

- (iii) an agreement or acknowledgment by the Council that the Works or the relevant part of the Works are complete and may be delivered to the Council in accordance with this agreement.

10 Completion

10.1 Practical Completion

- (a) When the Developer considers that the Works, or any part of the Works, are complete, the Developer must send a Notice to the Council accompanied by complete works as executed plans, any relevant certificates or consents of any public utility authority and a request for written certification from the Council that the Works are complete.
- (b) Within 10 Business Days of receipt of the notice under clause 10.1(a) of this Schedule 2, the Council will carry out an inspection of the Works and will, acting reasonably, either:
 - (i) provide written certification to the Developer that the Works have been completed; or
 - (ii) notify the Developer of any additional information required or matters which must be addressed by the Developer prior to the certification being issued.
- (c) If the Developer is required to provide additional information or address any matters under clause 10.1(b)(ii) of this Schedule 2, the Developer will provide that information to Council or address those matters within 10 Business Days of receiving the notice or within a reasonable period of time and make a further request under clause 10.1(a) of this Schedule 2 for written certification that the Works have been completed.
- (d) Practical completion will be achieved in relation to the Works or any part of the Works when a Certificate of Practical Completion has been issued for those Works.

10.2 Delivery of documents

- (a) The Developer must as soon as practicable, and no later than 20 Business Days after the date on which the Certificate of Practical Completion is issued in respect of the Works or any part of the Works deliver to the Council, complete and legible copies of:
 - (i) all "as built" full-sized drawings, specifications and relevant operation and service manuals;
 - (ii) all necessary certificates including the certificates of any consultants of the Developer that the Council may reasonably require, and Approvals of any public utility authority (where relevant); and
 - (iii) copies of all Approvals required for use of the land subject to the Works.
- (b) The Developer must as soon as practicable, and no later than 20 Business Days after the date on which the Certificate of Practical Completion is issued in respect of the Works or any part of the Works, provide the Council with a tour of the land subject to the Works and provide reasonable instructions on the operation and use of the Services on that land.

10.3 Assignment of Warranties and Causes of Action

- (a) The Developer must assign (as beneficial owner) or cause to be assigned to Council the benefit of any warranties and guarantees obtained by the Developer and the Builder (and capable of assignment) with respect to any material or goods incorporated in or forming part of the Works.
- (b) To the extent that any such warranties or guarantees cannot be assigned, the Developer must at the request of Council do anything reasonably required by Council to enforce such warranties or guarantees for the benefit of Council.

10.4 Defects Liability Period

- (a) This clause 10.4 of this Schedule applies to works to construct and fit out Affordable Housing Units to be delivered under this agreement.
- (b) During the Defects Liability Period, the Council (acting reasonably) may give to the Developer a notice (**Rectification Notice**) in writing that identifies a defect in the Works and specifies:
 - (i) action required to be undertaken by the Developer to rectify that defect (**Rectification Works**); and
 - (ii) the date on which the defect must be rectified (**Rectification Date**).
- (c) The Developer must comply with the Rectification Notice by:
 - (i) procuring the performance of the Rectification Works by the Rectification Date, or such other date as agreed between the parties;
 - (ii) keeping the Council reasonably informed of the action to be taken to rectify the defect; and
 - (iii) carrying out the Rectification Works.
- (d) The Council must give the Developer and its contractors any access required to carry out the Rectification Works.
- (e) When the Developer considers that the Rectification Works are complete, either the Developer must notify the Council and provide documentation, plans or invoices which establish that the Rectification Works were carried out.
- (f) The Council may inspect the Rectification Works within 15 Business Days of receiving a Notice from the Developer under clause 10.4(e) of this Schedule 2 and, acting reasonably:
 - (i) issue a further Rectification Notice if it is not reasonably satisfied that the Rectification Works are complete; or
 - (ii) notify the Developer in writing that it is satisfied the Rectification Works are complete.
- (g) The Developer must meet all costs of and incidental to rectification of defects under this clause 10.4.
- (h) If the Developer fails to comply with a Rectification Notice, then the Council may do such things or take such action as is necessary to carry out the Rectification Works, including accessing and occupying any part of the Land without further notice to the Developer, and may recover as a debt due to the Council by the

Developer in a court of competent jurisdiction the costs incurred by the Council in carrying out Rectification Works.

- (i) The Developer must request that Council inspect the Works 28 days prior to the end of the Defects Liability Period. The Council must inspect the Works at any time after receiving the request from the Developer and before the end of the Defects Liability Period.
- (j) If, prior to the end of the Defects Liability Period:
 - (i) the Developer fails to request the inspection, or
 - (ii) the Council does not carry out the inspection,
 the Council may extend the Defects Liability Period so that the inspection may be carried out.

11 Risk

The Developer undertakes the Works entirely at its own risk.

12 Insurance

- (a) Prior to the commencement of the construction of any of the Works, the Developer must ensure the Builder effects and the Developer must produce evidence to the Council of the following insurances issued by an insurer approved by the Council (acting reasonably) in a form approved by the Council (acting reasonably):
 - (i) construction works insurance for the value of the Works;
 - (ii) public risk insurance for at least \$20 million per claim;
 - (iii) workers compensation insurance as required by Law.
- (b) The Developer must provide evidence of currency of insurance required by clause 12(a) of this Schedule 2 upon request by the Council, acting reasonably, throughout the term of this agreement.

13 Indemnities

The Developer indemnifies the Council, its employees, officers, agents and contractors from and against all Claims in connection with the carrying out by the Developer of the Works except to the extent such Claim arises as a result of the negligence, default, act or omission of the Council or its employees, officers, agents or contractors.

14 Intellectual Property Rights

The Council acknowledges that the Developer or its contractors hold all rights to copyright and any intellectual property which may exist in the Works. To the extent the Developer has or receives intellectual property rights for the Works, the Developer shall assign those intellectual property rights to Council or permit use thereof.

15 Risk of contamination

- (a) This clause 15 of Schedule 2 applies to all Dedication Land.
- (b) In this clause:

Assessment Guidelines means the following guidelines and any other guidelines made or approved by an Authority under section 105 of the CLM Act:

- National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)
- NSW EPA (1995) Sampling Design Guidelines
- NSW OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites

CLM Act means the *Contaminated Land Management Act 1997*;

Contamination and **Contaminated Land** have the same meaning as in the CLM Act;

Consultant means an appropriately qualified environmental consultant, certified by one of the following schemes:

- the Site Contamination Practitioners Australia (SCPA) scheme
- the Environment Institute of Australia and New Zealand's (EIANZ) Contaminated Land Assessment Specialist Certified Environmental Practitioner (CLA Specialist CEnvP) scheme
- the Soil Science Australia (SSA) Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) certification

and, if undertaking and reporting on asbestos sampling, with a minimum of 2 years continuous relevant experience in the identification and management of asbestos contamination;

Contamination Planning Guidelines means the Contaminated Land Planning Guidelines under the CLM Act, being as at the date of this agreement *Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land* dated 1998;

CSM means conceptual site model;

Detailed Investigation Report means a report prepared by a Consultant detailing the outcome of a detailed site investigation as described in the Contamination Planning Guidelines;

Preliminary Investigation Report means a report prepared by a Consultant detailing the outcome of a preliminary investigation as defined in SEPP 55 and the Contamination Planning Guidelines;

RAP means a Remediation Action Plan or Remedial Action Plan as described in the Contamination Planning Guidelines;

Remediation has the same meaning as in the CLM Act;

Remediation Standard means the standard specified in clause 15(c) of this Schedule;

SEPP 55 means *State Environmental Planning Policy No 55 – Remediation of Land*;

Site Audit Report, Site Audit Statement and **Site Auditor** have the same meaning as in the CLM Act; and

Validation Report means a report prepared by a Consultant on completion of Remediation as described in the Contamination Planning Guidelines.

- (c) Prior to dedication or transfer:
 - (i) Land for open space and recreation must meet or be Remediated to Residential "C" standard as specified in Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013); and
 - (ii) All other land must meet or be Remediated to a standard suitable for its intended use.
- (d) The Developer must, at its cost, assess all Dedication Land for Contamination and carry out any Remediation of that land in accordance with this clause 15, the CLM Act, SEPP 55 and any other legislation and guidelines relating to the remediation of contaminated land.
- (e) All assessments and reports required under this clause must be carried out in accordance with the Assessment Guidelines.
- (f) Prior to lodgement of a Development Application for any Works on Dedication Land, the Developer must provide to Council a Preliminary Investigation Report, despite any conclusion the Developer has reached about whether or not Contamination is an issue on the Dedication Land.
- (g) The Preliminary Investigation Report must include, but is not limited to, the following information:
 - (i) land history,
 - (ii) any past or present potentially contaminating activities on the Dedication Land or adjoining land;
 - (iii) a preliminary assessment of any Contamination including a CSM identifying sources, pathways and receptors; and
 - (iv) where contaminating activities are suspected to have had an impact on the land or the land use history is incomplete, the results of any sampling and analysis undertaken to confirm the extent of any potential Contamination.
- (h) If a Preliminary Investigation Report indicates that the land the subject of that report may be or is potentially contaminated, the Developer must engage a Consultant to carry out a detailed site investigation and provide a Detailed Investigation Report to Council as part of any Development Application, or other application for an Approval, for the Works on the relevant land.
- (i) The Detailed Investigation Report must include, but is not limited to, the following information:
 - (i) the nature, extent and degree of Contamination on, in or under the relevant land;
 - (ii) a revision of the CSM based on the results of the detailed site investigation;

- (iii) an assessment of the potential risk posed by contaminants to human health and the environment; and
 - (iv) a clear statement as to whether the relevant land meets the Remediation Standard.
- (j) If the Detailed Investigation Report provides that Remediation of the relevant land is required, the Developer must engage a Consultant to prepare a RAP and provide a draft of the RAP to Council.
- (k) The draft RAP must include, but is not limited to, the following information:
 - (i) the process by which the relevant land should be Remediated and how the Remediation will be validated to demonstrate the site meets the Remediation Standard; and
 - (ii) if there are several options for Remediation, details as to the process for each option, identification of the preferred option for Remediation and the reasons why that option is preferred, including details for each option of the likely ongoing maintenance obligations and estimated costs of maintenance.
- (l) Council may consider the draft RAP and, within 10 Business Days of receiving the draft RAP, provide comments on the draft RAP including any preferences Council has for Remediation of the land.
- (m) The Developer must require the Consultant to have regard to the Council's comments and preferences when finalising the RAP and, where options for remediation are available, direct the Consultant to prepare the RAP based on Council's preferred option.
- (n) The Developer must obtain all Approvals required to Remediate the land and must carry out the Remediation in accordance with those Approvals, the RAP and Council's preferences for Remediation, so that the site meets the Remediation Standard.
- (o) On completion of Remediation, the Developer must provide to Council a Validation Report that includes, but is not limited to, the following information:
 - (i) a description of, and documentary evidence confirming, all Remediation works that have been performed;
 - (ii) results of validation testing and monitoring;
 - (iii) a clear statement as to whether the relevant land meets the Remediation Standard;
 - (iv) if Council has approved that any residual contamination may be left onsite, a site environmental management plan that includes:
 - (A) a description of the exact location, depth and lateral extent of contamination left onsite;
 - (B) a risk assessment of potential exposures scenarios, including demonstration that there is no off-site migration of contamination from the site, or where there is off-site migration or its potential, that contamination within the site is managed or monitored so it does not

- present an unacceptable risk to either the on-site or off-site environments;
- (C) likely receptors and necessary control measures to management inadvertent exposure;
 - (D) responsible parties including who will be the responsible entity to implement the management plan; and
 - (E) an approved long term Site Management Plan (or equivalent management plan resulting from revisions of the approved long term Site Management Plan) is to remain in place and be implemented until such time as it is determined by Council that a long term Site Management Plan is no longer required.
- (p) Council will not accept dedication of any part of the Dedication Land that is subject to residual contamination, unless otherwise previously approved by Council.
- (q) Prior to dedication or transfer of any Dedication Land to Council, Council may, at its sole discretion, require the provision of a Site Audit Report and Site Audit Statement prepared by a Site Auditor, confirming that any Contamination of the land does not present a risk of harm to human health or any other aspect of the environment and that the relevant land meets the Remediation Standard.
- (r) The Developer must comply with any conditions of a Site Audit Statement, including any measures required to be implemented to ensure any ongoing monitoring obligations.

Schedule 3 Summary of requirements (section 7.4)

Subject and subsection of the Act	Planning Agreement
Planning instrument and/or Development Application – Section 7.4(1) The Developer has: <ul style="list-style-type: none"> (a) Sought a change to an environmental planning instrument <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (b) Made, or propose to make a Development Application <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (c) Entered into an agreement with, or are otherwise associated with, a person to whom paragraph (a) or (b) applies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 	
Description of the land to which the planning Agreement applies – Section 7.4(3)(a)	See Schedule 4.
Description of the change to an environmental planning instrument or development – Section 7.4(3)(b)	See the definition of Planning Proposal, Instrument Change and Development in clause 1.
The scope, timing and manner of delivery of contribution required by the Planning Agreement – Section 7.4(3)(c)	See clause 7 and the Contributions Table in Schedule 1.
Applicability of section 7.11 of the Act – Section 7.4(3)(d)	See clause 8.
Applicability of section 7.12 of the Act – Section 7.4(3)(d)	See clause 8.
Applicability of section 7.24 of the Act – Section 7.4(3)(d)	See clause 8.
Mechanism for dispute resolution – Section 7.4(3)(f)	See clause 11.
Enforcement of the Planning Agreement – Section 7.4(3)(g)	See clause 12.
Registration of the Planning Agreement – Section 7.4(3)(g) and section 7.6	See clause 9.
No obligation to grant consent or exercise functions – Section 7.4(9)	See clause 15.

Schedule 4 Land

Address	Lot and DP Reference	Registered Proprietor
EAST SITE		
112 Wharf Road, Melrose Park	Lots 1-3 DP 127049	112 Wharf Road Pty Limited
112 Wharf Road, Melrose Park	Lot 7 DP 511531	112 Wharf Road Pty Limited
30 Waratah Street, Melrose Park	Lot 100 DP 519737	112 Wharf Road Pty Limited
1 Mary Street, Melrose Park	Lot 1 DP 519737	112 Wharf Road Pty Limited
1 Mary Street, Melrose Park	Lot 6 DP 511531	112 Wharf Road Pty Limited
WEST SITE		
82 Hughes Avenue, Melrose Park	Lot 3 DP 602080	357 Hughes Avenue Pty Ltd

Schedule 5 Planning Proposal

	Existing	Proposed
Zoning	IN1 General Industrial	R4 High Density Residential RE1 Public Recreation (limited to public open space areas)
Land reserved for acquisition	-	Amend to include the RE1 zoned land
Height	12 metres	Up to 77 metres
FSR (Net FSR)	1:1	2.47:1 and 2.73:1
Minimum non-residential FSR	-	Minimum 1,000 sqm
Additional permitted use	-	Permit 'food and drink premises' in the R4 High Density Residential zone
Design excellence	-	Introduce design excellence provisions for buildings of 55m and above in height without the provision of bonuses.

Schedule 6 Staging Plan



FIGURE 3.4 Holdmark Sites - Illustrative Plan

Schedule 7 Easement Terms

- 1 The owner of the Easement Site grants to the Council and members of the public full and free right to go, pass and repass over the Easement Site at all times:
 - (f) with or without companion animals (as defined in the Companion Animals Act 1998) or other small pet animals; and
 - (g) on foot without vehicles (other than wheelchairs or other disabled access aids), unless vehicles are being used to access the building on the Land via clearly identified entry and exit points;
 for all lawful purposes.
- 2 The owner of the Easement Site must, to the satisfaction of Council, acting reasonably:
 - (i) keep the Easement Site (including any services in, on or under the Easement Site) in good repair and condition;
 - (ii) maintain and repair the Easement Site and all improvements on the Easement Site;
 - (iii) keep the Easement Site clean and free from rubbish; and
 - (iv) maintain sufficient public liability insurance covering the use of the Easement Site in accordance with the terms of this Easement.
- 3 The owner of the Easement Site must ensure that any rules made by an Owner's Corporation relating to the Easement Site have been approved by the Council, acting reasonably.
- 4 If any member or members of the public loiter or congregate, for any purpose which the owner of the Easement Site, acting reasonably, considers to be a nuisance or a safety risk, the owner may either remove those members of the public, or arrange for their removal by an appropriate authority.
- 5 The owner of the Easement Site may erect safety signage and any other appropriate signage and may erect CCTV cameras in the Easement Site.
- 6 The owner of the Easement Site may engage security personnel to monitor and control the behaviour of the public including but not limited to prohibiting smoking, consumption of alcohol (except within licensed areas), passage of animals, bicycles and skateboards and the like in accordance with any rules made by an Owner's Corporation relating to the Easement Site.
- 7 The owner of the Easement Site may with the Council's prior written consent (except in the case of an emergency, in which case the Council's prior written consent is not required) temporarily close or temporarily restrict access through all or part of the Easement Site for the time and to the extent necessary but only on reasonable grounds for the purposes of:
 - (a) construction, construction access, repairs, maintenance, replacement and alteration to the Easement Site or any improvements in, on or under the Easement Site; or
 - (b) security, public safety or evacuation of the Easement Site and adjoining buildings.

- 8 Subject to ensuring the provision of access in accordance with above clause 1 of this Schedule, the owner of the Easement Site may, provided any necessary planning approvals are obtained:
- (h) carry out works in the Easement Site for the purposes of enhancing the Easement Site;
 - (i) install or erect works of art, street furniture, awnings, tables and chairs associated with ground floor commercial premises, notice boards or any other similar improvements at ground level within the Easement Site; and
 - (j) use the Easement Site,
- in a manner consistent with Parramatta City Council Outdoor Dining Policy adopted 9 July 2012 and amended 25 February 2013, or any such policy of the Council that replaces that policy.
- 9 The Council is solely empowered to release this Easement.
- 10 This Easement may only be varied by written agreement between the Council and the owner of the Easement Site.

Executed as an agreement

Signed on behalf of **City of Parramatta Council** (ABN 49 907 174 773) by its authorised delegate pursuant to section 377 of the *Local Government Act 1993* in the presence of:

Signature of witness

Signature of authorised delegate

Name of witness

Name of authorised delegate

Address of witness

Position of authorised delegate

Executed by Wharf and Hughes)
Development Pty Ltd ACN 655 633 426)
 in accordance with section 127 of the)
Corporations Act 2001 (Cth) by:)
)
)

.....
 Signature of Sole Director and Sole
 Secretary

.....
 Print name of Sole Director and Sole
 Secretary

Executed by 112 Wharf Road Pty Ltd)
ACN 606 374 538 in accordance with)
section 127 of the *Corporations Act 2001*)
(Cth) by:)
)
)

.....
Signature of Sole Director and Sole
Secretary

.....
Print name of Sole Director and Sole
Secretary

Executed by 357 Hughes Avenue Pty)
Ltd ACN 629 274 675 in accordance with)
section 127 of the *Corporations Act 2001*)
(Cth) by:)
)
)

.....
Signature of Sole Director and Sole
Secretary

.....
Print name of Sole Director and Sole
Secretary

Annexure A Land Dedication Plan



Annexure B Infrastructure Services Delivery Plan and
Landscape Design

Infrastructure Services Delivery Plan

Melrose Park South Precinct (Wharf and Hughes Developments Pty Ltd)

[August 2022]

Works listed in Schedule 1 of the Planning Agreement between
the City of Parramatta and Holdmark Pty Ltd

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Purpose

The Melrose Park South Holdmark Development Infrastructure Services Delivery Plan (ISDP) is a document which details the items of work to be delivered by way of a Planning Agreement between Wharf and Hughes Developments Pty Ltd (the Developer) and the City of Parramatta (the Council).

The physical and social renewal of the area will be supported by the appropriate provisions of infrastructure necessary to support the existing and new community. The works set out in the ISDP have been designed consistent with the Melrose Park South Structure Plan (refer to Figure A).

This ISDP has been prepared to assist in the preparation, negotiation, and implementation of the Planning Agreement. This ISDP includes:

- A more detailed description of the scope of works showing the general location and configuration of works on the site;
- A budget estimate (ex. GST) for the delivery of the item based on the scope of works and/or concept plans referenced; and
- A rationale for the staging of delivery of each item of works based on Development Area/Stage or lot threshold of works. An indicative staging plan in Part D identifies the development stages/areas for the works.

In reading this document, the following should be noted:

- The Description of the Works outlines the scope of works proposed to be delivered.
- These cost estimates include allowances for contingency, professions fees, approvals, maintenance and defects liability period.
- All hard landscaping works will be maintained by the Developer for a period of 24 months from the completion of works. Soft landscaping works will be maintained by the Developer for a minimum of 60 months from the date of completion.
- Maintenance means works to bring an item to a state of reasonable condition and in accordance with relevant standards applicable at the time of construction of the item, including repairing any defects due to use of poor materials or due to poor workmanship, but does not include removing graffiti or repairing any item damaged as a consequence of vandalism.
- The estimated budgets are outlined to give an understanding and context to the scope of works proposed. There is nothing to stop the same works being delivered at a reduced cost if efficiencies can be negotiated at tender or through the detailed design stage. Any cost savings achieved by the Developer do not need to be passed on to Council. Conversely any additional costs incurred shall be borne by the Developer.
- For the ISDP items, a scope of works has been defined as a performance specification (i.e. Roads, drainage, utilities etc.).

The following schedules provided in Part A-F of the ISDP detail the scope, budget and staging of all items of works consistent with Schedule 1 of the Planning Agreement. This document and its schedules will form an Annexure to the Planning Agreement. The terms in this document are subject to the more specific terms agreed between the parties under other parts of the Planning Agreement and if there is any inconsistency, the terms of the Planning Agreement (other than this document) prevail.

Proposed development

Melrose Park South (Wharf and Hughes Developments Pty Ltd) Development will be transformed from an industrial estate to a waterfront mixed use precinct, including approximately 1,925 dwellings, 1,000 sqm of non-residential floorspace, new public roads and new public open space.



Figure A: Approved Structure Plan showing indicative built form, Holdmark Site's highlighted in red dotted line

Timing

The development is anticipated to begin within 12 months of the proposed amendment to the LEP, subject to development consents being granted. The development is anticipated to be delivered over 8 – 10 years; the timing will be dependent on market conditions. A high-level staging plan is provided in Part D of this ISDP.

Planning Agreement Summary Table

No	Item	Public Purpose	Scope	Contribution Value	Timing
1	West Site	Public Open Space – dedication and embellishment New roads and cycleways	Road works and cycleway (refer to Offset Plan at Part E).	\$21,077,414	Within 6 months after the occupation of the relevant stage.
2	East Site		Open Space: new parks with an area of 14,914 sqm (west site) and 10,208 sqm (east site) will be dedicated to Council and embellished. Publicly assessment private land – easement placed over private land to allow for 24/7 public access at ground level and basements to be constructed below ground (refer to Part G). Maintenance for 5 years. (soft landscaping). Maintenance for 2 years (hard		Within 6 months after the occupation of the relevant stage.

			landscaping)		
3	Affordable Housing	Affordable Housing	Construction, fit out and dedication to Council of 24 affordable housing units with a minimum of 34 bedrooms.	\$16,169,411	<p>50% of total affordable housing units to be dedicated before the issue of the last occupancy certificate for stage 1 of the development or before the issue of an occupancy certificate in any subsequent stage. Whichever occurs first.</p> <p>50% of total affordable housing units to be dedicated before the issue of the last occupancy certificate for stage 3 of the development or before the issue of an occupancy certificate in any subsequent stage. Whichever occurs first.</p>
	Total			\$37,246,825	

Part A: Development Contribution – Carrying Out of Works

The following lists the items of works and a discussion on the scope, budget and staging in order as they appear in Schedule 3 of the Planning Agreement

1. West Site

Public purpose	Various – including roadworks, the dedication (at no cost to Council) and embellishment of the western public open space.
Development Area/Staging Rationale	Various – refer to Planning Agreement Staging Plan.
Description of Works	<p>Road Works: the construction of new roadways (refer to Part F for road specifications). Given the roads within the precinct also service the proposed development, only 50% of the value has been offset as part of the VPA calculations (refer to Offset Plan at Part E).</p> <p>Open Space: a new park with an area of 14,914 sqm will be dedicated to Council (with a \$0 value assigned for the purpose of this VPA). The park will also be embellished generally in accordance with the indicative landscape plan which is attached to this letter.</p> <p>Publicly Accessible Private Land: easement placed over private land to allow for 24/7 public access at ground level and basements to be constructed below ground (refer to Part G).</p>
Core Elements	<ul style="list-style-type: none"> • Roadways. • Easement of private land to allow for public access. • Embellishment of western park – including: <ul style="list-style-type: none"> ○ Site formation, cut/fill and walls ○ Amenities building ○ Footpaths and paving ○ Landscaping, including soft/hard landscaping and mature trees ○ Children’s playground (District Playground, including facilities for around 5-10 yr old children) ○ Furniture (signs, bins, benches, tables, BBQs and signage) <p>All works will be design in accordance with site specific DCP and Public Domain Manual. The proposed park will be designed in accordance with the NSW Government’s “Everyone can play document”, to ensure inclusive play.</p>
Estimates Works Value:	\$10,596,490

2. East Site

Public Purpose:	Various – including roadworks, the dedication (at no cost to Council) and embellishment of the eastern public open space.
Development Area/Staging Rationale:	Various – refer to Planning Agreement Staging Plan.
Description of Works:	<p>Road Works: the construction of new roadways (refer to Part F for road specifications). Given the roads within the precinct also service the proposed development, only 50% of the value has been offset as part of the VPA calculations (refer to Offset Plan at Part E).</p> <p>Open Space: three new parks with a combined area of 10,208 sqm (excluding land for the Parramatta Light Rail corridor) will be dedicated to Council (with a \$0 value assigned for the purpose of this VPA). The areas will also be embellished generally in accordance with the indicative landscape plan which is attached to this letter.</p> <p>Cycleways: the construction of cycleways in accordance with Council's requirements (refer to Offset Plan at Part E).</p>
Core Elements:	<ul style="list-style-type: none"> • Roadways. • Cycleways. • Embellishment of western park – including: <ul style="list-style-type: none"> ○ Site formation, cut/fill and walls ○ Amenities building ○ Footpaths and paving ○ Landscaping, including soft/hard landscaping and mature trees ○ Furniture (signs, bins, benches, tables, BBQs and signage) <p>All works will be design in accordance with site specific DCP and Public Domain Manual.</p> <p>The proposed park will be designed in accordance with the NSW Government's "Everyone can play document", to ensure inclusive play.</p>
Estimated Works Value:	\$10,480,924

3. Affordable Housing

Public purpose:	Affordable Housing
Development Area/Staging Rationale	<p>50% of total affordable housing units to be dedicated before the issue of the last occupancy certificate for stage 1 of the development or before the issue of an occupancy certificate in any subsequent stage. Whichever occurs first.</p> <p>50% of total affordable housing units to be dedicated before the issue of the last occupancy certificate for stage 3 of the development or before the issue of an occupancy certificate in any subsequent stage. Whichever occurs first.</p>
Description of works	<p>Dedication of 24 affordable housing units with a minimum of 34 bedrooms.</p> <p>Finishing to include all fixtures and fittings to enable occupation include but not limited to:</p> <ul style="list-style-type: none"> • Air conditioning (split system) • Floor coverings • Window dressings • Dishwasher • Kitchen appliances
Core Elements	<ul style="list-style-type: none"> • Carry out works to of 24 affordable housing units with a minimum of 34 bedrooms. • Each unit must have been issued an Occupation Certificate and be fit for purpose.
Estimates Works Value:	\$16,169,411

4. Publicly Accessible Private Land

Public purpose:	Pedestrian link
Development Area/Staging Rationale	To be dedicated before the issue of the last occupancy certificate for stage 3 of the development.
Description of works	Creation of an easement in favour of the public to be used as a pedestrian link.
Core Elements	<p>The easement will be open 24/7 to the public and will be used as a pedestrian link.</p> <p>The easement will have an area of approximately 2,000sqm and an approximate width of 12 metres.</p> <p>Development below ground level for the purpose of basements and car parking for the proposed mixed-use development may occur beneath the easement.</p>
Estimates Works Value:	N/A

Part B: Land Dedication and Acquisitions Provisions

A significant amount of Public Land exists within the project site. Much of that land will remain as public land during and after the redevelopment process, while additional public land will also be created. There are two types of land proposed to be dedicated to City of Parramatta upon the completion of the works identified in this plan. These are:

- Public Roads (in accordance with the provisions of the Roads Act, 1993); and
- Community Land for use as Parks and Open Space (in accordance with the provisions of the Local Government Act 1993).

1. Associated Costs

It is important to recognise that the cost estimates do not include any value associated with the acquisition or dedication of land to Council for the purposes of roads and public open space. Land is to be dedicated to Council at nil cost.

2. Dedication Timing

Following the completion of construction and embellishment works in accordance with this ISDP, all public roads and open space areas shall be dedicated to Council as part of the relevant subdivision certificate process for that stage of development.

3. Public Roads

In order to facilitate the construction of new road connections and intersections, the proposed redevelopment will require that new public roads built and dedicated in accordance with the new subdivision layout.

4. Parks and Open Space

The proposed master plan provides approximately 25,122 sqm (excluding land for the Parramatta Light Rail Corridor) of new open space which includes a new waterfront park along the eastern and western side of the Melrose Park foreshore. The open space will be dedicated to Council as public reserves in accordance with the timing reflected in this ISDP or at a mutually agreeable time.

5. Land Remediation

During the redevelopment process, localised existing areas of contaminated ground may become disturbed. As part of the redevelopment works, contaminated lands will require validation before handover / dedication in line with terms agreed with Council outlined in the Voluntary Planning Agreement.

Part C: Indicative Land Dedication Plan






Part D: Indicative Staging Plan

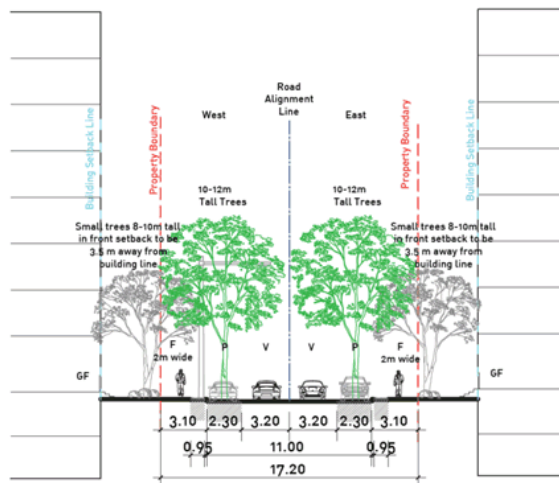
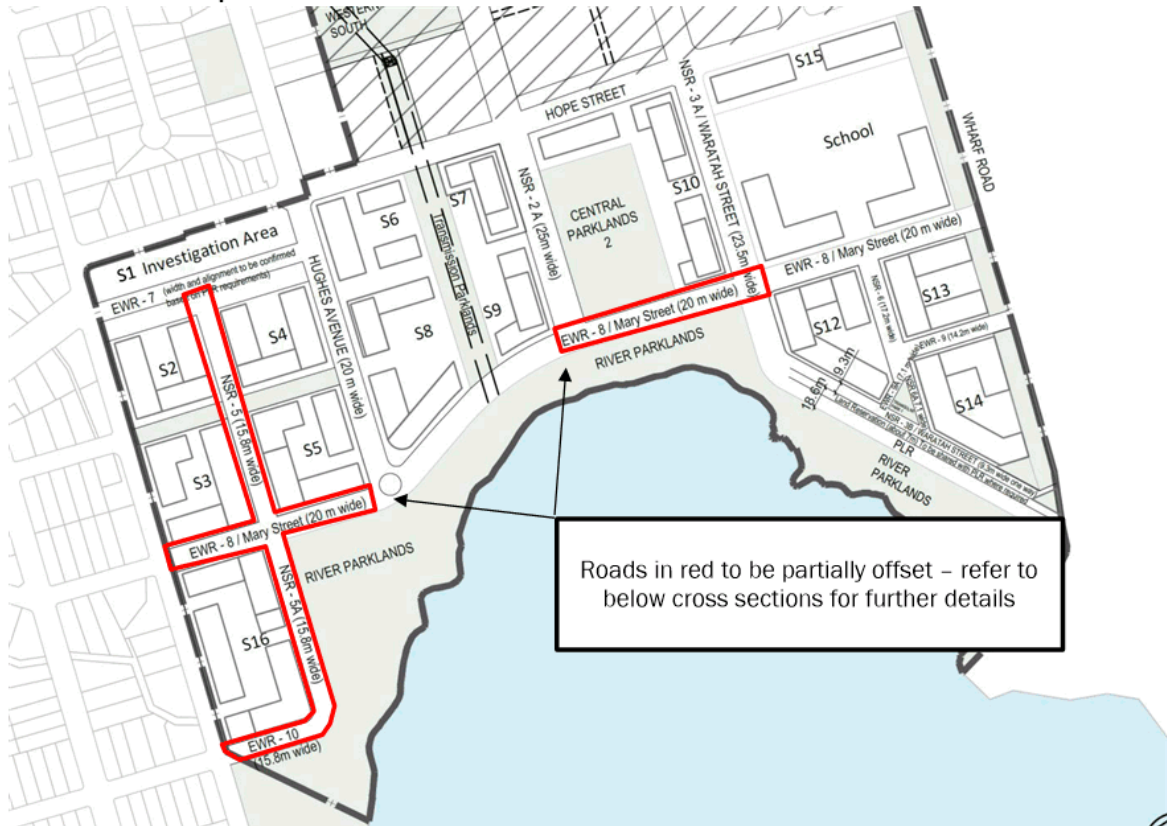


Part E: Offset Plan

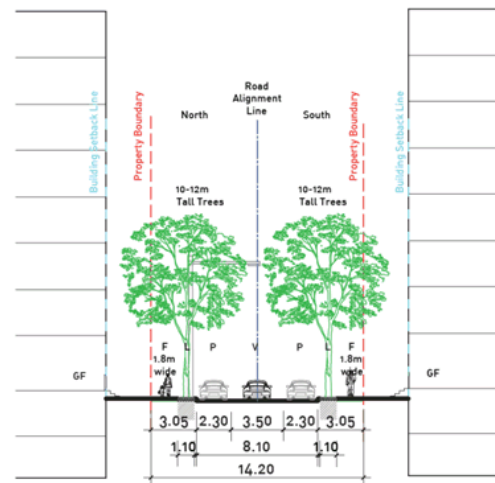


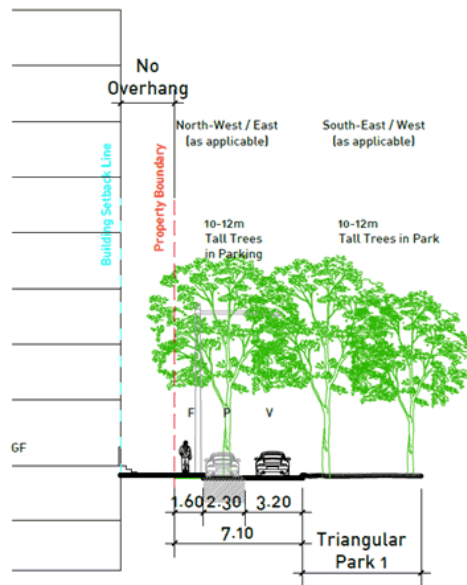
	Offset Roads/ Footpaths - 50% of costings to be offset
	Dedicated Open Space - Land to be dedicated to Council, with the cost of embellishments proposed to be offset
	Offset Cycleways - As above - this includes cycleways along Wharf Road and Waratah Street, which connect to the wider catchment. Council to confirm location of cycleways.

Part F: Example Road Sections

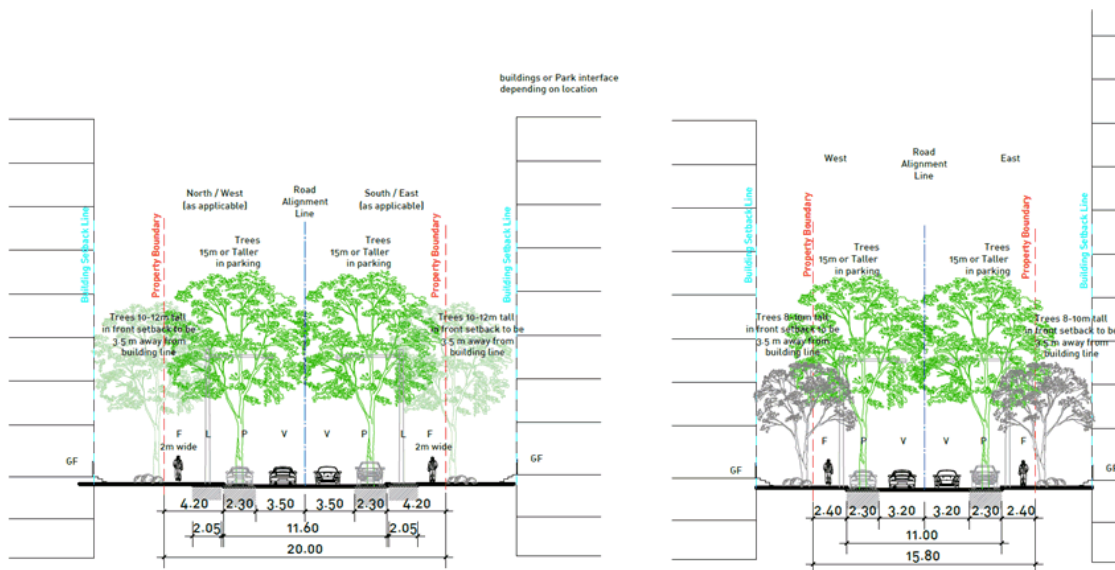


NSR 6 -17.2 M WIDE ROAD

EWR 9 -14.2 M WIDE ROAD
One way traffic eastbound with parking on both sides of the street



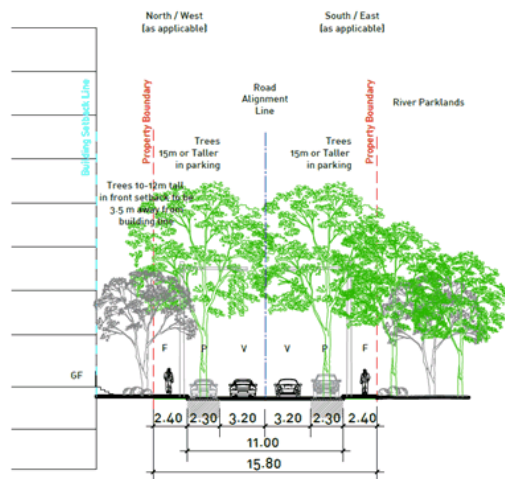
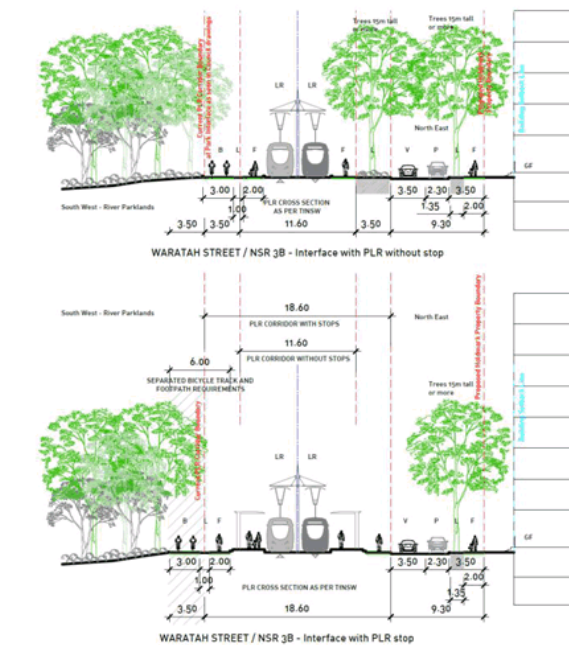
7.1 M WIDE LOCAL ONE WAY STREET with parking on one side -
NSR 6A (southbound) & EWR 9A (northeast-bound)



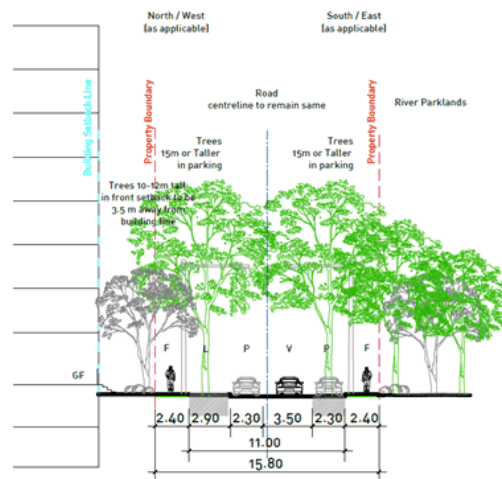
TYPICAL 20 M WIDE STREET - Applicable to HUGHES AVENUE & EWR 8 (Mary Street)

Note: Building setbacks vary per street, and are as per the setback drawing
EWR 8 predominantly has the River Park interface on the southern side

NSR 5 - 15.8 M WIDE STREET



NSR 5A & EWR 10 - 15.8 M WIDE STREET TWO WAY - INTERIM CONFIGURATION



NSR 5A & EWR 10 - 15.8 M WIDE STREET ONE WAY - FINAL CONFIGURATION

- Eastern / Southern edge of the street to remain unchanged.
- Tree locations and Footpath locations to remain unchanged.
- Road alignment to be maintained, vehicular lane shall be widened to 3.5 m northward / westward
- New parking lane to be linemarked, kerb shifted out, and older parking lane to be converted to a planted verge.

Part G – Publicly Accessible Private Land





Melrose Park

Holdmark Sites Planning Proposal

Landscape Report

May 2020



SITE IMAGE
Landscape Architects

Introduction

This Landscape Design report has been prepared by Site Image Landscape Architects on behalf of Holdmark, in conjunction with Cox Architecture to describe the Landscape Design associated with the planning proposal for the Melrose Park Holdmark Sites.

This report sets out landscape considerations and design proposals associated with the site development proposals and is to be read in conjunction with related planning, architectural and consultant reports describing the allied aspects of the works. Those reports comprehensively describe the physical site, context, constraints, controls, and built form and associated proposals and assessed impacts and benefits. This report will focus on landscape aspects of the site and proposals, and aims to minimize duplication of information contained in accompanying reports.

Generally, this report describes the development and landscape proposals, and sets out relevant authorities codes and requirements, and describes the design features that illustrate substantial conformance with these requirements.

This report has been prepared considering the South Precinct, to ensure one consistent and integrated landscape plan has been developed for Melrose Park Holdmark sites and surrounding South precinct sites.

Contents

1.0	Landscape Principles
2.0	Landscape Master Plan - Whole Precinct
3.0	Landscape Master Plan - Holdmark Sites
4.0	Holdmark West Site
5.0	Holdmark East Site
6.0	Planting Palette



Melrose Park Holdmark Sites Planning Proposal



Drawing Number	002
Issue	C
Date	04.05.2020

78

1.0 Landscape Principles

CONNECTIVITY

Provide important pedestrian connections



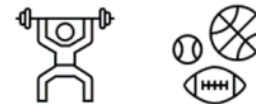
SOCIAL

Create meaningful spaces for people



HEALTH

Encourage health & wellness



SUSTAINABILITY

Promote environmentally sustainable design



SITE IMAGE
Landscape Architects

Melrose Park Holdmark Sites Planning Proposal



Drawing Number 003
Issue C
Date 04.05.2020

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2.0 Landscape Masterplan - Whole Precinct

Objectives

- To provide a suitable high level of open space and other amenity provisions for residents and visitors;
- To retain major trees and green corridors and promote protection and revegetation of significant existing vegetation;
- To provide a sustainable response to the site through the use of native and low water use planting, recycled/ harvested rainwater and locally sourced or recycled materials;
- Provide passive recreation and garden areas that provide opportunity for relaxation and passive recreation;
- To provide suitable integration and acceptable impact on adjacent vegetation communities;
- To achieve a suitable visual quality to the open space, civic spaces and streetscapes that provides consistency of identity and cohesion to the project overall, and assists in unifying the many different areas of the site (planting, hardscape, furniture, fixtures, and services);
- To provide practical amenity and safety through suitable design and detailing of a hierarchy of lighting, signage, access routes and amenities, parking locations and the like that together contribute to the good functioning, safe and efficient operation of site activities;
- To provide high quality public open space and amenity on the Holdmark site that is integrated into the wider precinct open space network;
- To provide landscape buffer transitions that respond to the existing mangrove forest along the foreshore;
- To provide strong pedestrian connections through the public open spaces of the Holdmark sites that link into the pedestrian movement and wayfinding of the wider precinct;
- To achieve and promote healthy lifestyles and activity within the site itself both active and passive;
- To provide a quality public domain landscape outcome in line with existing or relevant DCP and Council codes;
- To accommodate future expansion of the open space network as the precinct develops



SITE IMAGE
Landscape Architects

Melrose Park Holdmark Sites Planning Proposal



Drawing Number 004
Issue C
Date 04.05.2020

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3.0 Landscape Masterplan - Holdmark Sites

Objectives

- Develop parts of the open space network that can be extended as other sites are redeveloped;
- Provide the core open space elements for the wider precinct;
- Deliver new road infrastructure with landscape elements that are consistent with the overall precinct design;
- Create high quality on-site communal open spaces that can be enjoyed by new residents and that encourage social interaction with their new community;
- Design landscape that meet the requirements set out in the ADG;
- Embrace the existing natural features through protection and awareness that can be maintained and enhanced as the other sites are redeveloped;
- Create a (sub)urban sense of place and identity;
- Provide a landscape buffer to Wharf Road development frontages that will create a green corridor once the other sites are redeveloped;
- Retain and protect significant trees where possible specifically the north boundary of the Holdmark west site.



SITE IMAGE
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Melrose Park Holdmark Sites Planning Proposal



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Issue C
Date 04.05.2020

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4.0 Holdmark West Site



Public domain interface



On-site internal courtyards



Public open space & path network



Significant precinct open space amenity



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Melrose Park Holdmark Sites Planning Proposal



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Issue C
Date 04.05.2020

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5.0 Holdmark East Site



On-site internal courtyards



Consistent public amenity character



Embrace access to existing natural features



Active and passive recreation nodes



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Date 04.05.2020

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6.0 Planting Palette

The planting will be a mix of natives, with a selection of exotic species. Plants are based on council's preferred species, locally occurring species, and species which are proven performers in Sydney landscapes.

Botanic Name	Common Name	Size (m)	Pot size
FEATURE TREES			
<i>Cupressus araucarioides</i>	Tuckeroo	15 x 2	200L
<i>Baeocarpus euryand</i>	Smooth-Leaf Quandong	12 x 6	200L
<i>Fraxinus augustifolia nymwoodii</i>	Claret Ash	15 x 4	200L
<i>Lagerstroemia indica</i> x <i>L.fauriei</i> 'Natchez'	Grape Myrtle (White)	8 x 6	200L
<i>Pyrus calleryana</i> 'Charitcider'	Charitcider Pear	12 x 4	200L
<i>Tristanopsis laurina</i> 'Luscious'	Water Gull	9 x 7	200L
NATIVE TREES			
<i>Angophora costata</i>	Sydney Red Gum	30 X 10	200L
<i>Allocasuarina torulosa</i>	Rose She Oak	25 x 10	200L
<i>Buckinghamia celsistylis</i>	Ivory Curl Flower	10 x 5	100L
<i>Banksia serrata</i>	Old Man Banksia	8 x 4	100L
<i>Eucalyptus robusta</i>	Swamp Mahogany	30 X 10	200L
<i>Eucalyptus saligna</i>	Sydney Blue Gum	30 X 10	200L
<i>Eucalyptus sideroxylon</i>	Red Iron Bark	30 X 10	400L
<i>Eucalyptus punctata</i>	Gray Gum	30 X 10	400L
SHRUBS			
<i>Acacia cognata</i> 'Linealight'	Acacia Linealight	1 x 1	300mm
<i>Aderantios sericans</i>	Woolly Bush	3 x 2	300mm
<i>Banksia robur</i>	Swamp Banksia	2 x 2	300mm
<i>Rapidochloa indica</i> 'Snow Maiden'	Snow Maiden Ind-Jar Hawthorn	1 x 0.5	300mm
<i>Syzygium australe</i> 'Select Form'	Lilly Pilly 'Select Form'	5 x 1.5	300mm
<i>Viburnum odoratissimum</i>	Sweet Viburnum	3 x 2	300mm
<i>Westringia fruticosa</i> 'Blue Gem'	Blue Gem Westringia	1.5 x 1.3	300mm
ACCENTS			
<i>Alpinia caerulea</i>	Native Ginger	3 x 2	300mm
<i>Beschorneria yuccoides</i>	Mexican Lily	1.5 x 1.5	300mm
<i>Dorstenia excelsa</i>	Gyreus Lily	3 x 2	300mm
<i>Macrorhiza communis</i>	Burnswang/Cycad	2 x 1.5	300mm
GRASSES AND GROUNDCOVERS			
<i>Antrodiaedon cernuum</i>	New Zealand Rock Lily	0.5 x 0.5	150mm
<i>Banksia spinulosa</i> 'Birth-day Candles'	Birth-day Candles Banksia	0.5 x 0.5	150mm
<i>Beckmannia gibbosa</i> 'Silver Lady'	Dwarf Fan Tree / Silver Lady	1.2 x 1	150mm
<i>Dichondra argentea</i> 'Silver Falls'	Silver Falls	1.5	150mm
<i>Diarrhea ensifolia</i> 'Silver Struck'	Diarrhea Silver Struck	0.6 x 0.6	150mm
<i>Diarrhea tasmanica</i> 'Tas Red'	Diarrhea Tas Red	0.4 x 0.4	150mm
<i>Diarrhea grandiflora</i>	Native Iris	1.5 x 1	150mm
<i>Hardenbergia violacea</i>	Happy Wanderer	0.3 x 1.5	150mm
<i>Linopne nuzum</i> 'Just Right'	Linopne 'Just Right'	0.5 x 0.5	150mm
<i>Poa isidiflorum</i> 'Eskdale'	Poa Eskdale	0.6 x 0.5	150mm
<i>Phloxendron 'Xanadu'</i>	Phloxendron 'Xanadu'	0.5 x 0.5	150mm



Annexure C Specifications for Affordable Housing Units

Description of works	<p>Dedication of 24 affordable housing units with a minimum of 34 bedrooms, including any associated car parking.</p> <p>Finishing to include all fixtures and fittings to enable occupation include but not limited to:</p> <ul style="list-style-type: none"> • Air conditioning (split system) • Floor coverings • Window dressings • Dishwasher • Kitchen appliances
Core Elements	<ul style="list-style-type: none"> • Provision of affordable housing units with a minimum of 34 bedrooms. • Units to be distributed throughout the Development. Location of units by mutual agreement but no higher than Level 5 of the building and not all on the ground floor. • Each unit must have been issued an Occupation Certificate

Annexure D Public Access Easement



MELROSE PARK

TRANSPORT MANAGEMENT AND ACCESSIBILITY PLAN
Final Report



24 JANUARY 2019

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EXECUTIVE SUMMARY

REVISION	DATE	DESCRIPTION	BY	REVIEW	APPROVED
A	09/05/2018	Draft submittal	C. Arkell	S. Konstas	S. Konstas
B	31/10/2018	Updated based on govt agency comments	C. Arkell	I. Smith	I. Smith
C	07/12/2018	Final report	C. Arkell	I. Smith	I. Smith
D	24/01/2019	Updated based on additional TINSW comments	C. Arkell	I. Smith	I. Smith

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EXECUTIVE SUMMARY

Background

Jacobs Group (Australia) Pty Ltd has been engaged to prepare a Transport Management Accessibility Plan (TMAP) for the Melrose Park north and south precincts. This report addresses the traffic and transport implications of the proposed development of approximately 11,000 dwellings and has been tailored specifically to address stakeholder comments through the Project Coordination Group (PCG) made up by City of Parramatta (CoP), Department of Planning & Environment (DPE), Transport for NSW, Roads and Maritime (RMS), Parramatta Light Rail (PLR), mProjects, and City plan.

The TMAP has recognised the transport planning initiatives described in the *Greater Sydney Regional Plan and Future Transport Strategy 2056* developed by DPE and TfNSW respectively. The purpose of the TMAP is to provide a framework for the implementation of a range of measures designed to achieve a sustainable transport outcome for the Melrose Park structure plan.

The assessment process has included analysis focused around achieving the targets defined with the PCG of encouraging more people to use public transport (40%-50%) over the next 20 years. Initiatives to increase public transport use have guided the planning process for the Melrose Park structure plan and are fundamental to the development of the precinct.

Proposed Delivery Melrose Park Structure Plans

The aspiration of the Melrose Park structure plans is to develop a smart precinct minimising natural resource, energy and transport demands. Transport demand and infrastructure requirements are to be minimised through an appropriate balance of business, housing and employment uses within the precinct and wider Greater Parramatta and Olympic Peninsula (GPOP) targeting of strategic mass transit, intermediate transit and local transit connections proposed through the core of the development.

The land use mix will support an appropriate balance of residential, social and business opportunities. This is to support Melrose Park's role as a self-sufficient smart precinct with high levels of connectivity to its regional and wider contexts.

A multi-decade development framework has been proposed to enable development flexibility and to complement future transport initiatives planned within the study area. For the purposes of assessing the transport infrastructure and service requirements the following staging elements have been examined:

- 3,200 dwellings to be developed by 2024
 - Commercial 7,900 m² GFA
 - Retail 6,000 m² GFA
- 6,700 dwellings to be developed by 2028
 - Commercial 13,500 m² GFA
 - Retail 10,200 m² GFA
- 11,000 dwellings full build-out by 2036
 - Commercial 19,400 m² GFA
 - Retail 15,600 m² GFA

The Melrose Park structure plans for the north and south precincts ensures that public transport and active transport will be fully integrated into the precinct.

Key Issues Examined

The TMAP assessment has used a set of transport modelling tools (Public Transport Project Model and Aimsun Model) developed to assist decision making on key issues such as:

- The nature and scale of the development and the ability of the road and public transport network to accommodate forecast additional demands
- The cumulative impacts of future developments and forecast background growth in travel demand within the study area
- Changes in transport infrastructure and services that will satisfy the target objectives of increasing travel by alternative modes other than car
- The level of investment required in public transport initiatives to achieve the targets and visions of *Future Transport Strategy 2056*
- The relationship between parking provision and the achievement of higher mode share to public transport, cycling and walking
- The overall staging and trigger points for proposed mitigation measures attributed to Melrose Park.

Key Findings

The key findings of the investigations undertaken as part of TMAP are as follows:

- Based on the nominated service levels for the surrounding road network, the upgrade of Victoria Road intersections (Wharf Road and Kissing Point Road) will be required in order to efficiently service the Melrose Park precinct
- The road network analysis has identified that the remainder of the existing surrounding road network is able to cater for traffic generated by the proposed development, with no significant impacts when compared to a future 'do minimum' scenario
- Increased bus service frequencies on Victoria Road are required to support development and achieve mode share targets. Investigations have confirmed the required bus service levels are feasible

- A new bridge crossing (public and active transport only) across the Parramatta River linking Melrose Park to Wentworth Point is required by 2028 (approximately 6,700 dwellings) to enable connections between residential and employment areas to key public transport nodes including the planned Sydney Metro West station at Sydney Olympic Park.
- New bus services between Top Ryde and Concord Hospital via Melrose Park are proposed to operate via the new bridge
- Shuttle services between Melrose Park and Meadowbank station are proposed to operate prior to the implementation of the new bridge. Proposed operations can be implemented without significant works or impacts
- Ferry user patronage demand from Melrose Park is likely to be small. A new bridge across the Parramatta River will provide access to the newly-upgraded Sydney Olympic Park and proposed new ferry wharf at Rhodes East
- As development progresses and activity increases, a light rail corridor is being proposed by TfNSW established through the core of the development. This would bring light rail services through the heart of Melrose Park with direct access to the proposed Sydney Metro West station at Olympic Park
- The introduction of PLR Stage 2 leads to a number of access implications along Boronia Street, Hope Street and Waratah Street which will need to be carefully managed
- The public transport network for Melrose Park has been planned to cater for the full development (11,000 dwellings) without the need for light rail but has been planned to accommodate light rail through the precinct
- The northern precinct structure plan maintains a corridor on Hope Street between Hughes Avenue and Waratah Street to enable the implementation of light rail. The southern precinct allows for light rail along Waratah Street.
- Key elements of Stage 1 - Prior to bridge (up to 6,700 dwellings):
 - Stage 1A, Stage 1B and Stage 1C Victoria Road upgrades
 - Enhanced Victoria Road bus services to serve both background growth and Melrose Park demand
 - Shuttle services to Meadowbank Station
- Key elements of Stage 2 - After new bridge (more than 6,700 dwellings)
 - New high frequency services (bus or light rail) over the bridge
 - Continued enhancement of Victoria Road bus services

Conclusions

The key conclusions of the Melrose Park TMAP are:

- The scale of development envisaged for Melrose Park presents significant but manageable challenges for transport infrastructure and services for both the road and public transport network
- The additional traffic demands as a result of Melrose Park development on the surrounding local road network fall within acceptable capacity thresholds
- Sydney Metro West will deliver significant benefits for residents from Melrose Park with high-capacity and more frequent services between Parramatta CBD, Sydney Olympic Park and Sydney CBD
- A new active and public transport bridge across Parramatta River will provide substantial connectivity improvements between Melrose Park, Rhodes and Sydney Olympic Park before light rail is implemented
- The increased frequency of the T1 Northern Line (to 8 services per hour) will provide capacity to support the development and will continue once Sydney Metro North West opens in 2019
- Parramatta Light Rail Stage 2 would provide a direct link to the Parramatta CBD, and connect to Sydney CBD via the broader rail and metro networks
- The new bridge across Parramatta River will provide fast, direct, high frequency services linking Melrose Park to Rhodes Station and future metro station at Sydney Olympic Park. The full development (11,000 dwellings) can be supported by either bus or light rail services across the bridge.
- Substantial resources will need to be devoted to improving the public transport servicing and infrastructure in the study area, with significant support and funding contributions from the various agencies, proponents and authorities
- An integrated package of measures needs to be implemented as the development progresses, with the package containing a mix of policy, infrastructure and transport services measures
- The measures presented within the TMAP need to be integrated comprehensively and consistently over the life of the development if the mode split targets as outlined in the TMAP are to be achieved.
- The TMAP recommends a total off-street parking supply of 9,441. A total on-street parking supply of approximately 700 and 500 spaces is being proposed for the northern and southern precincts respectively. It is proposed to initially provide levels of parking in accordance with CoP DCP, and gradually decrease parking provision as the public transport initiatives are implemented.

1. INTRODUCTION

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1. INTRODUCTION

1. INTRODUCTION

1.1 Background

Melrose Park is located along the northern banks of the Parramatta River, 6km east of the Parramatta CBD and north east of the Greater Parramatta and Olympic Peninsula Urban Renewal Area (GPOP). The existing industrial area in Melrose Park has been proposed to be rezoned to enable large scale urban renewable and create a mixed use development featuring housing, commercial offices, retail space and community facilities. Melrose Park will include approximately 11,000 dwellings in a high density residential environment interspersed with retail, community and child care uses, and a mixed use Town Centre providing retail, commercial, community, a child care centre, affordable housing and plaza spaces.

In order to assist in the planning and rezoning of this precinct, this Transport Management and Accessibility Plan (TMAP) has been prepared. The recommendations of the TMAP will inform both the rezoning and the voluntary planning agreement process for Melrose Park to determine the ability of the transport network to cope with additional growth, and the improvements required to realise the development potential of Melrose Park.

An analysis of the regional context of the site has identified the following key considerations:

- The site at Melrose Park is located on and adjacent to the Global Economic Corridors to Parramatta and Sydney Olympic Park
- The eastern edge of the site forms the boundary between the Parramatta LGA and the Ryde LGA (Wharf Road)
- The site is located directly on the proposed corridor of Parramatta Light Rail Stage 2, which will provide a direct connection to Parramatta CBD. PLR Stage 2 will also connect to Sydney Olympic Park where significant development is planned along with a station for the future Sydney Metro West
- Surrounding remnant industrial sites at Camellia, Carter Street and Wentworth Point have been identified by the State Government as Priority Precincts for Urban Renewal and Urban Transformation
- The region contains an excellent network of Regional Parks and open spaces that traverse the banks of the Parramatta River.

The site at Melrose Park presents:

- A close proximity to Parramatta CBD a major economic centre, with strong commercial, living and cultural precincts with the single biggest concentration of jobs outside of Sydney CBD and North Sydney CBD

- A range of complementary land uses and community services that will be provided from the beginning of the development
- A mix of land uses will be created for Melrose Park to become an emerging, vibrant and attractive place to live, work, play and stay
- An integrated transport system comprising an interconnected, legible and urban scale grid street pattern providing a pedestrian and cycling friendly environment to provide optimal opportunities for bus, future light rail and connections to existing heavy railway transport interchanges and future metro through the core of the development
- A significant opportunity for urban renewal that has excellent access to the amenity of the Parramatta River and its associated network of regional parks and open space.

1.2 Purpose of this TMAP

The overall objective of the TMAP is to identify the local and regional impacts to the transport network as a result of approximately 11,000 dwellings at Melrose Park and to outline strategies and mitigations to ameliorate these impacts. The TMAP also aims to:

- Address movement to, from and within Melrose Park in a sustainable manner
- Ensure the provision of infrastructure and services will satisfy the forecast growth in travel demand generated by Melrose Park and is consistent with those planned for the wider region, taking into consideration potential development staging
- Present an integrated transport system that integrates all travel modes with a focus on encouraging the use of public transport, walking and cycling
- Ensure the development integrates seamlessly with the surrounding street environment
- Determine the changes in transport infrastructure that will satisfy the target objectives of more travel by alternative non car modes
- Examine the relationship between parking provision and the achievement of higher mode share to public transport, cycling and working
- Prepare a multi-modal transport network and services action plan including staging and trigger points of infrastructure upgrades.

The TMAP has recognised the land use and transport planning initiatives described in recently released NSW Government policies and strategies such as the *Greater Sydney Regional Plan* and *Future Transport Strategy 2056*. The purpose of the TMAP is to provide a framework for the implementation of a range of measures designed to achieve a sustainable transport outcome for Melrose Park.

The assessment process has included analysis built around achieving the targets defined and agreed during the TMAP process in getting more people on public transport (40%-50%) over the next 20 years. These initiatives and their influence on Melrose Park have been assessed and refined in the planning process for the TMAP.

1.3 Melrose Park TMAP objectives

The main objective of the Melrose Park structure plans is to achieve new standards of integration between land uses and public transport. Improved integration will be achieved by allowing higher development densities and clusters of different land uses together around public transport nodes and corridors, such as around existing Victoria Road bus corridor and future high-quality light rail corridor along Hope Street as part of PLR Stage 2. By allowing higher densities and a greater mix of land uses, including local employment, destinations are closer together, reducing travel distances. Higher densities in residential areas would also reduce land consumption, promote walking, support public transport services and reduce car use.

Transport infrastructure and services to support the development will need to be carefully planned and implemented to ensure an optimal outcome is achieved for future residents and the wider community. Potential issues that could arise as a result of poor planning and implementation have been identified and specific objectives formulated in response. These key objectives as determined with the Melrose Park Project Coordination Group (PCG) have guided the development of the TMAP and can also be used to measure the overall success of the northern and southern precincts in the future.

The potential issues and objectives set out in Table 1.1 highlight the requirements for regional transport improvements that could be made in GPOP and the surrounding area. The recently released *Greater Sydney Regional Plan* and *Future Transport Strategy 2056* are a number of NSW Government policies and strategies also identify and promote public transport improvements in and around GPOP that could deliver a number of benefits to Melrose Park. The relationship between these policies and Melrose Park is discussed further in Section 2 of this report.

Table 1.1 : Melrose Park Objectives

Potential issue	Objective	Indicator
A lack of feasible non-car access to/ from the precinct leading to high car use and congestion	Encourage access by public transport, walking and cycling to reduce car dependence	Non-car mode share for peak trips to and from Melrose Park of 50% by 2036.
Limited options for travel between Melrose Park and strategic destinations, reducing the resilience and reliability of the transport network	Provide multiple transport options connecting to a variety of local and strategic destinations	30 minute travel time access by public and active transport to key metropolitan and strategic centres to and from Melrose Park by 2036.
A large number of residents being forced to travel long distances by car to access jobs and services.	Support a walkable urban environment with opportunities to work and play close to home	All new residents in Melrose Park are within a safe walking distance of open space, social infrastructure and retail facilities.
Excessive levels of car parking encouraging car use and ownership and inducing large volumes of car trips.	Support public and active transport through reducing private car parking and ownership	A reduction in residential parking provision from current parking requirements by 2036.
Trips generated by the development negatively impacting on regionally significant corridors adjacent to the precinct.	Minimise impacts to productive regional movement corridors	Travel times along Victoria Road (within model area) do not increase by greater than 5% compared to a 2036 base case scenario. Key precinct signalised intersections perform at LOS E or better in highest impact peak hour.
Insufficient new capacity is supplied to allow for and encourage non car travel.	Provide capacity to support a sustainable level of transport demand and cater for local access needs	Volume/capacity ratios on key public transport corridors directly impacted by the development are not detrimentally increased compared to a 2036 base case scenario.

1. INTRODUCTION

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1.4 Melrose Park TMAP study area

Figure 1.1 shows the Study Area adopted for this TMAP. The Study Area includes the Melrose Park northern and southern precincts and the area bordered by Stewart Street and Rutledge Street to the north, Church Street/Devlin Street to the east, Silverwater Road to the west and Parramatta River to the south. Consideration of physical issues such as interfaces with land use and the surrounding transport system are contained within the Study Area whereas considerations such as travel desire lines, trip distribution, demand and network capacity are considered beyond the Study Area.

1.5 Scope and limitations

As is normal in such studies, the scope of this work entails a number of assumptions and limitations. The TMAP does not aim to describe every aspect as the majority of the precinct is still in the planning proposal stage. Further detail will need to be provided as part of the development application and voluntary planning agreement process. The main assumptions and limitations include:

- Limits in the certainty of many key inputs to the public transport planning process such as the delivery of PLR Stage 2, Sydney Metro West and upgrades along T1 Northern Line
- The assumptions of rate and timing of development were provided by proponents for the northern and southern precincts and are understood to represent the current plans for Melrose Park
- In assessing the transport infrastructure needs, it has been assumed that access to Melrose Park will be facilitated in 2020, 2026 and 2036 to allow the requisite levels of transport infrastructure and services to match development and transport demands
- The interface between light rail and traffic in general requires significant further investigation and detailed traffic modelling. This is currently being investigated by TfNSW's PLR Stage 2 team
- The TMAP does not consider the detailed traffic and transport impacts associated with the operation of PLR Stage 2. The modelling has assessed the elimination of non-signalised right turns across the light rail alignment. Left-in/left-out movements have been assumed at remaining minor intersections
- Planned modifications to bus services as a result of PLR Stage 2 has been cursory and requires further work to understand and plan for the effective integration between bus and light rail across GPOP

- Indicative light rail layouts and stop locations for Hope Street (between Hughes Avenue and Waratah Street) have not been developed as part of the TMAP. This is currently being investigated by TfNSW's PLR Stage 2 team
- The impact of services and utilities on all the proposed mitigation measures may require further and more detailed examination
- Improvements to intersections at Devlin Street, Blaxland Road and Parkes Street were announced after the finalisation of future network assumptions for the project and have not been included in this modelling. Observed congestion in future traffic modelling at this location is likely to be significantly improved by these works.

1.6 Stakeholder engagement – process and key input

As part of this TMAP, regular consultation was undertaken with the City of Parramatta, and with other key stakeholders such as Department of Planning & Environment, Transport for NSW (TfNSW) and Roads and Maritime Services (RMS) through a series of meetings and workshops.

During the TMAP process a formal Project Coordination Group (PCG) consisting of representatives listed below was established to oversee the key project assumptions, strategic land use and transport outcomes, planning timeframes, assess available evidence and model development. The members of the PCG met at least once a month to monitor the progress and provide technical expertise, advice, support and direction as necessary to the TMAP process. The PCG comprised the following key stakeholders:

- Department of Planning & Environment (Chair)
- Greater Sydney Commission
- Transport for NSW
- Roads and Maritime Services
- Parramatta Light Rail Stage 1 and 2
- City of Parramatta
- mProjects (on behalf of Payce)
- Keyplan
- City Plan (on behalf of Holdmark and Goodman)

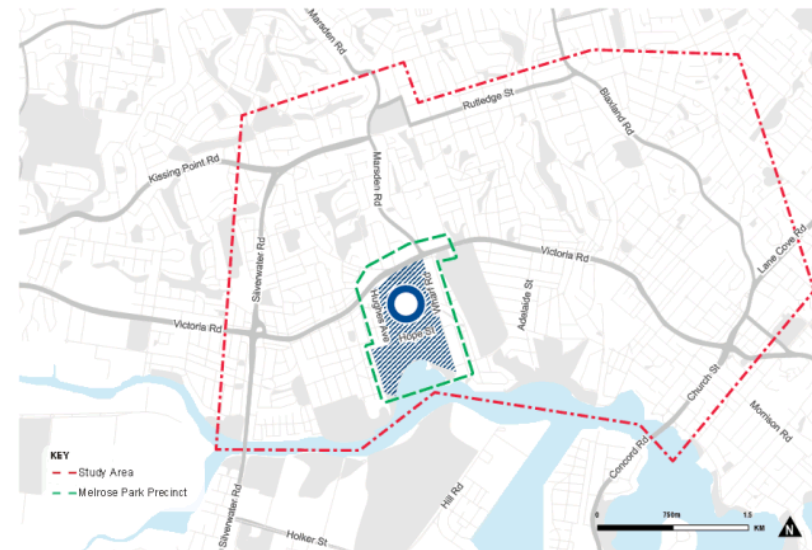
1.7 Report structure

This report is structured as follows:

- **Section 2: Strategic Context:** this brings together and summarises the background information and defines the physical context and transportation task affecting the study area
- **Section 3: Transport Context:** summarises the existing conditions of the study area and the future background conditions that will influence Melrose Park
- **Section 4: Melrose Park Structure Plans:** documents the planned land use proposed for Melrose Park and staging of the development
- **Section 5: Transport Modelling:** describes the transport modelling process as agreed with Transport for NSW, Roads and Maritime Services, Department of Planning and Environment and City of Parramatta

- **Section 6: Appraisal of the Melrose Park Structure Plans:** outlines the performance of the functional elements of the multi-modal transport network identified in the Melrose Park structure plans, and identifies infrastructure and service requirements to meet the desired standards of service
- **Section 7: Implementation Plan:** documents an integrated package of measures recommended to be implemented for Melrose Park.
- **Section 8: Conclusion and recommendations:** Summarises the key findings and outcomes of the TMAP.

Figure 1.1 : Melrose Park TMAP study area



1. INTRODUCTION

2. STRATEGIC CONTEXT

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2. STRATEGIC CONTEXT

2.1 Overview

This section reviews key NSW state and local government strategies and policies for land use and transport in and around Greater Parramatta Olympic Peninsula including Melrose Park. It provides a snapshot of the spatial planning and policy elements that may influence land use and transport outcomes for Melrose Park. This section presents an overview of the strategic land use and transport context and documents current and future land use and transport trends and projections.

2.1.1 Metropolitan and district context

Melrose Park is located 6km east of the Parramatta CBD which is in the geographic centre of the Sydney Metropolitan Region. With Parramatta identified as Sydney's second CBD, the region has an integral part to play in the provision of housing and jobs to Sydney.

The *Central District Plan* projects an additional 207,500 new dwellings and 210,000 new jobs by 2036. In the longer term, the district is projected to be home to up to over 2 million people and contain almost 1 million jobs by 2056. These projections are shown in Figure 2.1

The *Future Transport Strategy 2056* released in 2018 commits the NSW Government to a number of actions for improving transport to and within Parramatta CBD and Greater Parramatta Olympic Peninsula (GPOP). It is recognised that in its role as a CBD, the GPOP transport system must balance the need of all customers as well as align with current and future land use.

Melrose Park is surrounded by some of Greater Sydney's fastest growing strategic centres, presenting residents with significant employment options within close commute of home. The recently announced Sydney Metro West and Parramatta Light Rail Stage 2 project provides a unique opportunity to deliver a world-class transit system which can have a catalytic role in transforming Parramatta CBD and GPOP into a series of interconnected, sustainable and livable precincts. These public transport improvements provide an integrated transport and land use solution that is able to fully realise the benefits of the Parramatta CBD's multiple activity generators.

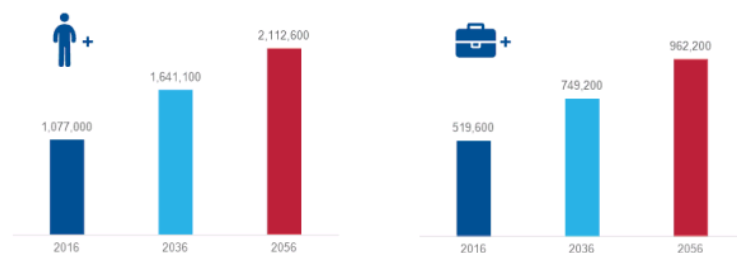
Melrose Park is strategically located to create strong synergies between the proposed light rail and future metro network and the economic activity centres of Parramatta CBD, Sydney CBD, Olympic Park, Macquarie Park, and Norwest. Current NSW Government policies and strategic directions will help shape a transport vision for Melrose Park which will include strengthened regional transport links, improved connectivity and sustainability.

Figure 2.2 presents Sydney's metropolitan transport network and its relationship with Melrose Park. The location of Melrose Park to GPOP presents a significant opportunity to deliver a strategy that will harness the multiple benefits of a sustainable regional transport system and a highly accessible urban form. The Melrose Park TMAP will assist in achieving a key aspect of the Metropolitan Strategy by strategically identifying a connected network of places that allow residents, workers and visitors to safely and efficiently access public transport improvements and surrounding land uses and amenities.

Figure 2.2 : Metropolitan and district context



Figure 2.1 : Central District population and job growth



2. STRATEGIC CONTEXT

2.2 GPOP context

Greater Parramatta Olympic Peninsula (GPOP) is comprised of the Parramatta CBD and several other distinct components including North Parramatta, Westmead, Rosehill Racecourse, Carter Street Activation Precinct, UWS Rydalmere, Sydney Olympic Park, Parramatta Road Urban Transformation, Rydalmere and Camellia industrial precincts. The Greater Sydney Commission has also recently included Melrose Park within the GPOP boundary. Many of these areas have been identified for potential redevelopment incorporating mixed use centres, which is expected to lead to increasing public and private sector investment in GPOP.

GPOP is at the heart of a second 'central' city, supported by a network of strategic centres including areas such as Melrose Park will become increasingly important as they work to help deliver the 30-minute city. Melrose Park sits within GPOP, and is surrounded by strategic and secondary employment and residential centres with significant public and private sector investment already underway.

Population and employment in GPOP are set to grow dramatically, putting more pressure on existing transport services and requiring major public transport improvements to the network. By 2056 there are planned to be an extra 370,000 residents and 200,000 jobs in GPOP. Forecast residential and employment growth for GPOP is shown in Figure 2.3.

The recently released *Future Transport Strategy 2056* shows that major investment such as Sydney Metro West and PLR Stage 2 via a new bridge across the Parramatta River will transform the surrounding area and GPOP including Melrose Park. Such transformation manifests itself as opportunities for best practice higher density developments that will attract residents looking for affordable housing in a centralised location with strong public transport links to Parramatta CBD and Sydney CBD within 30 minutes.

PLR Stage 1 will be introduced through the Parramatta CBD connecting the major educational and health facilities of Westmead and Rydalmere with provide faster and more frequent services. The recent announcement of PLR Stage 2 (refer to Figure 2.4) connecting Rydalmere to Melrose Park and Sydney Olympic Park will also make an important contribution to enhancing the sustainability of GPOP and improving its livability. PLR Stage 2 will play a positive role in stimulating urban renewal at Melrose Park connected by an integrated transport network to provide both housing and access to employment by connecting people and places.

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Figure 2.3 : GPOP population and employment growth

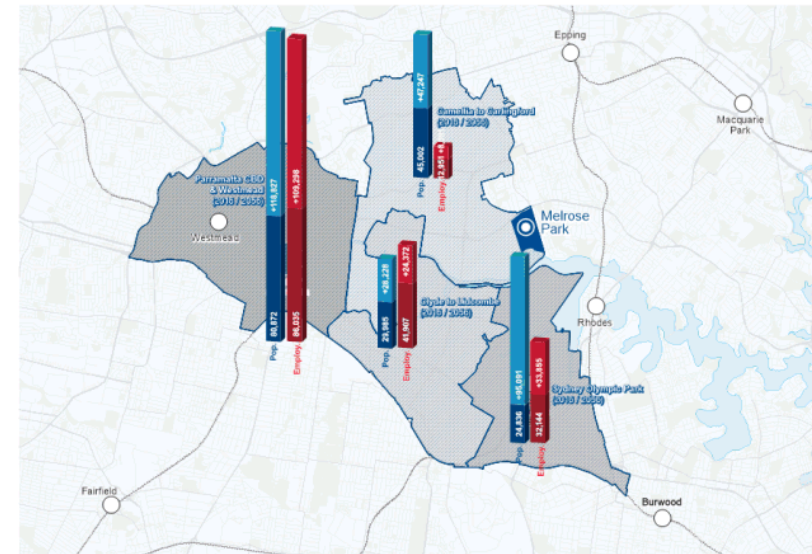
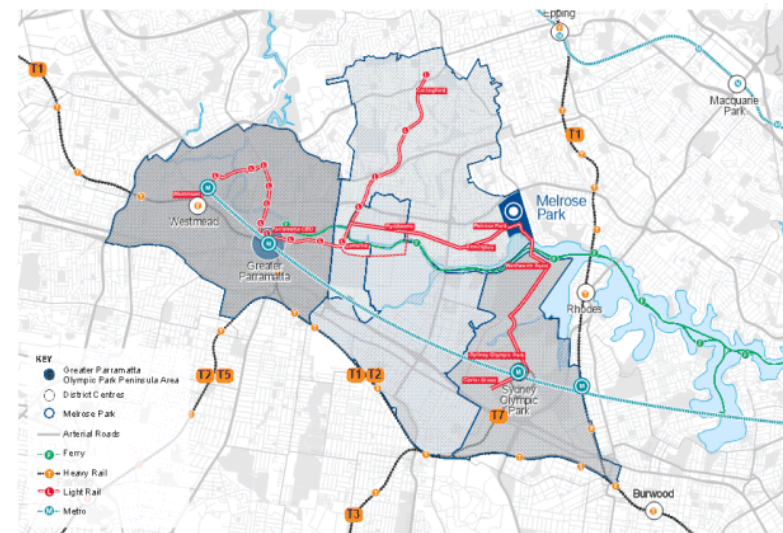


Figure 2.4 : GPOP context



2. STRATEGIC CONTEXT

2.3 Precinct and local context

Both the northern and southern Melrose Park precincts are located in an industrial site within an existing suburban area. The current block size (defined by the street network) is significantly larger than the block size commonly found in higher density urban areas. These large existing blocks present the opportunity for the street network layout proposed for the Melrose Park structure plan to connect well to the surrounding streets and offer good connectivity and permeability for the site. The blocks within the development are of a finer scale than the surrounding street areas and is further discussed in Section 4.

The Melrose Park precinct is well located in relation to several of Sydney's key strategic centres. The precinct incorporates effective connections to the transport system and provides good access to the Sydney CBD and key centres of economic activity across Sydney. A number of future public transport connections that would serve Melrose Park are planned or under investigation. The overall structure plan has been developed to facilitate and integrate with these opportunities if or when they are implemented. Some of these strategic corridors connecting the site include:

- Victoria Road
- Concord Road linking Ryde Bridge
- Connections to John Whitton Bridge
- Parramatta Light Rail Stage 2 connecting to Sydney Park via Melrose Park
- New bridge crossing across Parramatta River via Wharf Road (under investigation)

Major elements of the existing integrated transport network for the Melrose Park are shown in Figure 2.5. Key features of the network are outlined below:

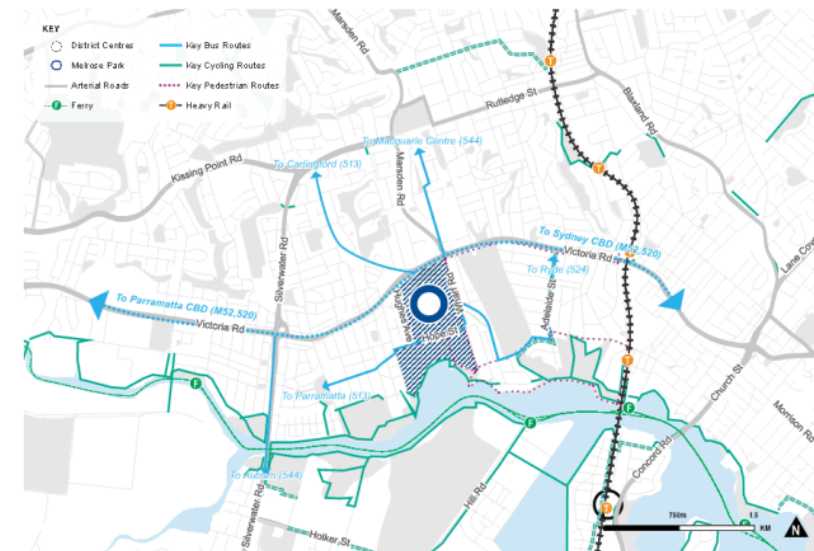
- Trunk bus services between Parramatta CBD and Sydney CBD via Victoria Road are provided by the Route M52 and Route 520
- Key walking connections serving Melrose Park include Victoria Road, Hope Street, Adelaide Street, Hughes Avenue, Constitution Road West and Parramatta River Foreshore
- Key cycling routes serving Melrose Park include Parramatta River Foreshore, Andrew and Adelaide Streets, and bridges across Parramatta River (at Silverwater Road, Concord Road Street and John Whitton Bridge)
- Four key access corridors for general traffic serving destinations within Melrose Park include Victoria Road, Wharf Road, Hughes Avenue and Hope Street

Melrose Park has a significant opportunity to raise the quality of sustainable transport as well as the built environment along and near the identified PLR Stage 2 corridor along Hope Street and Waratah Road, with a new bridge across Parramatta River connecting to a proposed new metro station at Sydney Olympic Park. The key to successfully implementing this city transformation project for the Melrose Park precinct is capitalising on opportunities created through carefully considered planning and urban design strategies along the Hope Street corridor in order to create a series of interconnected, sustainable and liveable precincts.

The enhanced public transport service with proximity to light rail stops and a potential new bridge across Parramatta River will encourage 'transit-oriented development', where the Melrose Park precinct urban design and built form can benefit from active transport links to public transport, whilst reducing the reliance on car access and parking in the medium to longer term.

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Figure 2.5 : Major elements of existing network



2. STRATEGIC CONTEXT

2.4 Planning and policy context

The Commonwealth, State and Local Governments have recognised the importance of maintaining the economic growth and liveability within cities and urban areas, and have introduced a number of strategic plans to support future development within the Greater Sydney Metropolitan Area and GOP. This section focuses on the most significant plans which shape the land use and transport context for Melrose Park. A summary of the key planning documents relevant to the Melrose Park, both regional and local, is provided in Table 2.1. The key output of TNSW's *Future Transport Strategy 2056*, the proposed city-shaping and city-serving network, is shown in Figure 2.6.

Figure 2.6 : Future Transport 2056



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Table 2.1 : Planning and policy context

Document	Overview	Implications for Melrose Park
Greater Sydney Regional Plan	The Greater Sydney Region Plan, <i>A Metropolis of Three Cities</i> is built on a vision of three cities where most residents live within 30 minutes of their jobs, education and health facilities, services and great places.	It is noted that Melrose Park: <ul style="list-style-type: none"> Is strategically located in close proximity to both the Eastern and Central cities Is well placed to provide 30-minute access to both of these cities as well as a significant number of strategic centres via active and public transport
Central West District Plan	The final district plans released in 2017 set out a strategic vision for each of the districts, having regard to economic, social and environmental objectives, and identifying priority growth areas.	The key implications to the Melrose Park precinct includes the following priorities: <ul style="list-style-type: none"> Support the Greater Parramatta and the Olympic Peninsula (GOP) vision Encourage employment growth Create a more connected District Improve housing design and diversity Improve access and health of waterways The proposed development of Melrose Park is strongly aligned with all of the above priorities. It presents a unique opportunity to be an exemplar development for the vision of the West Central District.
Greater Parramatta Olympic Peninsula	GPOP refers to Greater Parramatta and Olympic Peninsula. GPOP is set to undergo a significant rate and scale of growth over the next 20 years. Greater Sydney Commission has delivered a strategic vision for the area and has also designed Growth Infrastructure Compacts which will match housing and jobs growth with timely and cost-effective delivery of infrastructure.	Melrose Park is included in the GPOP area and the proposed development is strategically well placed to provide housing, jobs and services which will support the growth of the peninsula.
Future Transport Strategy 2056	The strategy provides plans and initiatives for the next 40 years of how people will live, work and move across the state. A key component of the strategy is the Greater Sydney Services and Infrastructure Plan which shows significantly improved connections from Melrose Park to Parramatta via Parramatta Light Rail and to the Eastern City via Sydney Metro West.	Both the Central and Eastern city centres will be able to be reached within approximately 30 minutes from Melrose Park via active and public transport, a key metric identified in Future Transport 2056. This connectivity will make the Melrose Park site an ideal location for urban renewal and best practice higher density development.
State Infrastructure Strategy	The State Infrastructure Strategy (SIS) sets out the government's priorities for the next 20 years, and combined with the Future Transport Strategy 2056, the Greater Sydney Region Plan and the Regional Development Framework, brings together infrastructure investment and land-use planning for our cities and regions.	Key directions specific to Melrose Park and the Central City include: <ul style="list-style-type: none"> Improve intercity and intracity transport connections. Improve north-south transport connections, for example Greater Parramatta to Epping and Greater Parramatta to Kogarah via Bankstown. Support growth in population and housing, including social and affordable housing options

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2. STRATEGIC CONTEXT

3. TRANSPORT CONTEXT

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3. TRANSPORT CONTEXT

3.1 Overview

This section reviews the existing, planned and proposed transport and land use conditions that will influence the development of the Melrose Park precinct. For the purposes of this of the Melrose Park TMAP it is important to understand the operation of the existing and future transport systems serving the current precinct within the study context.

3.2 Existing transport network

The existing network contains the primary access routes for Melrose Park, including:

- **Public Transport** – The major existing bus, ferry and rail corridors providing access to, through and within Melrose Park.
- **Private vehicles**– The major routes for private vehicles, service and delivery vehicles, freight and taxis/ride-share vehicles providing access to, through and within Melrose Park.
- **Active Transport** – The major walking and cycling routes providing access to, through and within Melrose Park.

An overview of the existing transport network is shown in Figure 3.1. Accessibility to and from Melrose Park within 30 minutes by public and active transport is shown in Figure 3.2. Approximately 45,000 residents and 28,000 jobs are currently located within a 30-minute public transport journey of Melrose Park (Figure 3.2).

Figure 3.1 : Strategic transport network serving Melrose Park

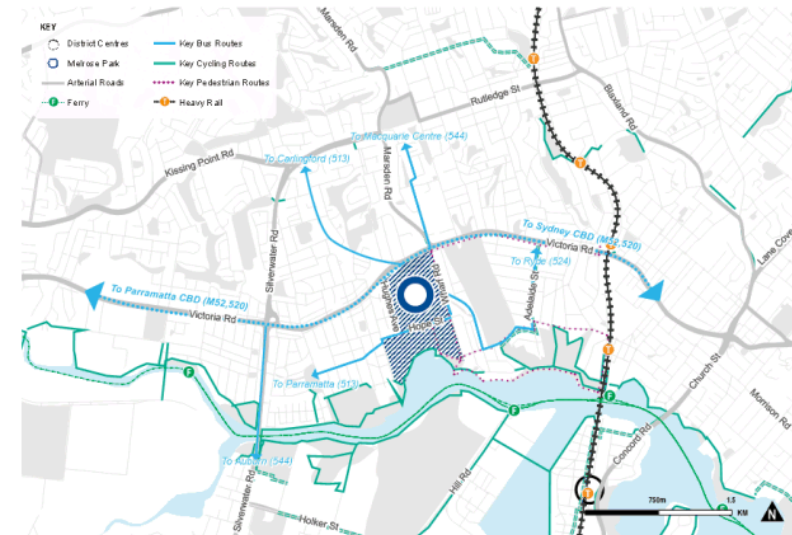
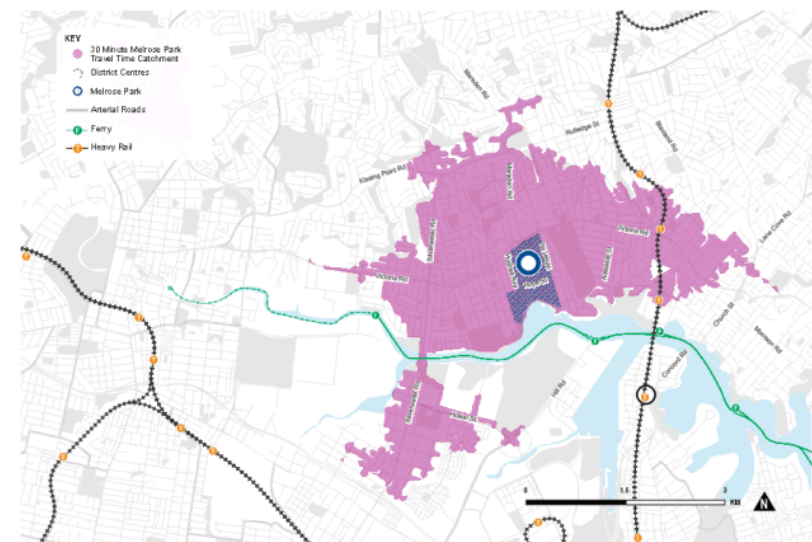


Figure 3.2 : Existing 30-minute public transport catchment from Melrose Park



3. TRANSPORT CONTEXT

3.3 Public transport network

3.3.1 Bus

Trunk bus services between Parramatta CBD and Sydney CBD via Victoria Road are provided by the Route M52 (6/hr in peak) and Route 520 (2/hr in peak). Bus services between Top Ryde and the Sydney CBD are more frequent but do not service the site directly.

These routes provide a direct and frequent service between Melrose Park and the Sydney CBD and Parramatta CBD. While travel times are relatively slow and unreliable (especially on Victoria Road east of Melrose Park), they are somewhat competitive with driving times. While there is generally spare passenger capacity on these services in the vicinity of Melrose Park, as bus routes get closer to the Sydney CBD, bus congestion on Victoria Road and in the Sydney CBD start to constrain passenger capacity on these routes.

Other bus routes serving Melrose Park include:

- Route 513 – Carlingford to Meadowbank Wharf (2/hr in peak)
- Route 523 – Parramatta – West Ryde (2/hr in peak)
- Route 524 – Parramatta – West Ryde (2/hr in peak)
- Route 544 – Auburn – Macquarie Centre (2/hr in peak).

These routes are relatively indirect and infrequent, offering a poor quality of service. The travel times for these north-south bus routes serving strategic centres are uncompetitive with driving times. As a result, there is generally spare capacity on these services.

Bus passenger loading data from Opal counts at locations near Melrose Park in both the inbound and outbound directions in May 2017 are summarised in Figure 3.3 and Figure 3.4 below. A summary of the data shows:

- Significant spare capacity on services traveling to Parramatta with spare seats available on all services. It is expected that a significant number of Melrose Park residents will travel to Greater Parramatta as jobs and services in the area increase over time.
- Several bus services are operating close to capacity in the eastbound direction through Melrose Park. It is expected that additional capacity will be required to allow Melrose Park residents to access destinations in the Eastern City.

Figure 3.3 : M52 bus loading - to Parramatta

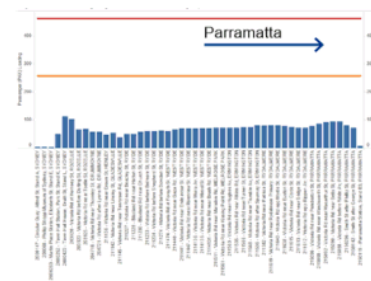
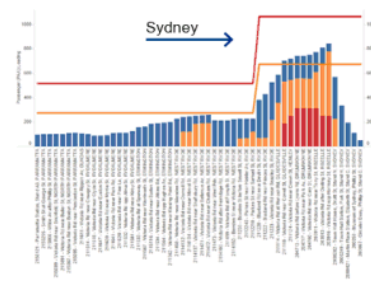


Figure 3.4 : M52 bus loading - to Sydney



Planned Bus Improvement – Victoria Road

TfNSW is currently planning bus priority improvements along Victoria Road. This project will improve travel times for public transport services in the Victoria Road Corridor between Sydney CBD and Parramatta CBD. Services will be faster and more frequent, with improved bus priority, wider stop spacing and high quality interchanges with consistent wayfinding and signage. These improvements will also enable local bus networks to be streamlined to connect with Victoria Road services and take advantage of faster travel speeds.

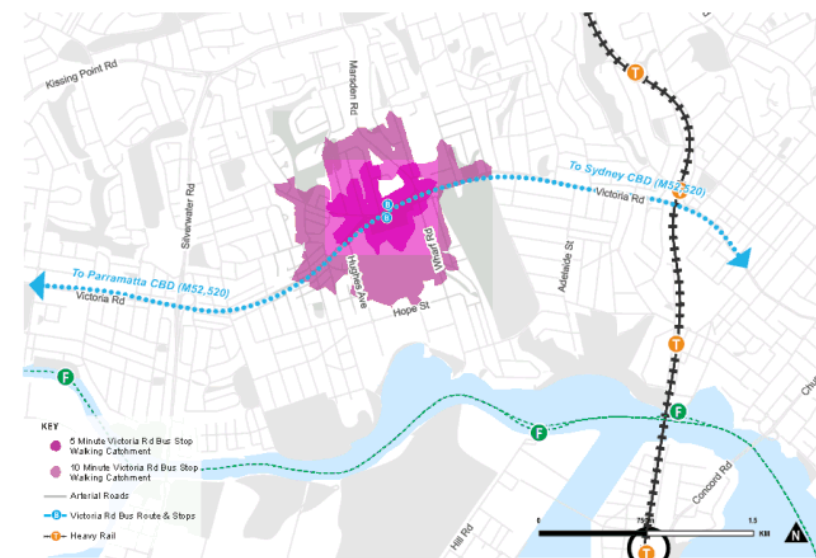
This offers an excellent public transport opportunity for Melrose Park because:

- It provides a high-frequency bus connection to destinations along the Victoria Road corridor, connecting to both the Sydney CBD and Parramatta CBD.
- It would deliver improved levels of reliability and capacity (the existing bus services currently experience significant delays due to traffic congestion).
- It can be designed to facilitate integration of bus services with Parramatta Light Rail (PLR) Stage 2, in terms of their services patterns and their respective operation within the street network.

Bus Stop Catchment

An analysis of the walk-up catchment for the existing bus stops on Victoria Road demonstrates that approximately half of the Melrose Park development site is within a 10-minute walk of bus services. This journey also involves an uphill grade from the site to Victoria Road. This catchment is shown in Figure 3.5.

Figure 3.5 : Victoria Road bus stops - 5 and 10-minute walking catchments



3. TRANSPORT CONTEXT

3.3.2 Rail

The north-eastern corner of the proposed Melrose Park precinct is approximately a 1.9 km walk from West Ryde Station and the south-eastern corner of the proposed Melrose Park precinct is approximately a 2.1 km walk from Meadowbank Station. Melrose Park is outside the generally accepted walk-up catchment of nearby rail stations, meaning that access to the rail network needs to be provided by linked trips involving kiss and ride, bus access, shuttle services, on-demand services or access by bicycle.

The Northern Line (T1) serving West Ryde and Meadowbank (the two closest stations to Melrose Park) are served by 5 trains per hour in the AM peak (7:00-9:00am) and 4 trains per hour over the rest of the day. The travel time between West Ryde and Town Hall is around 32 minutes. Bus services currently offer a faster public transport option between Melrose Park and Parramatta than train.

TfNSW's travel statistics for 2016 report peak hour loadings and passengers as a percentage of seat capacity on T1 North Shore rail services (refer to Figure 3.6). Rail loadings are higher on services towards the city in the AM peak an approaching capacity at North Strathfield.

Planned rail improvement – Sydney Metro West

TfNSW is currently planning Sydney Metro West, a new metro line connecting Parramatta and Sydney central business districts. This project will be located on a corridor between the Parramatta River and existing T1 Western Line. The currently proposed rail alignment (see Figure 3.7) envisages new railway stations at Westmead, Parramatta, Sydney Olympic Park, the T1 Northern Line, the Bays Precinct and at Sydney CBD and is expected to be able to move up to 40,000 passengers an hour in each direction.

This offers an excellent public transport opportunity for Melrose Park by:

- Providing a high frequency, fast rail connection to both the Sydney CBD and Parramatta CBD. Trains departing as frequently as every 2 minutes.
- Providing significant additional rail capacity which will relieve the currently constrained heavy rail network. The new line will be able to carry up to 40,000 people per hour in each direction.

For Melrose Park to benefit from the new east-west connectivity that Sydney Metro West will provide, a fast, direct, high frequency intermediate service linking Melrose Park to the future metro station at Sydney Olympic Park will be required. This is planned to be provided by Stage 2 of Parramatta Light Rail (PLR2) but will be required for Melrose Park even if PLR 2 does not proceed. If well connected to the proposed metro, the Melrose Park development could be a valuable source of patronage for Sydney Metro West.

Planned rail improvement – T1 Northern Line

The need for rail capacity enhancements for the T1 Northern Line was identified in the *Rhodes East Investigation Area Traffic and Transport Report - 2017*. This report also considered the quadruplication of the T1 Northern Line through Rhodes and north over the Parramatta River rail bridge, allowing more services to stop at West Ryde, Meadowbank and Rhodes Stations.

The future introduction of Sydney Metro City & Southwest timetable adjustments will cater for increased capacity via additional services and less crowded services at West Ryde, Meadowbank and Rhodes (with T1 Northern Line customers diverting on to the Metro at Epping, prior to reaching Rhodes) are also being investigated.

The Northern Sydney Freight Corridor Stage 2 will also improve the performance of the T1 Northern Line by improving separation of freight and passenger services on the corridor.

It is noted that the recently commenced Epping-Chatswood shutdown has coincided with increased services on the T1 Northern Line, now 8 per hour in the peak. These services will continue following the implementation of Sydney Metro North West and provide a 60% capacity increase compared to the previous 5 services per hour.

These improvements offers an excellent public transport opportunity for Melrose Park by:

- Providing increased capacity for Northern Line services at West Ryde, Meadowbank and Rhodes Stations
- Supporting mode shift towards increased public transport trips
- Supporting the proposed shuttle services between Melrose Park and Meadowbank.

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Figure 3.6 : T1 Northern Line loadings

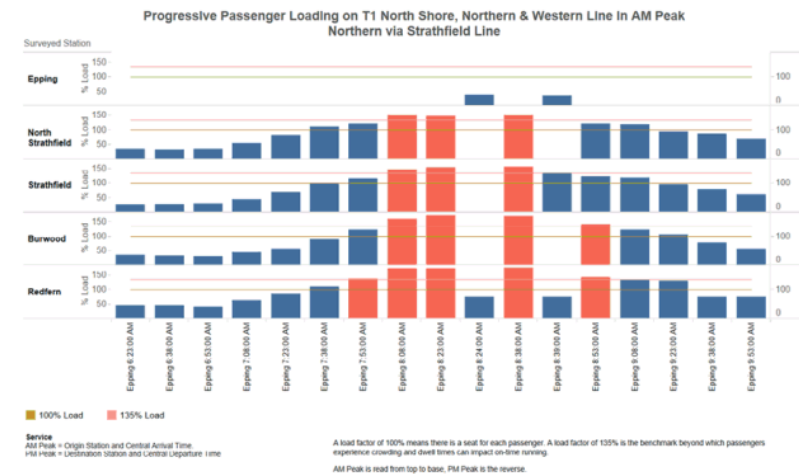
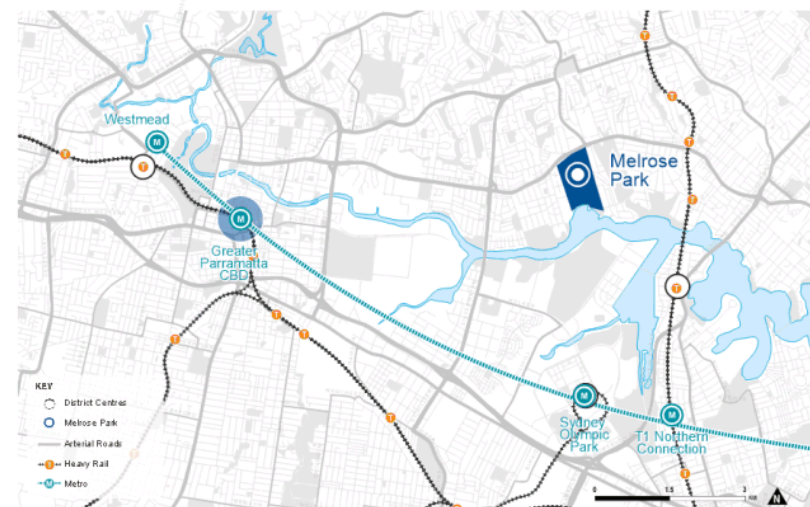


Figure 3.7 : Sydney Metro West (source: TfNSW)



3. TRANSPORT CONTEXT

3.3.3 Light rail

There is currently no light rail access in the vicinity of Melrose Park. Parramatta Light Rail Stage 1 will be introduced through the Parramatta CBD connecting the major educational and health facilities of Westmead and Rydalmere.

Planned light rail improvement – Parramatta Light Rail Stage 2

Parramatta Light Rail (PLR) Stage 2 is currently at the planning stage. The corridor under investigation connects Parramatta CBD with Sydney Olympic Park via Melrose Park using South Street, Boronia Street, Hope Street, Waratah Street, new bridge across Parramatta River, Hill Road, Australia Avenue and Carter Street. TfNSW is currently undertaking a final business case for PLR Stage 2 which is due to be completed by December 2018. Figure 3.8 shows the proposed alignment

This offers an excellent public transport opportunity for Melrose Park by:

- Better integrating Parramatta CBD with Rydalmere, Melrose Park, Wentworth Point and Sydney Olympic Park
- Providing an attractive and accessible service and the potential to reduce the need for car trips and car-parking use at Melrose Park
- Facilitating the development of higher density housing through better urban design and urban form at future light rail stops on Hope Street and Wharf Road.

3.3.4 Ferry

The existing ferry network is shown in Figure 3.9. Ferries currently run between Meadowbank Ferry Wharf and Circular Quay around twice per hour during the day. The trip takes approximately 50 minutes. Ferries currently run between Meadowbank Ferry Wharf and Parramatta once per hour and the trip takes 33 minutes.

Parramatta River services have a higher proportion of travel for recreation than all Sydney ferry services, with a longer access trip, a longer ferry trip and a higher proportion of older passengers than the Sydney average. The current services are relatively slow and experience low patronage during the working week and overcrowding during the weekends.

Current commuter ferry services have capacity to accommodate future growth projected along the Parramatta River to the Parramatta CBD. Parramatta customers will continue to transfer to the Rivercat service at Rydalmere. Services will continue to operate directly to Parramatta in off-peak times and on weekends, reflecting demand.

Planned ferry improvement – Rhodes East Wharf

Roads and Maritime and TfNSW are investigating ferry wharf options at Rhodes East including between the John Whitton Rail Bridge and Ryde Bridge. The future wharf location will ultimately be decided based on operational and navigational design parameters for Sydney Ferries to run between Rhodes East and Meadowbank. Roads and Maritime has advised that the new Rhodes wharf will be delivered within the next three to five years. Further community consultation in relation to the proposed wharf will be undertaken by Roads and Maritime.

Figure 3.8 : Proposed Parramatta Light Rail alignment (source: TfNSW)

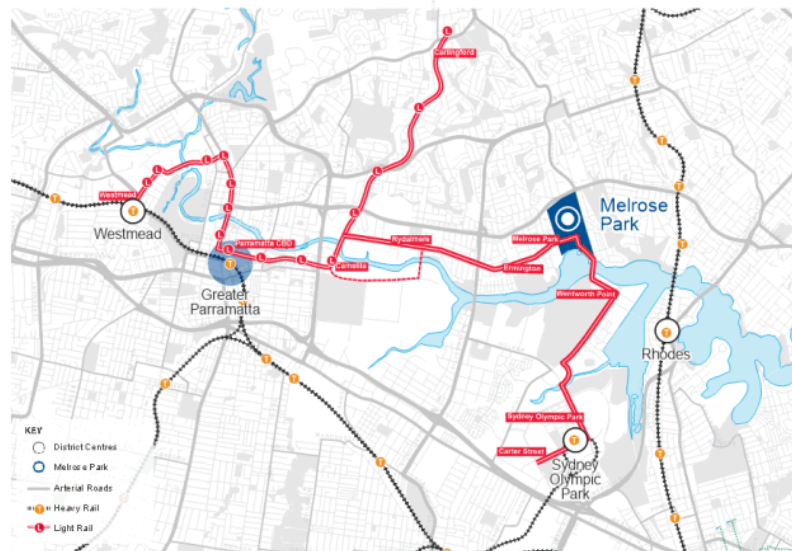
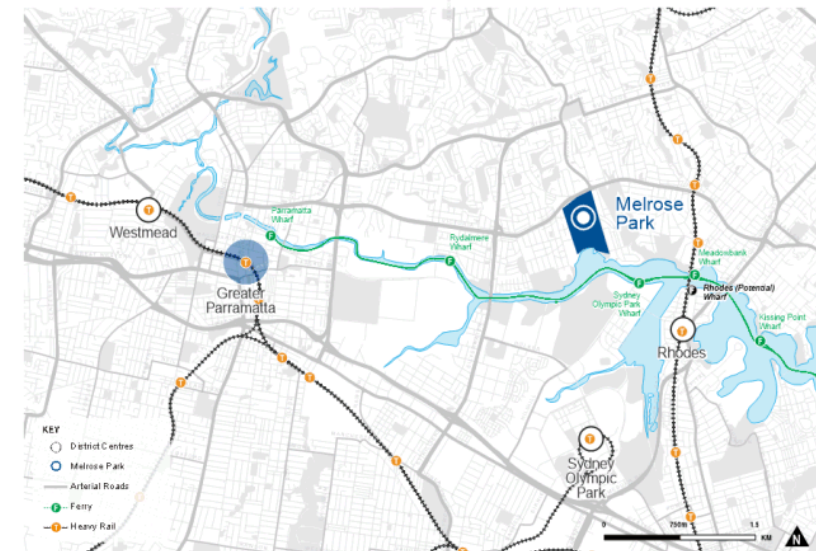


Figure 3.9 : Existing ferry network



3. TRANSPORT CONTEXT

3.4 Road network

3.4.1 Existing strategic road network

The key features of the road network in the vicinity of the Melrose Park site are summarised below:

Victoria Road

Victoria Road is a State Road providing access between Parramatta and the western end of Anzac Bridge. It is currently carrying approximately 60,000 veh/day and there are approximately 2,000 bus services provided along Victoria Road on a weekly basis in the vicinity of the site. Whilst serving as a primary arterial road and movement corridor, there is still a significant amount of direct access to properties on both sides of the road in the vicinity of the development site.

There is significant traffic congestion at nearby intersections on Victoria Road during peak hours. There are delays and queues eastbound in the AM peak at both signalised intersections with Wharf Road / Marsden Road and Kissing Point Road. Similar delays and queues exist in the PM peak at the Wharf Road / Marsden Road intersection.

Wharf Road

Wharf Road is a local road which provides direct access to properties on both sides of the road. Its main function is to facilitate the convenient and safe movement of local traffic to and from Victoria Road. This road generally provides two traffic lanes with parking on both sides. The road has a posted speed limit of 50km/h.

Hope Street

Hope Street is a local road which provides direct access to properties on both sides of the road. The Boronia Street-Hope Street-Andrews Road corridor distributes traffic within residential and industrial areas. These roads form a link between the local and higher order road network. This road generally provides two traffic lanes with parking on both sides. The road has a posted speed limit of 50km/h.

Hughes Avenue

Hughes Avenue is a local road which provides direct access to properties on both sides of the road. This road generally provides two traffic lanes with parking on both sides. The road has a posted speed limit of 50km/h.

Key issues and opportunities of the existing road network are summarised in Table 3.1 below.

A summary of the function of key roads in and around the Melrose Park precinct is summarised in Figure 3.10. This is based on observations pertaining to existing traffic volumes and the type of trips currently facilitated by particular corridors. The presented hierarchy is not intended to strictly correlate with the classification and governance structure of these assets i.e. some sub-arterial corridors are state roads whilst others are local roads.

Planned road improvement – Devlin Street

RMS are currently investigating improvements to intersections at Devlin Street, Blaxland Road and Parkes Street. These works were announced after the finalisation of future network assumptions for the project and have not been included in this modelling. Observed congestion in future traffic modelling at this location is likely to be significantly improved by these works.

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Figure 3.10 : Indicative road hierarchy

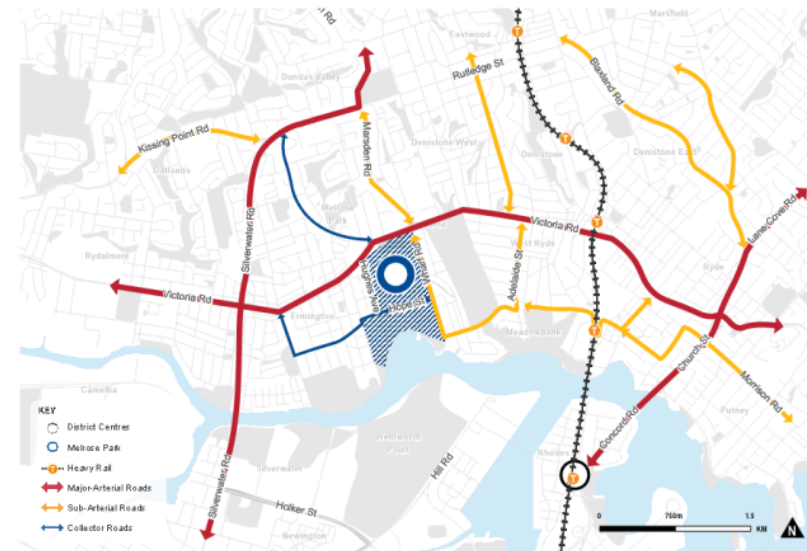


Table 3.1 : Key road access corridors serving Melrose Park

General Traffic Corridor	Role / Function	Opportunities
Victoria Road (A40)	Regional route and predominant movement corridor fronting Melrose Park and providing the most direct access for the development	Direct access from major arterial roads is generally discouraged as it may reduce efficiency of the corridor. Possible opportunities for left in left out access to relieve congestion on local roads
Wharf Road	Local access route along eastern edge of Melrose Park, providing alternative route into the development	Restricted by capacity to access by intersection on to Victoria Road. Opportunity to distribute traffic to reduce congestion.
Hughes Avenue	Local access route along western edge of Melrose Park, providing alternative route into the development	Restricted to left in left out at priority intersection. Additional access to west and Parramatta.
Hope Street	Local access route along southern edge of Melrose Park, serving as a local 'back route' and providing alternative route into the development.	Circuitous alternative route already in use to Meadowbank Station and Concord Road that avoids Victoria Road. Forms part of planned route for PLR Stage 2.

3. TRANSPORT CONTEXT

3.4.2 Existing traffic volumes

Peak hourly traffic volumes on selected roads in the study area, available from Aimsun Model, are summarised in the figure below depicting the traffic survey data collected in 2017. The key points from the traffic volumes include:

- Victoria Road, Silverwater Road and Church St/Devlin Street carry significant traffic volumes of between 2,000 – 3,000 vehicles per hour in the peak direction.
- The section of Victoria Road east of Wharf Road carries the most traffic along this movement corridor.
- The Andrew Street/Constitution Road corridor performs a sub-arterial function and serves as an alternative east-west corridor to Victoria Road, with flows of up to 1,000 vehicles per hour.

These volumes are shown in Figure 3.11 and Figure 3.12.

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Figure 3.11 : Existing traffic volumes AM peak hour



Figure 3.12 : Existing traffic volumes PM peak hour



3. TRANSPORT CONTEXT

3.4.3 Intersection Performance

The existing intersection performance of the Melrose Park study area was analysed using the Aimsun model for peak conditions (AM and PM peak) for 2017. The results of the analysis are presented in Figure 3.13 and Figure 3.14. The key points from the intersection performance include:

- Significant delays are observed along Victoria Road near Melrose Park at Wharf Road. The remaining intersections on Victoria Road perform satisfactorily with the exception of Church Street intersection in both peak periods and the West Parade intersection in the PM peak.
- Significant eastbound delays are observed on the Kissing Point Road/Stewart Street corridor in the AM peak, particularly at the Stewart Street/Marsden Road intersection.

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Figure 3.13 : Existing intersection level of service AM peak hour



Figure 3.14 : Existing intersection level of service PM peak hour



3. TRANSPORT CONTEXT

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3.4.4 Network Performance

A summary of the key existing performance indicators for general traffic, namely travel time and average vehicle speed, have been summarised in Table 3.2 and Table 3.3. The key points from the network performance include:

- Average speeds of approximately 33km/h in both the AM and PM periods indicates that the overall network performs relatively well, considering the modelled network is in an urban environment and does not include any motorways
- There is more demand for travel in the PM period with approximately 25,000 more km traveled across the four hours compared to the AM period
- All of the modelled traffic is able to enter the network in both modelled periods i.e. there is no unreleased traffic.

Table 3.2 : Travel time (2017)

		6:00am – 10:00am	3:00pm – 7:00pm
Victoria Road (between Silverwater Road and Devlin Street)	EB	12:14	11:23
	WB	9:02	12:16
Silverwater Road/Stewart Street (between South Street and Marsden Road)	NB	10:10	7:10
	SB	5:37	4:43
Wharf Road/Marsden Road (between Andrew Street and Stewart Street)	NB	5:40	7:54
	SB	4:05	4:19

Table 3.3 : Network statistics (2017)

	6:00am – 10:00am	3:00pm – 7:00pm
Vehicle kilometres travelled (VKT)	332,582	356,925
Vehicle hours travelled (VHT)	9,982	10,985
Average network speed (km/h)	33.3	32.5
Unreleased traffic (veh)	0	0

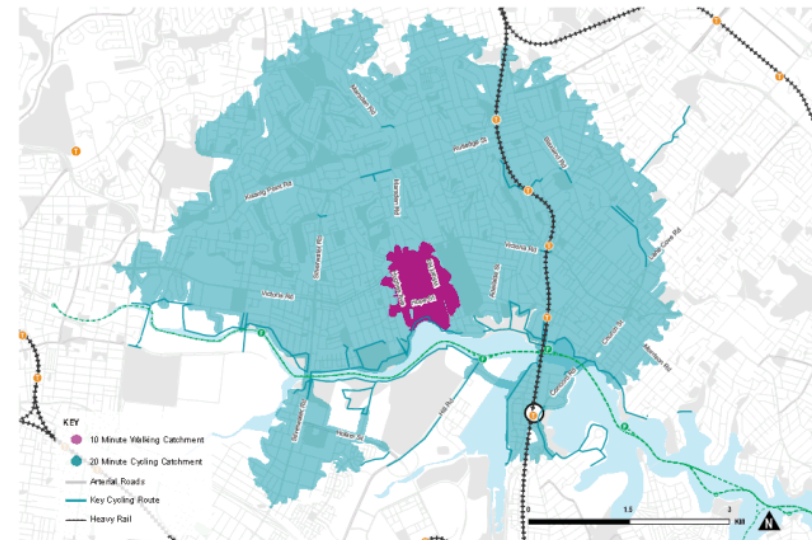
3.5 Pedestrian and cycling network

Figure 3.15 shows the current walking and cycling catchment from Melrose Park. The catchment analysis is indicative only and does not take into account locations in the road network which may be difficult for pedestrians and cyclists to traverse, such as major grade separated intersections. It does however provide a useful strategic assessment of active transport accessibility.

The catchments show that:

- Limited public transport services are within the existing walking catchment of Melrose Park
- Significant services and centres are within a 20 minute cycle of Melrose Park. These include:
 - T1 Northern Line
 - Rydalmere industrial area and future PLR stage 1
 - Sydney Olympic Park
 - Rhodes
 - Top Ryde.

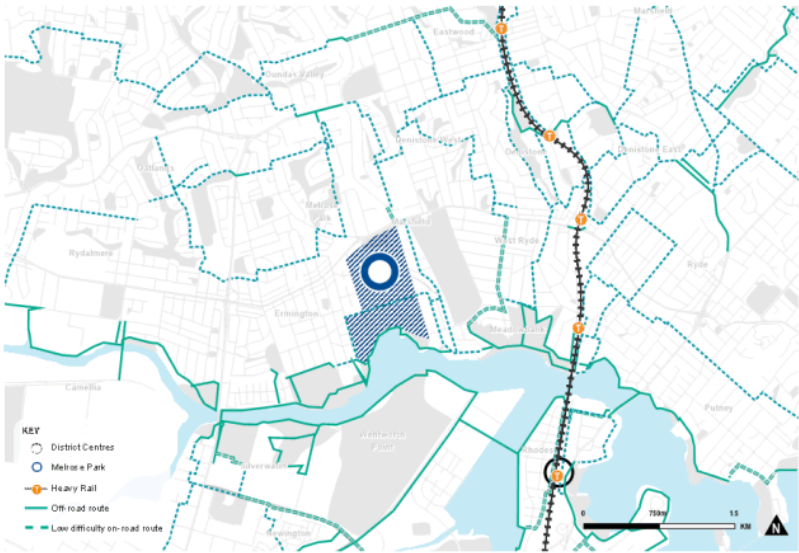
Figure 3.15 : Walking and cycling catchments from Melrose Park



3. TRANSPORT CONTEXT



Figure 3.16 : Cycling routes



Existing off-road and low difficulty on-road cycling routes are shown in Figure 3.16 and are summarised in Table 3.4, below.

Table 3.4 : Key cycling connections serving Melrose Park

Connection	Role / Function	Route
Parramatta River Foreshore Pathway active transport shared path	Recreational and commuter cyclist connection to Meadowbank ferry wharf (and potentially station)	Parramatta River Foreshore Pathway east of the Melrose Park development (includes short section of Lancaster Avenue)
Southern precinct of Melrose Park to Victoria Road (West Ryde)	Local cycle connection	Andrew Street, Adelaide Street
Active transport shared path connections to southern side of Parramatta River and to Foreshore Pathway on southern side of river	Recreational and commuter cyclist connection to southern side of Parramatta River	Bridges across Parramatta River (Silverwater Road, Concord Road)

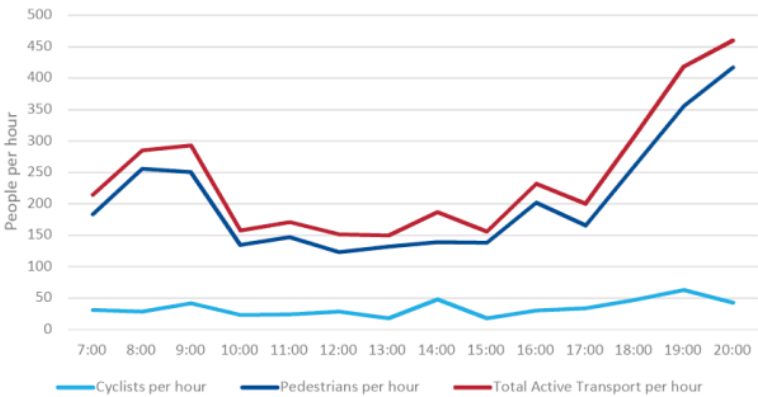
Bennelong Bridge active transport use

Surveys have been undertaken of active transport use on the Bennelong Bridge, connecting Wentworth Point and Rhodes. These surveys give an indication of the willingness of residents in the areas surrounding Melrose Park to use active transport if given safe and direct access to key centres.

Figure 3.17 outlines the results of the survey undertaken in November 2017. It is observed that:

- There is significant all-day use of the bridge by both pedestrians and cyclists.
- In the PM peak hour, over 50 cyclists and over 400 pedestrians utilise the bridge.
- Approximately 3,500 active transport trips are made across the bridge between 7:00am and 8:00pm.

Figure 3.17: Bennelong Bridge active transport use



3. TRANSPORT CONTEXT

3.6 Existing travel behaviour

Travel patterns to, from, through and within Melrose Park and GPOP have been analysed using data extracted from a range of sources including the Australian Bureau of Statistics (ABS) 2016 Census journey-to-work (JTW), Household Travel Survey (HTS) and TNSW Strategic Travel Model (STM).

3.6.1 Existing mode share

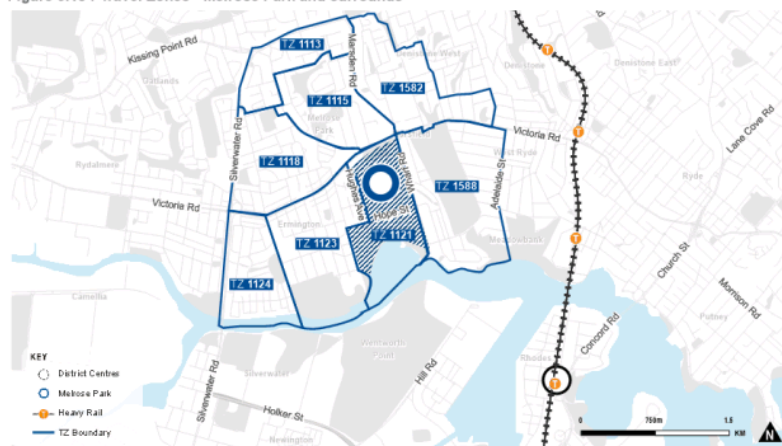
The current site's function and urban character without renewal is predominately industrial which influences the existing travel patterns and purpose of trips to and from the study area. A number of trips are generated by workers commuting to employment opportunities provided by established commercial and industrial businesses within the study area.

Considering the predominantly residential nature of the proposed development, travel zones with existing residential characteristics adjacent to Melrose Park have been chosen to provide a more robust assessment of existing and future travel behaviour.

The travel zones shown in Figure 3.18 have been used to examine current JTW travel patterns and behaviour within and in proximity to Melrose Park.

Figure 3.19 and 3.20 show that trips to and from Melrose Park are predominantly undertaken by private vehicle, particularly for trips to the study area. Of more relevance to the future residential development, non-car mode share for commuting trips from the study area is currently 23%.

Figure 3.18 : Travel Zones - Melrose Park and surrounds



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Figure 3.19 : Mode share for residents commuting from Melrose Park

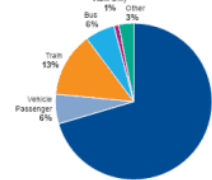
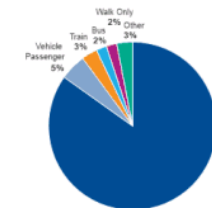


Figure 3.20 : Mode share for workers commuting to Melrose Park



3.6.2 Existing trip purpose

A summary trip purpose is shown in Figure 3.21. This data is obtained from the Household Travel Survey (HTS). The Melrose Park data has been compared to the average trip purpose breakdown for the entire Sydney region. HTS data is available at the SA3 level so for the purpose of this assessment the Melrose Park data has been derived from the Carlingford SA3 data. It is observed that:

- Commuter trips from Melrose Park make up a slightly higher proportion than the Sydney average.
- Trips for work related business, education, shopping and social/recreation from Melrose Park make up a slightly lower proportion than the Sydney average.

3.6.3 Existing trip lengths

Figure 3.22 shows the trip length distribution for all trips in the GPOP area. It is observed that:

- Average weekday trip distances have slightly shortened, with more trips in 0-5km category.
- On weekends, that trend is reversed, with more people taking longer trips (greater than 10km). This is indicative of a trend towards more car use for longer trips on weekends. This could particularly be the case if GPOP residents are traveling outside GPOP for discretionary weekend trips.
- Figure 3.23 shows that the breakdown of trips across the major weekday time periods has stayed relatively constant. There does not seem to have been any shift towards undertaking more off-peak travel in GPOP.

Figure 3.21 : Trip purpose

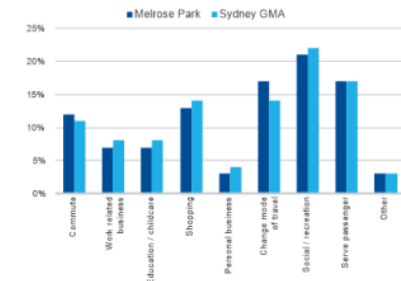


Figure 3.22 : Trip length distribution GPOP

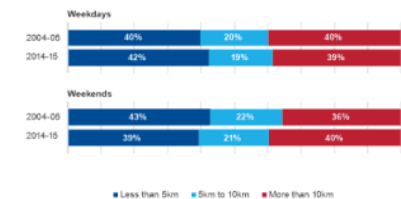
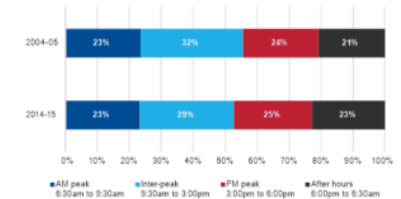


Figure 3.23 : Percentage of trips by time period



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3.6.4 Existing trip distribution

The existing distribution of all trips leaving Melrose Park in the AM Peak has been analysed using TINSW's Public Transport Project Model (PTPM), which is being used for planning of PLR Stage 1 and 2. Figure 3.24 shows the key 12 destinations – at the SA3 level – of these trips.

Figure 3.25 shows the destinations of all trips leaving Melrose Park at a '3 cities' level, with trips either remaining in the Central City or heading to the Eastern or Western Cities.

Both figures represent all modes of travel.

Several key observations can be made:

- A significant number of trips are relatively short and either remain in the Carlingford SA3 or travel to the adjacent Ryde-Hunters Hill SA3
- There is a strong desire line to the east of Melrose Park – due to the current imbalance of jobs and services in the Eastern City. 62% of trips originating around the Melrose Park precinct have destinations in the Eastern City.
- As the Parramatta CBD and wider Central City continues to grow it is expected that future residents of Melrose Park will be less reliant on the Eastern City. The existing 36% of trips which remain in the Central City is expected to increase.
- The balance of employment in Sydney has been shifting west, moving beyond the traditional employment hubs in the Eastern City

Figure 3.24 : Distribution of AM peak hour trips from Melrose Park - SA3 level (all modes)

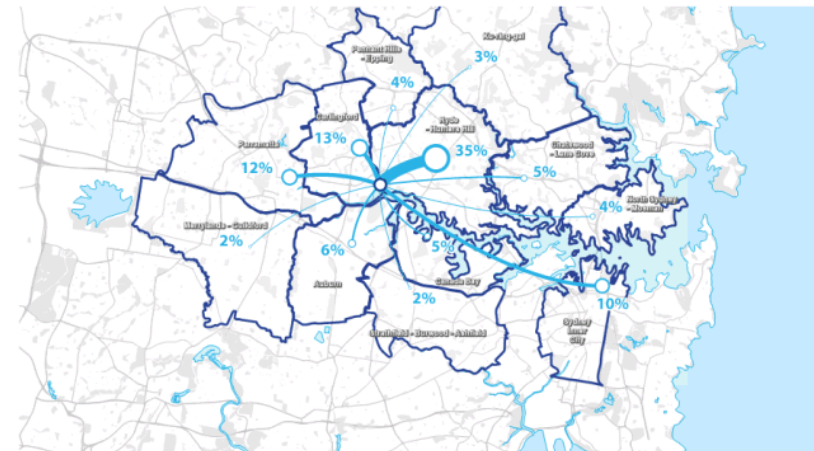
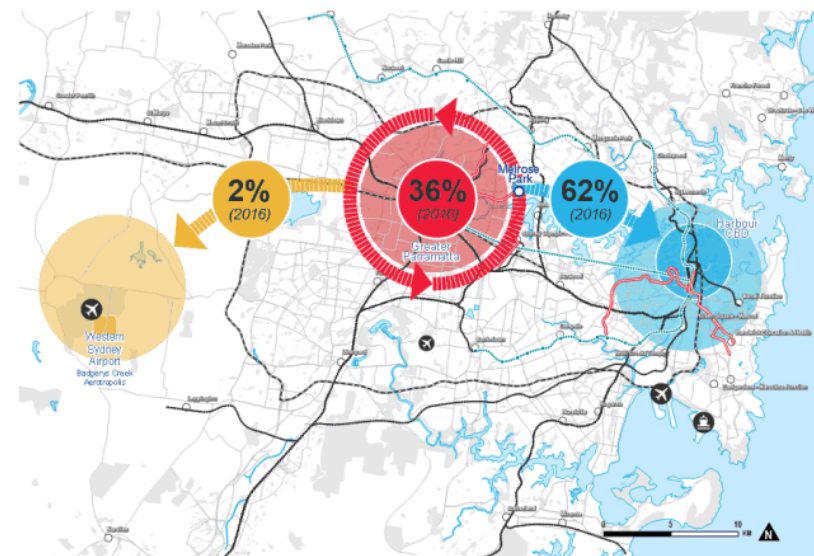


Figure 3.25 : Distribution of AM peak hour trips from Melrose Park - 3 cities (all modes)



3. TRANSPORT CONTEXT

4. MELROSE PARK STRUCTURE PLANS

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4. MELROSE PARK STRUCTURE PLANS

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4. MELROSE PARK STRUCTURE PLANS

4.1 Overview

The land uses within the Melrose Park northern and southern precincts will generate activity that will result in demand for travel. This section provides a guide to the location of the proposed land uses and activities generated by the planned development. This section describes the transport planning vision and objectives for Melrose Park to ensure that planning and investment in the transport network will result in positive outcomes, address the areas of highest priority, and cater for increased future transport demands resulting from the planning proposal.

4.2 The structure plans

The overall structure plans will provide public space that will connect Victoria Road to Parramatta River Foreshore with Melrose Park. The structure plans will also have a rich land-use mix, including housing, offices, town centre, retail, and amenities, connected by public landscape elements. Throughout the day, different happenings in the public domain, including daily work and leisure activities, and urban intersections will enable encounters between different users on site.

The structure plan has been developed in two parts, a northern and southern precinct separated by Hope Street. The structure plans have been developed by the respective proponents of the sites however they have been done so in a collaborative and consistent manner.

The TMAP process has considered the development as an entire combined precinct as agreed by the Project Coordination Group (PCG) in order to develop a consistent and coherent plan for transport and accessibility throughout the whole site, and its connection with the wider GPOP.

4.2.1 Northern structure plan

The northern structure plan has been adopted by City of Parramatta and is shown in Figure 4.1. It has been developed based on the following guiding principles:

- Urban Renewal in the Right Location
- Creating New Employment Opportunities
- Creating New Communities
- Connected Urban Renewal
- Well-Mannered and Environmentally Conscious

The land use plan has higher densities at key locations, increasing the potential for public transport share at key transit nodes. The major activities of Melrose Park are concentrated along the Victoria Road rapid bus corridor and planned light rail corridor along Hope Street. This improves access and provides the opportunity to increase walking and cycling, with the aim of reducing car dependency and overall parking requirements.

The former Bartlett Park site located on Victoria Road forms part of the northern precinct and has been rezoned with DA approval for 1,200 dwellings.

A new town centre located on Hope Street will provide the focal point for the mixed use development and will contain the major commercial and retail uses. All this will be supported by a series of high quality public spaces which are to be dedicated to the City of Parramatta. The proposed development will create at least 1,500 full-time jobs within the town centre.

As part of the northern structure plan, upgrades on Victoria Road have been proposed as outlined in Figure 4.2. These upgrades have been planned in order to:

- Increase the accessibility of Melrose Park for all road users. Increased capacity at the Wharf Road intersection and new access via a southern leg at Kissing Point Road will allow vehicle demand to be efficiently dispersed across the network
- Improve the efficiency of the Victoria Road corridor. Additional stopline capacity on Kissing Point Road, Wharf Road and Marsden Road as well as for turning movement into these roads will ensure that regionally significant trips on Victoria Road are not adversely impacted by the development.
- Reinforce bus priority by filling in gaps in existing bus lanes along Victoria Road and facilitating increased public transport use along the corridor.

Further investigations will be required in order to determine the final layout of these upgrades. It is noted that all traffic modelling presented in this TMAP assumes full one-stage pedestrian crossings on all legs of Victoria Road intersections with Kissing Point Road and Wharf Road.

The proposed land use programme for the northern precinct is shown in Table 4.1

Table 4.1 : Land use summary (northern precinct)

Land use	GFA/dwellings
Residential	
Dwellings	6,850 dwellings
Non-residential	
Commercial	15,000m ²
Retail	12,500m ²

Figure 4.1 : Northern structure plan (adopted by CoP)

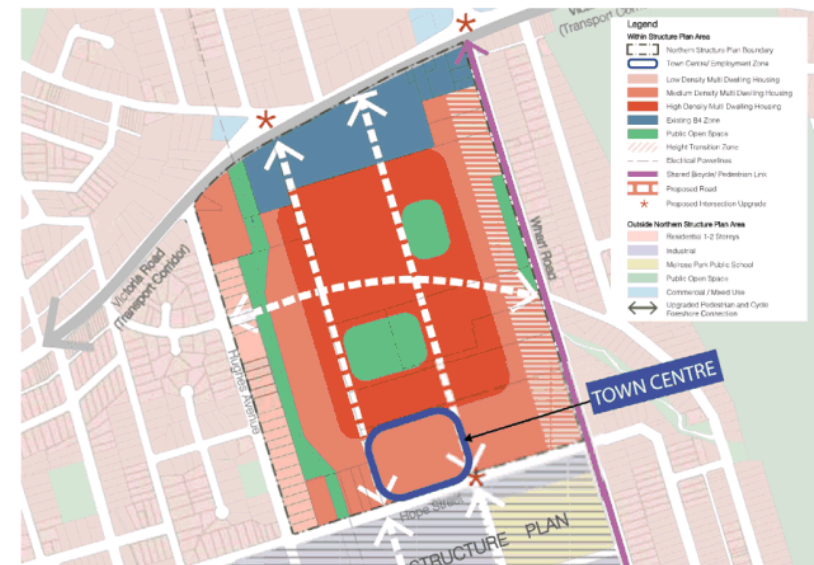


Figure 4.2 : Proposed Victoria Road Upgrades (Northrop)



4. MELROSE PARK STRUCTURE PLANS

4.2.2 Southern draft structure plan

The southern draft structure plan is shown in Figure 4.3 and has been developed based on the following guiding principles:

- A New Waterfront Community
- A Connected Precinct
- An Appropriately Scaled Precinct
- A Sustainable Precinct.

Built form in the Southern Precinct will be consistent with the scale of new development along Parramatta River and shall relate to the height of new development in the Northern Precinct.

- Built form will reduce in scale at the east and west edges of the precinct to affect a good transition in height to protect the amenity of adjoining low-rise neighborhoods.
- Along the riverfront park, scale will be limited to ensure a reasonable scale is achieved behind the mangrove line.
- There is to be no overshadowing of endangered Coastal Salt Marsh between 9am and 3pm at mid-winter, and no overshadowing of existing and new open space.

Higher density development is to be located at the heart of the precinct to facilitate a built form response that manages transitions adjoining low-rise residential. Densities will be reduced along the waterfront park edge.

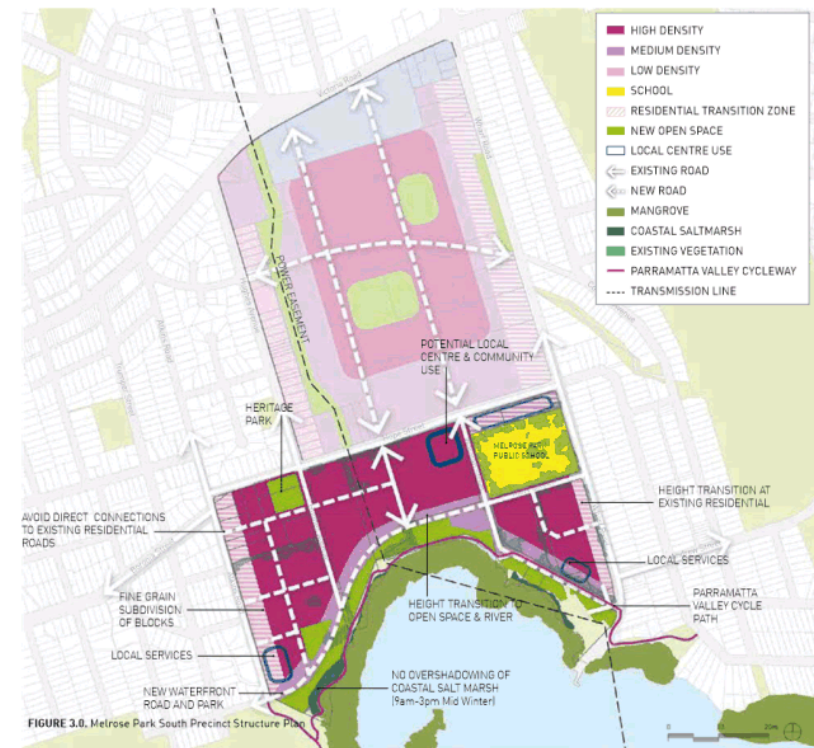
At least 15% of the precinct and 15% of privately owned land has been identified as new open space.

The proposed land use programme for the northern precinct is shown in Table 4.2

Table 4.2 : Land use summary (southern precinct)

Land use	GFA/dwellings
Residential	
Dwellings	4,238 dwellings
Non-residential	
Commercial	4,400m ²
Retail	3,100m ²

Figure 4.3 : Southern draft structure plan



4. MELROSE PARK STRUCTURE PLANS

4.3 Transport planning objectives and indicators

The Melrose Park precinct has been planned with the goal of delivering balanced, integrated and sustainable outcomes that will potentially achieve the proposed transport targets of:

- Walking and cycling mode share - 5%.
- Public transport mode share - 45%.
- Car mode share - 50%.

These targets are shown in Figure 4.4. It is noted that these mode shares are for peak hour trips external to the development. It is anticipated that trips within the development will be primarily undertaken by active transport.

The Melrose Park TMAP leverages off and facilitates existing, planned and potential future transport options and accommodates the staged implementation of these proposals. Table 4.3 shows the overall, integrated transport strategy for the Melrose Park TMAP. Specific transport objectives and indicators in the integrated network are discussed below to support the overall Melrose Park vision and respond to the constraints outlined in Section 3.0.

Figure 4.4 : Melrose Park peak hour mode share targets - excluding trips internal to development

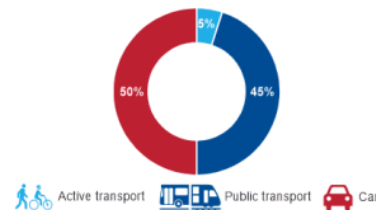


Table 4.3 : Melrose Park integrated transport objectives and indicators

Objective	Melrose Park indicators
1. Contribute to a general mode shift to public and active transport and reduce non-car mode share for peak trips to / from Melrose Park	Reducing the reliance on private car travel will provide significant benefits for future residents of Melrose Park whilst also minimising the impacts of the proposed developments on existing users of the road network. A non-car mode share of 50% represents a sizeable shift from the existing travel characteristics of the area. The delivery of significant new infrastructure – PLR Stage 2 and Sydney Metro West – will enable this step change in travel behaviour. These new public transport options will directly connect Melrose Park to the cores of the Eastern and Central CBD's, enhancing accessibility and reducing travel times to jobs and services.
2. Ensure that the transport network and services reflects the future growth and importance of key activity centres to / from Melrose Park	Melrose Park is perfectly located to provide 30-minute access to both the Eastern and Central CBD by public transport. Other nearby strategic centres include Sydney Olympic Park, Rhodes Business Park. This goal of 30-minute access to centres has been a key driver throughout the TMAP process and will be a key indicator for the overall success of the precinct.
3. Ensure all new residents in Melrose Park are within a safe walking distance of open space, social infrastructure and retail facilities.	The proposed development will deliver important non-residential facilities with retail, commercial and community uses as well as public open space. In order to maximise the benefits from these uses it will be imperative that a convenient, comfortable and safe walking environment is provided.
4. Minimise travel times along key public transport and movement corridors	Victoria Road is a regionally significant movement corridor. The efficiency and productivity of the corridor will need to be protected and the Melrose Park development will need to be implemented in a way that does not lead to travel time increases of more than 5% through the study area. This TMAP shall seek to meet this performance indicator through the provision of appropriate infrastructure upgrades and the minimisation of car use for trips to and from Melrose Park.
5. Ensure that the future transport network and services are attractive to the trip patterns of future residents	Melrose Park will be well served by existing and planned public transport services but there is a need to ensure patronage from the development does not exceed the planned future capacity of the network. The TMAP process will ensure that the staged development of the precinct occurs in lock-step with the provision of public transport infrastructure and services. The development will seek to focus highest intensity land uses around the primary public transport network such that 90% of the potential passenger catchment is within a 800 metre radius of a stop on the intermediate public transport system and/or within 400 metres of a local and suburban public transport route.
6. Ensure the key road network performs at acceptable levels of service during the highest impact peak hour.	The two key access points for the precinct will be on Victoria Road at Kissing Point Road and Wharf Road. Maintaining intersection level of service at LOS E or better will ensure that Victoria Road through traffic is not adversely impacted by the development whilst also allowing efficient access into and out of the precinct. It is noted that Victoria Road/Wharf Road currently performs at LOS F.
7. Prioritise active and public transport, and demand management measures to support sustainable travel behaviour and encourage reduced car use	Maximising the use of active and public transport will have significant benefits for the future residents and visitors of Melrose Park and will reduce the impacts of the development on the wider transport network. A key driver of active and public transport use will be the prioritisation of these modes throughout the precinct. This can primarily be done through best-practice urban and public realm design and by designing the precinct with pedestrians and cyclists as a primary consideration.

4. MELROSE PARK STRUCTURE PLANS

4.4 Movement and place framework

In recognition of these various functions, TfNSW has prepared new guidelines for street planning in NSW. The NSW Road Planning Framework (2017) proposes five different road types, as shown and described in Figure 4.5. Ultimately the classification of a road corridor to one of these types is based on a corridor's Movement needs and Place function.

The proposed road network within the Melrose Park precinct and hierarchy is shown in Figure 4.6. The hierarchy of the road has many functions on which the future precinct will rely on, including:

- Connecting communities through the movement of people and goods
- Supporting places and public spaces in urban areas and regional centres
- Facilitate economic growth and prosperity
- Facilitating social activities such as events and celebrations.

The Melrose Park structure plan is based on an interconnected, legible, urban-scale grid street pattern that will provide a pedestrian-friendly environment and provide optimal opportunities for bus servicing and access. The road network has been planned and dimensioned in conjunction with the spatial and land use planning of the precinct. This has ensured that the design of each street and its position in the movement and place hierarchy is appropriate to its role and the traffic demands placed upon it.

The internal road network has been conceived as a 'grid-like' system. Beginning from the higher order road network, each road type in the hierarchy branches into a smaller road with reduced speed environment. The hierarchy has been designed so that as individual blocks and access are approached, the level of speed of traffic decreases. The road network comprises three major elements:

1. The road hierarchy and street pattern
2. Road widths
3. Intersections

Figure 4.5 : Movement and Place

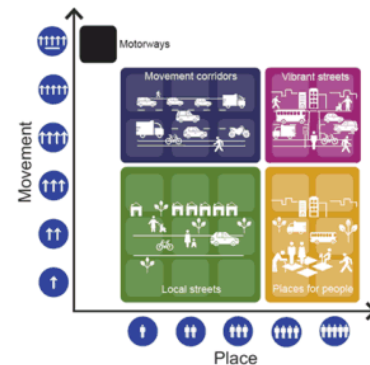


Figure 4.6 : Indicative internal street hierarchy



These elements have been integrated with a firm view of the broader aims of the structure plan to ensure the following outcomes:

- An interconnected, legible, urban-scale grid street pattern that will provide a pedestrian-friendly environment and optimal opportunities for bus servicing and access
- The proposed Town Centre at the south east corner of Hope Street and Wharf Road is developed on the basis of promoting local access rather than regional traffic
- The road hierarchy is compatible with the land use and range of roles that each street serves. This incorporates a grid of local collector roads to distribute traffic within the Centre and to provide access into parking areas
- The alignment of roads and intersections support the urban structure and form. The structure plan includes proposed upgrades to Victoria Road in order to provide a new access into the precinct via the Victoria Road/Kissing Point Road intersection. Minor capacity upgrades to the Wharf Road/Victoria Road intersection are also proposed

Carriageways have been dimensioned to support the aims of the structure plan:

- Main roads in the core are proposed to each have a width capable of providing either four travel lanes or two travel lanes and two parking lanes
- Appropriate setbacks provided along the northern side of Hope Street (between Hughes Avenue and Waratah Street), future proofing the land to enable implementation of PLR Stage 2
- Some of the lesser roads are proposed to have 8.5m wide carriageways which would be capable of providing two travel lanes plus a parking lane on one side
- Roads in the residential areas are proposed to have carriageways typically 8m wide. These allow parking on each side plus a single travel lane between or parking on one side plus room for two vehicles to pass in opposing directions
- On-street parking (indented parallel parking bays) to be provided within the internal road network to provide for overspill of resident and visitor vehicles
- Comprehensive pedestrian and bicycle network providing sufficient footpath width that will provide permeability and a high degree of convenience for walkers and cyclists.

The right-of-way and typical cross sections associated with the northern and southern structure plans are shown in Figure 4.7 and Figure 4.8. It is noted these figures are indicative only and will be subject to refinement during detailed design and precinct delivery.

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Figure 4.7 : Internal road sections - northern precinct

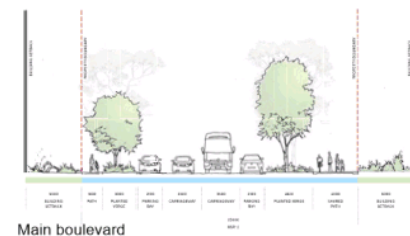
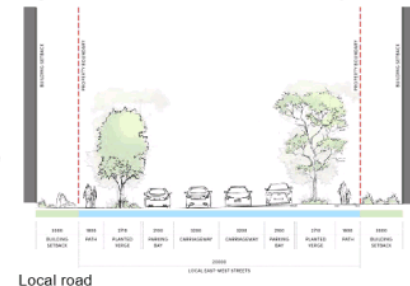


Figure 4.8 : Internal road sections - southern precinct



4. MELROSE PARK STRUCTURE PLANS

5. TRANSPORT MODELLING

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5.1 Overview

Transport modelling is a core part of the Melrose Park TMAP. The modelling process forecasts the traffic and transport impacts of the overall Melrose Park precinct. This section outlines the various platforms and processes used throughout the modelling components of the TMAP.

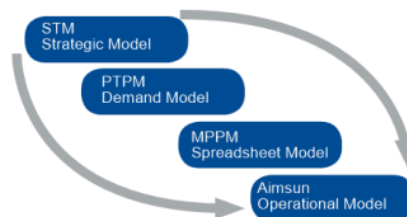
5.2 Modelling framework

The transport modelling approach was tailored to the needs of the Melrose Park TMAP included the use of three (3) separate models with linkages, as outlined in Figure 5.1. Transport modelling has been undertaken using a multi-tiered modelling approach using a combination of strategic, mesoscopic and microscopic modelling. Strategic modelling has been used for demand forecasting and mode split, while mesoscopic modelling has been undertaken to determine key performance indicators for general traffic, buses and light rail for the base and future scenarios.

The transport modelling approach and included the use of three (3) models with linkages as follows:

- **Public Transport Project Model (PTPM)** - used to determine future travel patterns based on population and employment forecasts from STM and estimate public transport patronage.
- **Melrose Park Precinct Model (MPPM)** - bespoke precinct wide spreadsheet modelling tool to derive high level patronage forecasts, and potential mode shares to assist in understanding the initial feasibility of various transport scenarios
- **Aimsun mesoscopic traffic model** - developed to assess transport impacts on the road network of the proposed land use changes and to ascertain the requirements for transport infrastructure and services to support this growth.

Figure 5.1 : Modelling process



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5.2.1 Public Transport Project Model (PTPM)

PTPM (Public Transport Project Model), currently being used for PLR Stage 1 and 2, is an incremental multi-modal demand model developed for and operated by the Transport Performance Analytics (TPA) within TfNSW to assist in the evaluation of major public transport projects. It is closely related to the Strategic Travel Model (STM) which provides the overall growth factors before PTPM undertakes the mode choice and assignment functions using generalised costs. A key strength is the underlying observed demand, which provides a solid platform to forecast patronage and demand related impacts of public transport projects and policies.

In this context, the Melrose Park TMAP Project Coordination Group advised the use of PTPM to investigate the following for a 2026 and 2036 forecast year:

- Determine regional trip distribution across the Sydney Metropolitan Area
- Determine potential future travel patterns based on population and employment forecasts
- Estimate public transport patronage and future services through the study area.

5.2.2 Melrose Park Precinct Model (MPPM)

As part of the Melrose Park TMAP, Jacobs developed a bespoke precinct wide spreadsheet modelling tool (MPPM) in conjunction with Dr Neil Prosser to derive high level patronage forecasts, and potential mode shares to assist in understanding the initial feasibility of various transport scenarios. The MPPM is a combination of mode choice modelling with tailored assumptions trip generation, trip distribution, and travel attributes based on background data. The MPPM is a finer grain precinct wide model based on benchmarking future demand based on proposed developments near the vicinity of Melrose Park such as Meadowbank, Wentworth Point, Rhodes and Liberty Grove etc.

A summary of the development and operation of the model is provided below:

- A combination of mode choice modelling with assumptions about trip generation, distribution and travel attributes based on an analysis of JTW (2011) and HTS (2015/16) data
- Coarse representation of zones outside the study area – modelling of key origins and destinations
- No modelling of the road and traffic network – car travel times are obtained from STM
- Public transport – travel attributes, including travel time, walk time, wait time, transfers and fares, are estimated within the PT model based on specified public transport routes and services
- Walking and cycling – walk and cycle travel times are estimated based on specified average speeds and distance factors.

The MPPM has benefits associated with the modelling approach undertaken for the Melrose Park TMAP including:

- More accurate modelling of higher density land use at a block by block level near transit nodes
- Finer disaggregation of travel zones within the precinct when compared to PTPM
- Detailed modelling of bus, light rail and future rail services with 'walking up' components incorporated in mode choice
- Estimation of trip generation for work and non-work trips
- Modelling of public transport travel and mode share to and from Melrose Park during the AM and PM peak hours.

Detailed documentation of MPPM background and model development is provided in Appendix A.

5.2.3 Mesoscopic and microscopic modelling

A mesoscopic model is a mid-level modelling tool which uses features from both strategic modelling and micro-simulation modelling to forecast the future transport demand on the road network by considering the predicted land use changes (population and employment). Operational modelling of the study area has been undertaken using the Aimsun modelling platform using a hybrid combination of mesoscopic and microscopic modelling. The extent of the model area is shown in Figure 5.2.

Mesoscopic modelling allows for simulation to be undertaken using dynamic assignment that takes into account the effects of congestion on the network and allows for the identification of network constraints at the arterial and sub-arterial level. Microscopic level modelling allows for more detailed examination of specific locations using microsimulation for selected areas. This hybrid configuration of mesoscopic/ microscopic modelling has been undertaken for the TMAP, with microsimulation at the immediate development interface and mesoscopic modelling for the wider network.

The adopted hybrid modelling configuration provides sufficient detail to determine the performance of the network under proposed future land use demands and provides guidance on the need for further road infrastructure improvements. In addition, the hybrid simulation allows for true dynamic equilibrium assignment, where vehicles can select their optimum travel routes based on their previous travel experiences. This provides confidence that the modelled pattern of traffic represents a realistic response to all of the delays and capacity constraints that would be experienced on the network.

The Aimsun model calibration report is provided in Appendix B.

Figure 5.2 : Aimsun mesoscopic model area



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5. TRANSPORT MODELLING

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5.3 Mesoscopic Modelling – Calibration and validation

The Melrose Park Traffic Model has been calibrated and validated according to the principles outlined in the RMS Traffic Modelling Guidelines, 2013. Calibration and validation of models is essential to ensure that they are an accurate reflection of observed traffic conditions.

Further detail on the calibration and validation process is provided in the *Melrose Park Mesoscopic Model Calibration and Validation Report* (Jacobs, 2018).

5.3.1 Data sources

The model has been calibrated using turning movement counts collected across the study area in August 2017. Travel time surveys were undertaken along key corridors in order to provide a basis for model validation. Travel times were collected for:

- Victoria Road
- Silverwater Road
- Wharf Road/Marsden Road.

5.3.2 Model coverage

The Melrose Park mesoscopic model is a sub-area model derived from the Sydney GMA model. The Melrose Park sub-area extends from Silverwater Road in the west to Church Street/Devlin Street in the east. The Parramatta river forms the southern boundary and the model extends to Stewart Street and Rutledge Street in the north.

The model is comprised of:

- Over 1,267 individual road sections
- Over 100 traffic generating centroids
- Over 40 signalised intersections.

Table 5.1 : GEH statistics

Measure	Target	Hour starting				
		All hours	6:00am	7:00am	8:00am	9:00am
Whole model						
GEH<5	80%	85%	78%	80%	78%	80%
GEH<10	95%	98%	98%	99%	95%	98%
Core area						
GEH<5	85%	91%	82%	88%	86%	85%
GEH<10	100%	100%	100%	100%	100%	100%

5.3.3 Calibration

Through a process of demand adjustment and refinement of traffic signal settings and route attractiveness, the models were calibrated to the observed counts. The Melrose Park model has been calibrated according to the following criteria:

- R^2 of greater than 0.95
- Regression slope between 0.95 and 1.05

Whole model:

- At least 80% of flow comparisons with GEH less than 5
- At least 95% of flow comparisons with GEH less than 10

Core/microsimulation area:

- At least 85% of flow comparisons with GEH less than 5
- 100% of flow comparisons with GEH less than 10

The GEH statistic is used in the calibration of traffic models to compare the differences between modelled and observed traffic flows

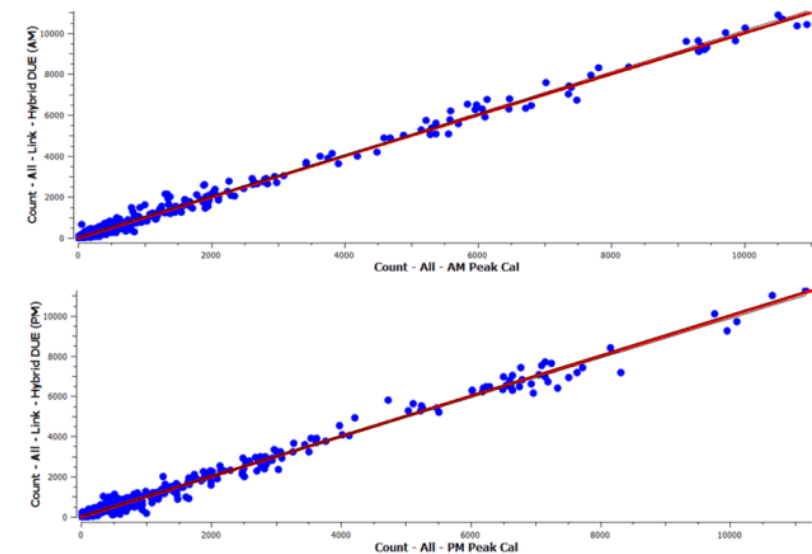
The R^2 value generally represents the closeness of fit of the observed data points with the modelled data points and the slope of the trendline provides an indication of whether the model is generally over assigning (slope greater than 1) or under assigning (slope less than 1) traffic across the network.

Review of the GEH and regression statistics, see Table 5.1, Table 5.2 and Figure 5.3 shows that the model is sufficiently well-calibrated on the basis of turning movement flows, for both peak periods in aggregate and for each hour within those peak periods.

Table 5.2 : Regression statistics

AM Peak	R^2	Slope
6:00 - 10:00 (Aggregate)	0.992	0.989
6:00 - 7:00	0.988	0.974
7:00 - 8:00	0.990	0.981
8:00 - 9:00	0.981	0.975
9:00 - 10:00	0.982	1.014
PM Peak	R^2	Slope
15:00 - 19:00 (Aggregate)	0.987	0.979
15:00 - 16:00	0.973	0.950
16:00 - 17:00	0.986	0.986
17:00 - 18:00	0.986	0.989
18:00 - 19:00	0.977	0.982

Figure 5.3 : Regression graphs



5. TRANSPORT MODELLING

5.3.4 Validation

In order to determine the suitability of the Melrose Park model in forecasting future traffic conditions, it was necessary to validate the model against a set of data that is independent from that used in the demand estimation and calibration process. Validation of the Melrose Park model has been undertaken using travel time surveys outlined above and results for Victoria Road are shown in Figure 5.4 and Figure 5.5. Results indicated that the model was sufficiently validated in accordance with RMS Traffic Modelling Guidelines.

Figure 5.4 : Victoria Road travel time validation (AM peak hour)

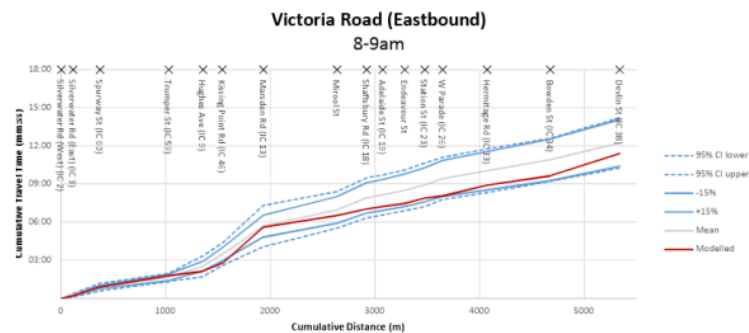
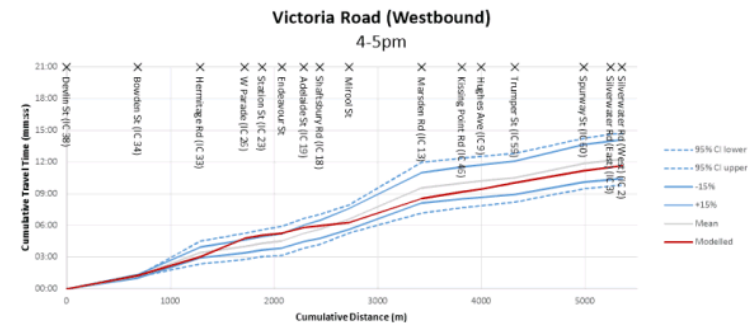


Figure 5.5 : Victoria Road travel time validation (PM peak hour)



5.4 Model inputs and assumptions

The transport models developed for the Melrose Park TMAP required a number inputs and assumptions, including population/employment forecasts, wider network changes, road network configurations and public transport service provision. Key assumptions in the immediate area impacting the Melrose Park TMAP included:

- Population and employment across Sydney GMA consistent with LU16 forecasts
- Major public transport projects – Parramatta Light Rail Stages 1 and 2 connecting Rydalmere and Sydney Olympic Park via Melrose Park (via new bridge across Parramatta River (in 2026), and Sydney Metro West connecting Parramatta CBD, Sydney Olympic Park and Sydney CBD in 2036
- Major motorway road projects – WestConnex Stages 1&2 by 2026 and WestConnex Stage 3 and Western Harbour Tunnel by 2036.
- Major arterial road projects – proposed structure plan incorporates widening of Victoria Road (from Wharf Road to Hughes Avenue), upgrades to Victoria Road signalised intersections at Wharf Road and Kissing Point Road in 2026
- Local road network changes – all intersections along Boronia Street-Hope Street between Spurrway Street and Wharf Road along the PLR Stage 2 corridor have been assumed to be signalised with other intersections 'left-in' and 'left-out' in 2026

5.5 Trip generation

5.5.1 Approach

As agreed with the Melrose Park PCG, two methods were used to estimate the overall trip generation of the overall Aimsun model study area. The first method involved the application of the STM/PTPM, and the second method was based on the RMS Guide to Traffic Generating Developments (2002) and High Density Residential Car Based – Trip Generation Surveys Analysis Report (2017) undertaken on behalf of RMS.

5.5.2 Traffic generation calculations

The estimation of future traffic volumes to be used in the Aimsun model has been developed using a combination of both the STM/PTPM and RMS guidelines as follows:

- PTPM has been used to generate 'external trips' only with neither originating or ending in the study area
- RMS guidelines have been used to generate 'internal trips' into and out of Melrose Park precinct based on a combination of RMS updated surveys (TDT 2013/04a) and more recent surveys undertaken in 2017 on behalf of RMS.
- Commercial vehicle trip rates are based on rates from RMS updated surveys (TDT 2013/04a)
- Retail rates are based on surveys undertaken at East Village Shopping centre as outlined in the *Melrose Park Planning Proposal Traffic and Transport Study (2016)*.

An analysis of the above data along with an extensive benchmarking process led to the following rates being proposed and agreed with the PCG:

- The traffic generation rate for the former Bartlett Park site incorporating 1,200 dwellings has based on an AM and PM rate of 0.19 and 0.15 trips per dwelling per hour respectively as part of previously approved rezoning proposal
- The traffic generation rate for the remaining 9,855 dwellings for Melrose Park has been based on a rate of 0.25 trips per dwelling per hour for both the AM and PM periods.
- Retail rates includes a 20% reduction to account for linked trips already captured by the residential generation rates, as is appropriate for a high density mixed use development.

The expected generated trips for the AM and PM peak hours for the 'ultimate build-out' (2036) is shown in Table 5.3.

Table 5.3 : Melrose Park traffic generation (ultimate build-out)

		AM PEAK HOUR		PM PEAK HOUR	
		Trip generation rate	Vehicle trips	Trip generation rate	Vehicle trips
Dwellings (Bartlett site)	1,200	0.19 per dwelling	228	0.15 per dwelling	180
Dwellings	9,886	0.25 per dwelling	2,471	0.25 per dwelling	2,471
Commercial GFA	19,400m²	1.6 per 100m²	310	1.2 per 100m²	233
Retail GFA	15,600m²	2.5 per 100m²	390	5.0 per 100m²	780
Total			3,399		3,664

5. TRANSPORT MODELLING

5.6 Trip distribution

The distribution of all trips in the network has been based on the outputs of PTPM. Overall trip distribution for the Melrose Park Traffic Model has been undertaken on the basis of revealed travel patterns from the PTPM, and by extension the STM. Trip distribution in STM is an iterative process that distributes trips based on the proximity of jobs and population for the whole Sydney metropolitan area.

The PTPM trip matrices provide the most appropriate source of future trip distribution for all trips within and through the study area. The future land use projections for the entire Sydney metropolitan area are included in the PTPM hence the distribution of trips within PTPM takes into account the location of future jobs, dwellings and services likely to generate and attract trips which interact with the Melrose Park study area.

Figure 5.6 and Figure 5.7 show the distribution of trips leaving Melrose Park in the 2036 AM peak periods. There remains a relatively strong desire line to Sydney CBD, however there is a noticeable shift away from the Eastern City as a whole. More trips from Melrose Park remain in the Central City where a significant number of new jobs and services are expected to be provided within the next 20 years. Less than half of all trips originating from Melrose Park are expected to have destinations in the Eastern City, compared with almost 60% in 2016.

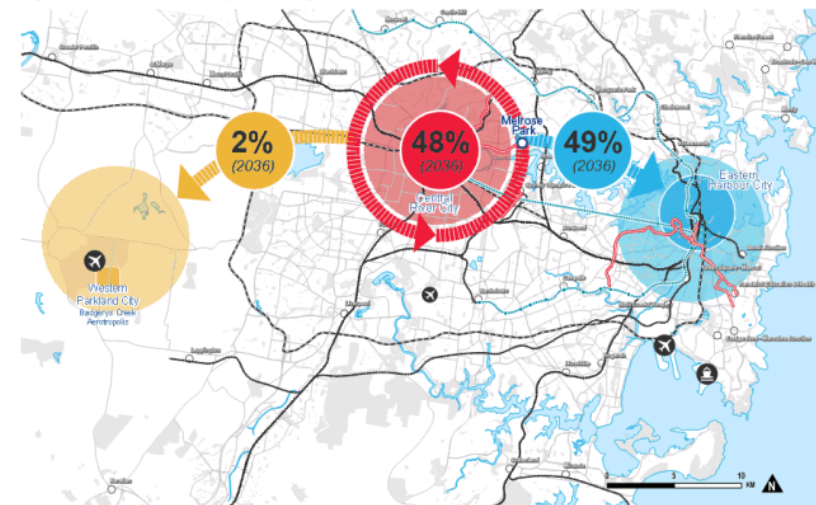
This change in trip distribution patterns will lead to shorter trips and will help to relieve the existing pressure on existing transport infrastructure which is currently constrained by the significant number of eastbound trips towards the Eastern City in the AM peak period.

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Figure 5.6 : Distribution of trips departing Melrose Park - SA3 level (2036 AM)



Figure 5.7 : Distribution of trips departing Melrose Park - 3 cities level (2036 AM)



5. TRANSPORT MODELLING

5.7 Mode choice

Potential future mode shares for Melrose Park have been assessed using a combination of the PTPM and MPPM models. Both models use an assessment of the generalised cost of travel time to forecast mode choices for a particular journey.

The potential for reduction in car dependency by implementing the public transport initiatives (see Section 6.0) for Melrose Park is considerable, and preferable to the alternative of the traditional car-based solution. As discussed earlier, the Melrose Park site represents a major opportunity to influence travel through initiatives that encourage transport alternatives that will reduce car dependency.

The proposed PLR Stage 2 and its connection to Sydney Metro West via a new bridge across the Parramatta River represents a major commitment to promoting public transport, as a competitive and preferable mode to private vehicle use, which will be demonstrated later in this report.

The mode share for trips from Melrose Park derived from both the PTPM and MPPM is provided in Figure 5.8. It is noted that PTPM is forecasting higher car mode shares for all future horizon years compared to the MPPM results. Several points are noted regarding this difference:

- PTPM 'pivots' off the existing base conditions using a combination of incremental and absolute forecasting methods. The existing land use in Melrose Park is industrial and non-residential and existing car mode shares for trips from Melrose Park are therefore very high. The incremental forecasting component of PTPM is potentially unable to fully quantify the change in mode share that will result from the delivery of a highly accessible mixed use precinct and major public transport infrastructure.
- The MPPM results are based on an assessment of generalised costs for all mode options in the network. They are also founded on benchmarking of travel patterns from existing centres and developments similar in composition to the proposed Melrose Park precinct.

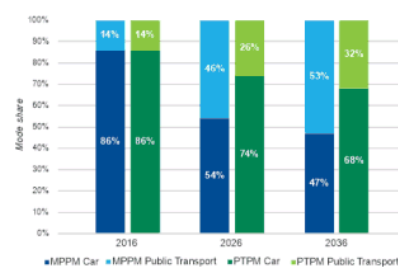
5.8 Trip assignment

The assignment of vehicle trips has been undertaken in two stages:

- Stage 1: Static traffic assignment in PTPM to determine sub-area traffic demand based on a traversal matrix from STM
- Stage 2: Dynamic user equilibrium assignment in Aimsun mesoscopic model

This assignment methodology is detailed below.

Figure 5.8 : Melrose Park mode share



5.8.1 Static assignment

The static assignment step has been undertaken to generate a sub-area traversal of the whole Sydney Greater Metropolitan Area model, suitable to be used as an input for future traffic demand within the smaller Melrose Park traffic model.

5.8.2 Dynamic user equilibrium assignment

Traffic generation as previously described was assigned to the Melrose Park traffic model Aimsun model using a Dynamic User Equilibrium (DUE) assignment method. DUE is an extension of the concept of static equilibrium however vehicle simulation is used to generate route costs, rather than a theoretical speed/flow curve. This has the advantage of taking into account the capacity constraints of the network in greater detail including traffic signals and intersections, merging and weaving on freeways and the accumulation of traffic in queues.

5.8.3 Assignment of Melrose Park trips

Figure 5.9 and 5.10 shows the assignment of trips in the 1-hour AM and PM peak periods generated by the Melrose Park development only. The origin and destination of trips has been defined by the PTPM strategic model whilst the route taken through the model is a result of DUE assignment. It is noted that:

- The majority of Melrose Park trips travel in an east-west direction, either via Victoria Road or the Andrews Street/Constitution Road corridor
- The Hope Street and Marsden Road corridors also serve as a key access for the Melrose Park precinct
- These volumes are not purely in addition to volumes in the do minimum scenario. It is noted that the development will replace existing traffic generating land uses and so the net increase in traffic would be lower than the total trip generation volumes in these figures.

Figure 5.9 : Traffic volume - 2036 AM peak hour (only trips generated by development)



Figure 5.10 Traffic volume - 2036 PM peak hour (only trips generated by development)



5. TRANSPORT MODELLING

5.9 Development of future traffic forecasts

5.9.1 Future background traffic growth

Initial testing and analysis of the future year 2036 forecast travel demands – without Melrose Park development – showed that there was insufficient capacity on the network to accommodate forecast traffic growth. Demand capping was undertaken using simulation of the forecast traffic demand on the mesoscopic network and comparing forecast demand with model throughput across the network to:

- Identify network constraints where proposed demand exceeded capacity and resulted in either excessively low average speeds or vehicles being unable to enter the network
- Cap the growth in trips for any origin-destination pairs that must pass through identified capacity constraints
- Allow trips to change their departure time to avoid capacity constraints and maximise available traffic network capacity.

The process accounts for the fact that strategic model outputs from PTPM, are likely to overestimate the growth in peak hour trips. Historic traffic counts demonstrate that peak period vehicle trips have experienced limited growth despite significant population growth. PTPM forecasts significant growth (1-2% per annum) on Victoria Road and Silverwater Road which have experienced flat or negative growth since 2009 (-2% and -4% per annum respectively.) To account for this, traffic growth was capped to the modelled network capacity under the Do-Minimum scenario (without Melrose Park development).

The quantum of capped trips assumed to not depart during the modelled 4-hour period is shown in Figure 5.11 and equates to less than 2% of the total uncapped future demand from PTPM.

The primary result of the demand capping process has been to shift trips from the peak hour to the shoulder periods. This is consistent with the observed pattern of growth along Victoria Road and Silverwater Road, where peak hour volumes have remained relatively constant, but the peak period has expanded to cover a longer time period.

A difference plot comparing capped and uncapped static assignment hourly volumes is shown in Figure 5.12. It is noted that the majority of capped trips are those that use the Church Street/Devlin Street corridor in the far south east of the model area. The number of capped trips is also observed to be very low through the study area.

5.10 Trip generation summary

A summary of the AM peak 1-hour trip generation of Melrose Park for all modes is presented in Table 5.4. Trips are shown for the two major proposed staging scenarios i.e. 'No-bridge' representing the period prior to the implementation of the new bridge over Parramatta River and 'Post-bridge' representing the ultimate 11,000 dwelling scenario with the bridge in place. (See section 6.4.3 for a more detailed description of staging)

Table 5.4: All modes trip generation (AM peak hour person trips)

	No-bridge (approx 6,700 dwellings)	Post-bridge (approx 11,000 dwellings)
Private Vehicle ¹	2,525	4,080
Bus only	150	30
Bus/Train	1,590	450
Light Rail only	-	280
Light Rail/ Train	-	2,390

¹ Assuming vehicle occupancy of 1.2 people per vehicle

Figure 5.11 : Demand capping results (AM 4-hour period)

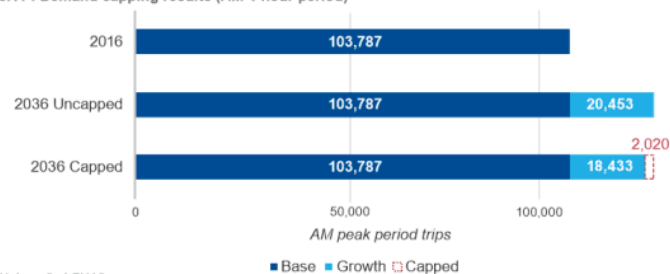


Figure 5.12 Difference plot comparing capped and uncapped 2036 AM demand (average hourly flows over 4-hour modelled period)



5. TRANSPORT MODELLING

6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

6.1 Overview

Transport modelling has been used as the basis for assessing the surface transportation network presented in the Melrose Park structure plans. This section examines the overall road network performance based on the land use estimates of 11,000 residential dwellings proposed for overall Melrose Park precinct and assesses future infrastructure enhancements for 2026 and 2036. In assessing the adequacy of the Melrose Park road network to meet the proposed future land-based demands, a desired assessment criteria for strategic road network planning and intersection performance has been developed.

This section addresses the potential impacts of the public transport system in the study area in the context of the mode shift objectives. This section also recognises the role walking and cycling replaces car-based trips within Melrose Park, and how the provision of improved transport facilities and opportunities can help drive positive mode change in the future.

6.2 Approach to appraisal

The appraisal of the Melrose Park structure plans was tested using the PTPM, MPPM and the Melrose Park Traffic Model (using Aimsun) to examine the potential impacts on transport infrastructure and services on the local and regional road network, public transport and walking and cycling. The key stages of the Melrose Park TMAP approach were as follows:

- Land use development scenario of 11,000 dwellings for the combined northern and southern precincts
- Update the TfNSW PTPM model to forecast travel demand and mode share
- Traffic forecasts and assessments for the road network produced by the Melrose Park traffic model based on:
 - 'Do Minimum' (without Melrose Park development)
 - 'With Project' (with Melrose Park development)
- Identify future system problems and user needs for the public transport network
- Develop appropriate transport network infrastructure and services
- Define appropriate travel demand management measures.
- Iteratively test staging scenarios to develop a strategy that ensures adequate capacity for both road and public transport networks at all stages of development.

6.3 Road network performance

6.3.1 Introduction

The Melrose Park Aimsun traffic model has been used as the basis for assessing the surface transportation road network presented in the structure plan. This section examines the overall road network performance based on the land use estimate of 11,000 dwellings proposed for Melrose Park and assesses future road infrastructure enhancements 2036. The following key performance indicators were used to assess the strategic merits of the structure plans and proposed road infrastructure enhancements:

- Midblock flow and density (measures of congestion in mesoscopic models)
- Intersection Level of Service (based on average delay)
- Travel times on key movement corridors (i.e. Victoria Road).

The above performance indicators have been extracted from the Melrose Park traffic model for the highest impact peak hour, under a future 'do minimum' (no development) and a future 'with project' (with development) scenario for 2036.

6.3.2 Desired service criteria

Midblock traffic density

The Melrose Park traffic model has traffic flows constrained by capacity whether due to saturation flows in midblock sections or due to capacity limitations at intersections. When traffic demand exceeds capacity, traffic queues form and these are depicted within the mesoscopic model as increases in traffic density. Traffic density is the average number of vehicles per kilometre on each section of road.

In this context, the road network traffic density was used to examine key capacity constraints within the road network developed for the structure plan. Higher densities indicate vehicles are closer together and therefore traveling more slowly and spending more time queuing (i.e. higher densities indicate more congestion). The assessment of network performance on the basis of traffic density was used to resolve capacity constraints (if any). Road network infrastructure improvements identified on the basis of traffic density were assessed according to whether they increased the volume of traffic that could be assigned to the network.

Intersection level of service

The performance of an urban road network is largely dependent on the operating performance of key intersections, which are critical capacity control points on the road network. It is therefore appropriate to consider intersection operation as a measure of the capacity of the road network.

The criteria for evaluating the operational performance of intersections is provided by the RTA Guide to Traffic Generating Development (2002); these criteria are shown in Table 6.1. The criteria for evaluating the operational performance of intersections is based on a qualitative measure (the level of service) which is applied to each band on the basis of average delay. This average vehicle delay is equated to a corresponding level of service from A (best) to F (worst).

Based on the performance measures shown in Table 6.1 a target maximum level of service threshold for new intersections of level of service E (as agreed with PCG) has been adopted for peak period conditions for future signalised intersection performance where practicable.

Travel times

Victoria Road is a regionally significant movement corridor which carries more than 60,000 vehicles per day through the study area. It is also a key east-west bus corridor with up to 30 services per hour projected by 2026. The efficiency and productivity of the corridor will need to be protected and the Melrose Park development will need to be implemented in a way that does not lead to private vehicle travel time increases of more than 5% through the study area.

Table 6.1 : Intersection level of service criteria

Level of Service	Average delay (sec/veh)	Signalised intersections and roundabouts	Give way and stop signs
A	<14	Good operation	Good operation
B	15 – 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29-42	Satisfactory	Satisfactory but accident study required
D	43-56	Operating near capacity	Near capacity and accident study required
E	56-70	At capacity; incidents will cause excessive delays	At capacity, requires other control mode
F	>70	Over capacity, unstable operation, excessive queuing	Over capacity. Unstable operation

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6.3.3 Future road link and segment performance

Future traffic volumes

The traffic volume plots in Figure 6.1 to Figure 6.4 show the 2036 forecast volume of traffic in the model area for Melrose Park. They provide a useful indication of the volume of traffic using a road and helps to understand the demand for access to the road network. This demonstrates the areas on the road network expected to experience an increase in traffic volumes as a result of the development. More detailed plots showing only traffic generated by the development are presented in Figure 5.9 and Figure 5.10.

The future traffic volume plots show:

- In the 'with development' scenario, Victoria Road is forecast to carry over 3,000 vehicles per hour in the peak direction (eastbound in AM and westbound in PM) an increase of approximately 300 vehicles per hour in the morning peak and 900 in the evening peak, compared to the do minimum scenario
- The largest increase in traffic volumes occurs in the westbound direction on Victoria Road in the morning peak. This is due to the fact that trips towards the Eastern City in the morning peak are more likely to use proposed public transport options (further discussed in Section 6.4)
- The Andrews Street-Constitution Road corridor carries between 800 and 1,000 vehicles per hour in the peak direction. This is an increase of approximately 300 vehicles per hour in the morning peak and 100 in the evening peak
- Increases in volumes on the local road network would not lead to adverse impacts to the performance or amenity of the network.

It is noted that some links would experience a reduction in volume in the 'with development' scenario. This is generally a result of the upgraded road network leading to a change in traffic assignment. Some morning peak southbound trips on Marsden Road and Kissing Point Road traveling from the north-west of the model to the east, for example, are observed to re-direct to Silverwater Road due to the improved performance and hence attractiveness of Victoria Road eastbound.

Figure 6.1 : Traffic volume - 2036 AM do minimum - no development



Figure 6.2 : Traffic volume - 2036 AM with development



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Figure 6.3 : Traffic volume - 2036 PM do minimum - no development



Figure 6.4 : Traffic volume - 2036 PM with development



Future midblock traffic density

An assessment of midblock traffic density (vehicles per km) has been calculated for all road sections within the Melrose Park model area. When traffic demand exceeds capacity, traffic queues form and these are depicted within the mesoscopic model as increases in flow density. Traffic density is the average number of vehicles per kilometre on each section of road. Density plots are shown in Figure 6.5 to Figure 6.8, for 2036.

It is noted that the plots represent the results of the hour in which the highest vehicle flows occur throughout the entire modelled period. Performance before and after these time periods (i.e. in the 'shoulder' of the peak) is generally better than that presented below.

The plots show:

- Significant congestion is observed at north-western and south-eastern extents of the modelled area in all scenarios. This is not a direct result of the Melrose Park development but rather an indication that minor network improvements may be needed to accommodate regional traffic growth. Vehicles entering the model at these locations are not able to change their route to avoid congestion in the same way trips through the central part of the model are able to. In reality it is likely that some of these trips may use a different route and congestion would not be as severe as shown in these results.
- Modelled congestion on Devlin Street northbound on approach to Blaxland Road is likely to be relieved by proposed widening works along Devlin Street in this location. These works were announced after the finalisation of future network assumptions for the project and have not been included in this modelling.
- Upgrades on Victoria Road proposed as part of the Melrose Park structure plans would result in reduced congestion at Kissing Point Road and Wharf Road intersections in the 'with development' scenario during both of the peak periods.
- Minor increases in density are observed on Victoria Road eastbound near Shaftsbury Road in the AM peak. This is partly due to the increased throughput at Kissing Point Road and Wharf Road intersections allowing higher vehicle flows to reach the Shaftsbury Road intersection, rather than solely due to traffic generated by the Melrose Park development.
- Increases in density are observed on Victoria Road westbound near Hermitage Road in the PM peak but are considered within acceptable thresholds
- Increased flows on the Andrews Street-Constitution Road corridor lead to minor increases in density however no significant delays or adverse impacts are observed.

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Figure 6.5 : Density - 2036 AM do minimum - no development



Figure 6.6 : Density - 2036 AM with development



Figure 6.7 : Density - 2036 PM do minimum - no development



Figure 6.8 : Density - 2036 PM with development



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6.3.4 Intersection level of service

Future intersection performance metrics are provided in Figure 6.10 to Figure 6.13 for key intersections in the study area. It is noted that the results represent only the busiest one-hour period on the road network. Results from the Melrose Park traffic model show that:

- Upgrades on Victoria Road - outlined in detail in section 4.2 and section 7.2 - proposed as part of the Melrose Park structure plan would reduce congestion at Kissing Point Road and Wharf Road in the 'with development' scenario
- Delays Victoria Road intersections with Shaftsbury Road in the AM peak and Hermitage Road in the PM peak would increase with the additional development traffic would still be within acceptable limits.
- All intersections along Hope Street through the precinct operate satisfactorily with the introduction of PLR Stage 2 and associated intersection changes. It is noted that the intersection of Hope Street and Wharf Road is proposed to be maintained as a priority controlled intersection. Modelling demonstrates that the intersection is forecast to operate satisfactorily without signalisation. This location has been identified as a key route for pedestrians accessing Melrose Park Public School. As such, investigation of a midblock crossing on Hope Street between Wharf Road and Waratah Street is recommended. This crossing would align with the key desire line between the new town centre and the school.

Further intersection performance metrics are provided in Figure 6.9 below. This analysis shows:

- Several key intersections in the study area are forecast to operate above capacity in a 'do minimum' scenario by 2036
- The 'with development' scenario reduces the number of intersections operating above capacity in both the AM and PM peak periods, mainly due to proposed improvements on Victoria Road.

Figure 6.9 : Intersection level of service comparison

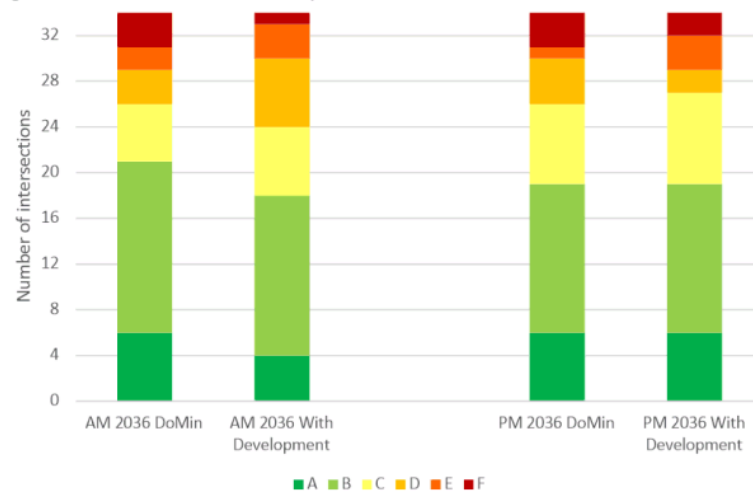


Figure 6.10 : Intersection level of service - 2036 AM do minimum - no development



Figure 6.11 : Intersection level of service - 2036 AM with development



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Figure 6.12 : Intersection level of service - 2036 PM do minimum - no development



Figure 6.13 : Intersection level of service - 2036 PM with development



6.3.5 Travel times along key routes

This section presents forecast travel times along Victoria Road through the model area, between Silverwater Road and Church Street/Devlin Street. Victoria Road is the key movement corridor in the study area and the efficiency and productivity of trips through the area needs to be maintained.

Figure 6.14 to Figure 6.15 shows a comparison of car travel times along Victoria Road between Silverwater Road and Church Street/Devlin Street for the 2036 AM and PM peak hour for both the 'do minimum' and 'with development' scenarios.

The results of the 'with development' scenarios indicate:

- Travel time through the upgraded intersections at Kissing Point Road and Wharf Road would significantly improve compared to the 2036 do minimum scenario
- Travel time through the remaining sections of the corridor would be slightly higher compared to the 2036 do minimum scenario
- Overall travel time along the corridor would improve in the AM peak and remain comparable in the PM peak

Figure 6.14 : Victoria Road travel time - Eastbound AM

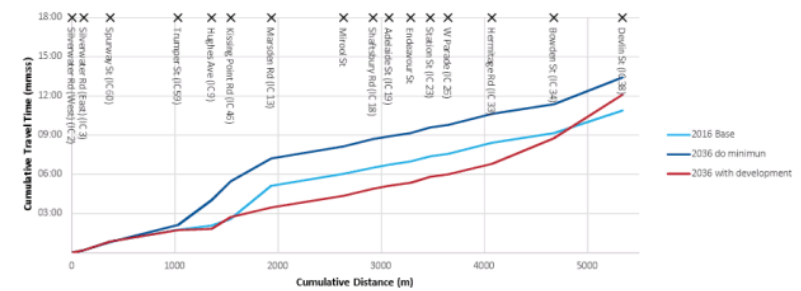
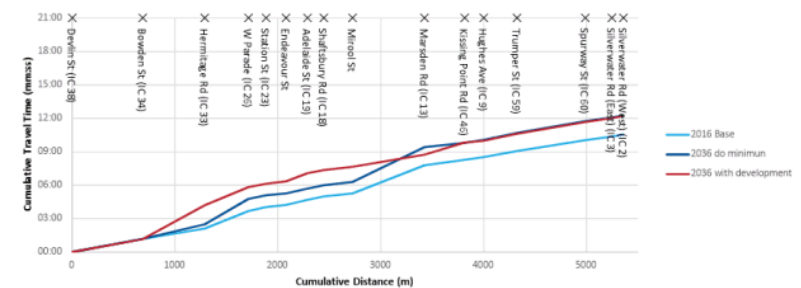


Figure 6.15 : Victoria Road travel time - Westbound PM



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6.3.6 Implications of new bridge across Parramatta River open to vehicular traffic

The provision of a new active and public transport bridge across the Parramatta River has been identified as a key piece of infrastructure which will have a transformative impact for both Melrose Park and the wider GPOP area. Investigations using PTPM were undertaken to assess the impacts of also allowing general traffic on the bridge to understand the wider implications.

Figure 6.16 presents the difference in traffic volumes between a scenario with the bridge open to general traffic and a scenario where the bridge is used by public and active transport only. Whilst the reduction in traffic on Silverwater Road and Church Street may provide some localised benefits, the increases on Wharf Road (almost 400 additional vehicles per hour) and Hope Street would have significant amenity and efficiency impacts on the local road network, affecting both Melrose Park and Wentworth Point. This TMAP has therefore proceeded on the basis that the new bridge across Parramatta River would be open only to public and active transport, as agreed with the PCG.

Figure 6.16 : General traffic use of new bridge - change in peak 1-hour traffic volumes



Table 6.2 : Network statistics - 6:00am - 10:00am

	2017 AM	2036 Do Min AM	2036 With Project AM
Vehicle km travelled (km)	332,582	378,030	422,657
Vehicle hours travelled (hours)	9,982	14,884	15,375
Average speed (km/hr)	33	25	27

Table 6.3 : Network statistics - 3:00pm - 7:00pm

	2017 PM	2036 Do Min PM	2036 With Project PM
Vehicle km travelled (km)	356,925	413,341	442,792
Vehicle hours travelled (hours)	10,985	16,402	18,095
Average speed (km/hr)	32	25	25

6.3.7 Overall network statistics

Table 6.2 and Table 6.3 provides a summary of the 'Do-Minimum' and 'With Project' scenario network statistics for the Melrose Park precinct. The results demonstrate the increased travel time and distance expected in all of the future scenarios. The 'With Project' scenario results show that increased travel is expected on the network due to the Melrose Park development. The AM average speed in the network is expected to increase, and the PM remain constant, compared to the Do Minimum scenario, demonstrating the benefits of the infrastructure improvements proposed as part of the Melrose Park structure plans.

6.3.8 Network staging

The full package of road upgrade works as presented in Figure 4.2 would be delivered in stages, in line with the delivery of dwellings. The staging has been developed through iterative traffic modelling of development yields in conjunction with proposed road network upgrades. The performance measures presented in this section have been applied to the various staging scenarios to ensure the road network performs satisfactorily for all stages.

Detailed road network staging is presented in Section 7.2. In general, a new access at Kissing Point Road will be provided followed by Victoria Road intersection upgrades at Wharf Road and Kissing Point Road. The ultimate layout will include a continuous bus lane in each direction on Victoria Road. The staging development process has also remained cognisant of the public transport network stages presented in Section 6.4. The entirety of the road works are proposed to be delivered prior to the implementation of the new bridge over the Parramatta River. This plan ensures that infrastructure is in place as early as possible to support the delivery of dwellings and minimise wider network impacts in the earlier stages of the project before delivery of critical public transport.

6.4 Public transport

6.4.1 Introduction

The public transport network for Melrose Park has been developed based on a series of key planning principles. These principles will ensure that the network provides the level of service and connectivity demanded of development of this scale and density. The network will provide connectivity to a range of key employment centres within the local and regional area thereby providing a range of choices for the future residents of Melrose Park.

6.4.2 Principles

The public transport principles have been developed to support the key TMAP objectives and physical planning process. These include:

- **Provide a staged network** that supports a high level of accessibility and connectivity from day one of the development, eventually realising its full potential upon full build-out
- **Take advantage** of areas of the existing bus and rail network with spare capacity and leverage additional capacity provided by future new infrastructure investment e.g. Sydney Metro City and South West
- **Connect to destinations and interchanges** within the local and regional area and aim to provide 30-minute public transport access to strategic centres within and outside GPOP
- **Provide accessibility** across the Melrose Park precinct recognising that the precinct itself covers a large area and that multiple access locations to the public transport network will be required
- **Support Melrose Park as a community** that provides for a variety of residents with a variety of economic and social needs

6.4.3 Staging approach

The public transport network for Melrose Park has been split into two key stages based on the development progression and the planned completion of relevant major infrastructure projects such as Parramatta Light Rail Stage 2 and Sydney Metro West. As established throughout the analysis in the TMAP, the bridge across Parramatta River is a key component of the development which will provide a transformative increase in accessibility for the future residents, workers and visitors of Melrose Park. The staging of the network has therefore been based on pre-bridge and post-bridge scenarios.

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6.4.4 Stage 1 – Accessible and connected bus network

Stage 1 assumes the following parameters:

- PTPM forecast year is 2026
- Approximately 6,700 dwellings are developed
- Sydney Metro Northwest and City and Southwest are complete providing some relief to the T1 Northern rail line
- Parramatta Light Rail Stage 1 is complete.
- Stage 1 road network infrastructure is delivered as per section 7.2

The Stage 1 public transport network is shown in Figure 6.18 The network builds on the existing bus network to provide the following key improvements.

- **M52 bus route:** The AM peak service frequency along Victoria Road will be gradually improved to 20 per hour eastbound and 14 per hour westbound to provide direct connectivity from the northern portion of the precinct to Parramatta CBD and to West Ryde (rail connections to Sydney CBD and Macquarie Park) and Top Ryde. It is noted that service increases to 13 per hour eastbound and 9 per hour westbound would be required even without Melrose Park development based on PTPM demand forecasts.
- **Shuttle bus services to Meadowbank:** The proponent proposes to provide a shuttle bus service between Melrose Park and Meadowbank station to provide a direct connection to the T1 Northern Line. Provision of this service would begin with 1 bus providing 3 services per hour. More buses would be provided in line with the delivery of dwellings to provide an ultimate service headway of 5 minutes.
- **T1 Northern rail line:** Existing congestion on this line will be relieved by the completion of Sydney Metro City and Southwest. The removal of trains operating via the Epping to Chatswood rail link will provide some capacity for providing improved frequency. Connections to West Ryde via improved M52 services and Meadowbank via shuttle bus services will both be available for future Melrose Park residents workers and visitors. Figure 6.17 shows that there will be sufficient spare capacity on the T1 Northern Line in Stage 1. It is noted that 8 suburban services an hour are proposed to run in this stage.

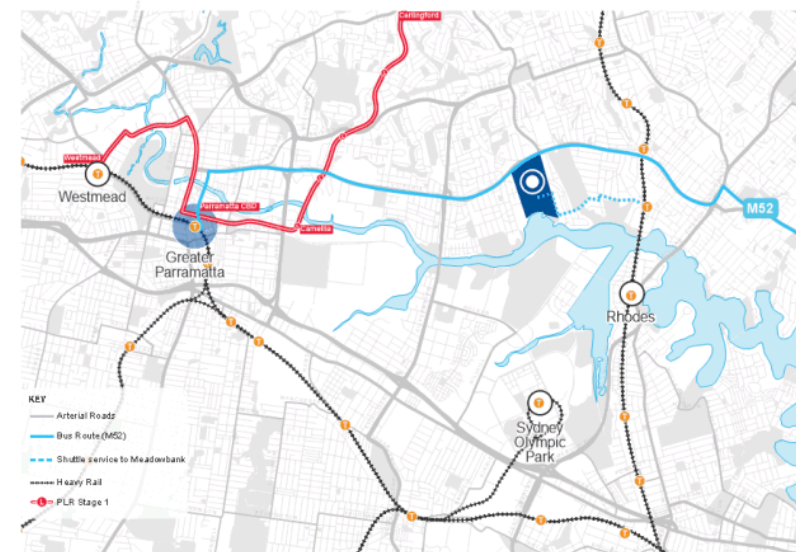
As discussed, Stage 1 assumes that a new bridge across the river is not complete. As such, any development should be focused to the north of the precinct as the M52 bus route along Victoria Road will provide the highest level of accessibility until the bridge is complete.

It is also noted that MPPM public transport demand forecasts exceeds those provided by PTPM outputs. As such, MPPM demands have been used to assess the service requirements for Melrose Park, ensuring the assessment is conservative.

Figure 6.17 : Stage 1 2026 public transport demand (PTPM)



Figure 6.18 : Stage 1 public transport network



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6.4.5 Stage 2 – Integrated network with new bridge over Parramatta River

Stage 2 assumes the following parameters:

- PTPM forecast year is 2036
- Development of the precinct is 100% complete (11,000 dwellings)
- Parramatta Light Rail Stage 2 is complete
- Sydney Metro West is complete

The Stage 2 network is shown in Figure 6.20. The network builds on committed infrastructure to provide the following key improvements:

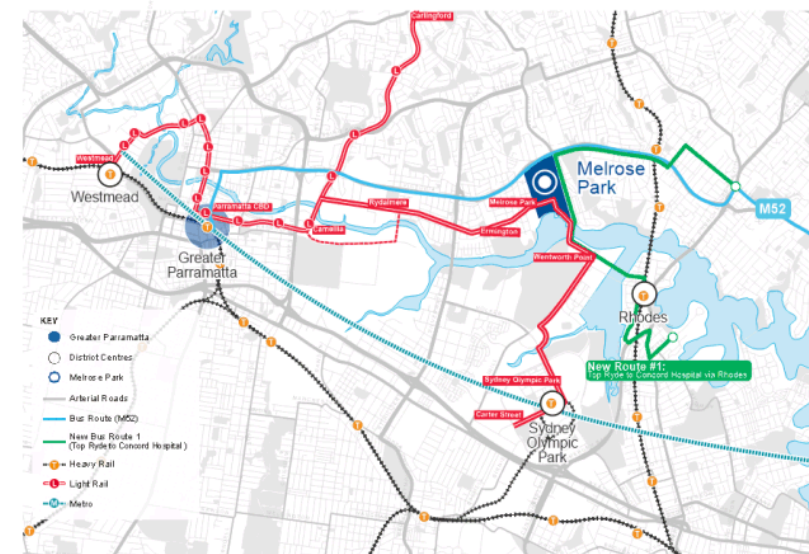
- **Parramatta Light Rail Stage 2:** A new light rail line will be provided connecting Melrose Park with Parramatta CBD and Olympic Park. Additionally, there will be a major interchange point from the light rail to the new Sydney Metro West at Olympic Park. At least two stops will be provided within Melrose Park to cater for central / northern and southern precinct access to the line.
- **Sydney Metro West:** A new metro rail line is provided connecting Westmead, Parramatta CBD, Olympic Park, the T1 Northern rail line, Bays Precinct and Sydney CBD. There will be a major interchange point from the light rail at Olympic Park. This will be a key connection for Melrose Park residents, particularly connecting to Parramatta CBD and Westmead as this is likely to be the fastest route.
- **M52 bus route:** The AM peak service frequency along Victoria Road will be remain at 18 per hour eastbound and increase to 14 per hour westbound to provide direct connectivity from the northern portion of the precinct to Parramatta CBD and to West Ryde (rail connections to Sydney CBD and Macquarie Park) and Top Ryde.
- **New bus route (Top Ryde to Concord Hospital via Rhodes):** This new route will utilise the bridge and provide connectivity from Melrose Park, including the southern portion, to West Ryde in the north and to Wentworth Point, Rhodes and Concord Hospital in the south. The extension to Concord Hospital is proposed to provide a direct connection from new housing in Melrose Park to a major health precinct. This can support Melrose Park providing for a variety of different workers, rather than a sole focus on knowledge based workers based in centres. Notwithstanding this, an extension of the route to Macquarie Park may be viable and help to improve accessibility to this centre. Final route alignment will be at the discretion of TNSW.

- **T1 Northern rail line:** Some customers traveling to the Sydney CBD and Macquarie Park would continue to interchange to rail at West Ryde rather than at Olympic Park. Sydney Metro West is likely to provide some relief to the Northern line as some customers on the Northern line may choose to interchange to Sydney Metro West at Concord West / North Strathfield. Capacity should be available on the T1 Northern line to cater for additional demand at West Ryde. Figure 6.19 shows that there will be sufficient spare capacity on the T1 Northern Line in Stage 2. It is noted that 8 suburban services an hour are proposed to run in this stage.

Figure 6.19 : Stage 2 2036 public transport demand (PTPM)



Figure 6.20 : Stage 2 public transport network



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6.4.6 Future public transport performance

The success of the public transport network serving Melrose Park will be measured against the key metrics outlined in Section 4.4. In particular, mode share, 30-minute access, and capacity of key routes will be targeted. An analysis of peak direction demand with and without Melrose Park and required service provision is provided in Table 6.4 and Table 6.5 below. This analysis covers the two key stages.

Some key findings to note include:

- Consideration should be given to the fleet mix of the M52 service, including whether all services will be articulated or whether double deck services would be appropriate. Our capacity assumption of 80 people per bus is based on a mixed fleet with the majority of peak services operating articulated buses with a capacity of 100 people per service.
- Significant bus frequency improvements are required to serve background growth regardless of the Melrose Park development, as shown in Table 6.4 and 6.5.

- Consistency with previous analysis and agreed mode share targets has been achieved by replacing the PTPM Melrose Park boardings with MPPM public transport demands.
- PLR Stage 2 demands are within acceptable LRT capacity thresholds.

The demand and required service capacity represents the ultimate scenario of both stages. It is anticipated that staged service capacity increases will be delivered in line with the development of dwellings.

Bus interchange capacity

Consideration has also been given to the functional performance of bus routes at major interchanges along their respective routes. In particular at the interchange facilities at Parramatta and West Ryde.

At Parramatta, some spare capacity may be available due to service changes to support the introduction of PLR Stage 1. The PLR Stage 1 EIS states that supporting changes may include:

- Modifying services that access the Parramatta CBD
- Truncating some services to better integrate with the project and the broader transport network
- Discontinuing some routes with alternate travel options in place

All of the above may increase available capacity at Parramatta interchange. There is also potential to truncate some Victoria Road services if required to reduce pressure on the interchange whilst maintaining the required frequency through Melrose Park.

At West Ryde, M52 services stop on Victoria Road and do not use the bus interchange facility. The impact of a significant number of interchanging passengers on bus stop requirements has been considered. The westbound stop at Gaza Road in the PM period is considered the critical location due to the large number of boarding passengers interchanging from rail to bus at this location. On-site observations were used to derive a function to relate boardings to dwell time. The maximum forecast boardings of approximately 500 passengers per hour (2026 Stage 1 public transport network) would lead to average dwell times of approximately 60 seconds. The State Transit Bus Infrastructure Guide and TCRP Report 16 provide guidance on bus stop requirements based on bus frequency and average dwell times. Noting the expected service frequency of approximately 25 buses per hour, this leads to the requirement for 2 bus stop bays.

It is noted that the existing bus stop arrangement on Victoria Road at Gaza Road allows for 2 articulated buses and is therefore likely to be sufficient. If dwell times and/or the number of bus services are higher than forecast in the above analysis there is a risk of operational impacts to bus services, general traffic and pedestrians crossing Victoria Road at this location.

Roads and Maritime Services is currently undertaking a corridor study of Victoria Road, which includes examination of bus stop facilities and bus priority measures along the corridor. Should capacity issues arise at this location, the TMAP action plan allows for the provision of additional shuttle buses to intercept rail-to-bus travel demand at Meadowbank Station, reducing demand at West Ryde. Any capacity enhancements at the westbound West Ryde Bus stop should be considered as part of the overall Roads and Maritime Corridor Strategy, as this bus facility is outside of the sphere of influence of Melrose Park and passenger demand from Melrose Park at this stop will peak in 2026, after which time the proposed bridge across Parramatta River would be constructed.

Table 6.4 : Stage 1 public transport performance (6,700 dwellings - demand from PTPM 2026)

AM Peak 1-hour	M52 – To City	M52 – To Parra	Shuttle to Meadowbank	Other local services
Existing service	6/hr	6/hr	-	
Vehicle capacity (pax)	80	80	30	50
Peak line load without Melrose Park	980	650	-	
Required services without Melrose Park	13/hr	9/hr	-	
Melrose Park boardings¹ (outbound only)	500²	370	330	150
Peak line load with Melrose Park	1480	1020	330	
Required services with Melrose Park	20/hr	14/hr	12/hr	~3 additional/hr

¹ Melrose Park demand derived from MPPM

² Shuttle to Meadowbank not modelled in MPPM. Actual demand of 830 reduced by 330 to reflect redistribution to shuttle bus.

Table 6.5 : Stage 2 public transport performance (11,000 dwellings - demand from PTPM 2036)

AM Peak 1-hour	M52 – To City	M52 – To Parra	PLR S2 – to SOP	PLR S2 – to Parra
Existing services	6/hr	6/hr	-	-
Vehicle capacity (pax)	80	80	300	300
Peak line load without Melrose Park	1170	1150	1330	540
Required services without Melrose Park	16/hr	15/hr	4/hr	1/hr
Melrose Park boardings¹ (outbound only)	220	80	1670	470
Peak line load with Melrose Park	1390	1250	3000	1010
Required services with Melrose Park	20/hr	17/hr	10/hr	3/hr

¹ Melrose Park demand derived from MPPM

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Parramatta Light Rail Stage 2

The PTPM model was used to determine peak line loads along the planned PLR Stage 2 route between Parramatta and Sydney Olympic Park (via Melrose Park) as shown in Figure 6.22 and Figure 6.23.

Passenger volumes are highest at the Sydney Olympic Park end of the corridor where it connects to the proposed Sydney Metro West station. The forecast peak line loading into Sydney Olympic Park has spare capacity of approximately 400 passengers per hour. Loadings on services to Parramatta are much lower than in the southbound direction with spare capacity of approximately 1,700 passengers per hour.

Shuttle service to Meadowbank

The shuttle bus proposed under the Stage 1 network is planned to operate between Melrose Park and the western entry to Meadowbank station. This location is preferred as it avoids conflicts with the main bus interchange on the eastern side of the station.

Two stop location options have been identified (see Figure 6.21). Both stop locations have sufficient capacity to cater for the proposed 12 services per hour. It is noted that:

- Option 1 at the current 'kiss and ride' location provides the most direct access to the station.
- Option 2 would require the removal of 1-2 parking spaces and a potential installation of a marked pedestrian crossing across Bank Street.
- Option 1 is the preferred option as it utilises the existing kiss and ride facility and provides the most direct access to the station.
- Swept path analysis and indicative arrangement plans are shown in Appendix C and confirms the shuttle bus can safely negotiate the roundabout at Bank Street and Meadow Crescent.

Figure 6.22 : PLR Stage 2 line load - to Parramatta (2036 AM PTPM)

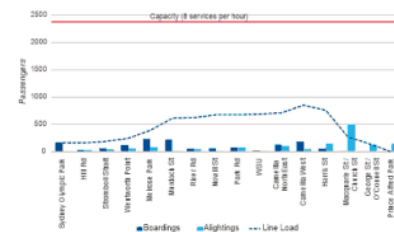
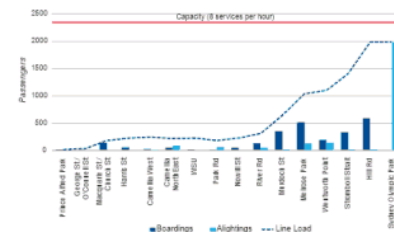


Figure 6.23 : PLR Stage 2 line load - to Sydney Olympic Park (2036 AM PTPM)



Walking catchment to Public Transport

Another indicator of the function of the public transport network for Melrose Park is the walking catchment to bus and light rail stops of areas within 400 m of a bus stop and 800 m of a light rail station that meet minimum service frequencies. Figure 6.24 below shows that the majority of the Melrose Park precinct meets the minimum coverage area based on the proposed public transport network.

Figure 6.24 : Walking catchments for Victoria Road and Hope Street

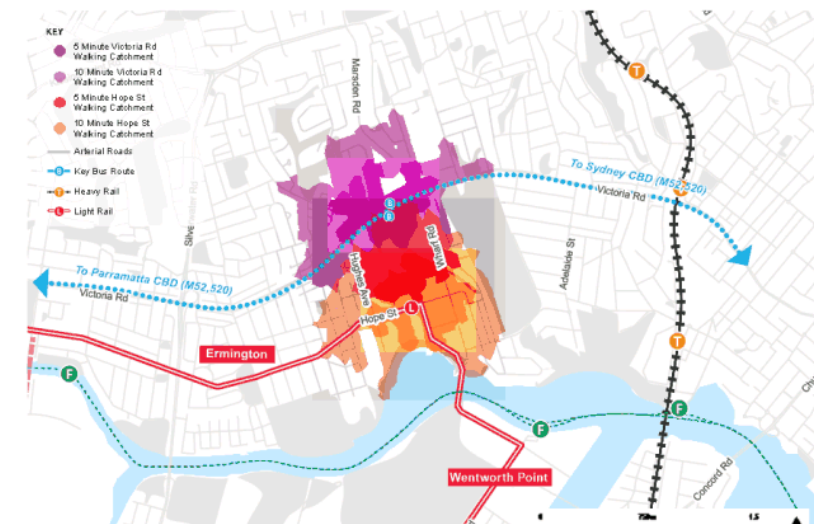
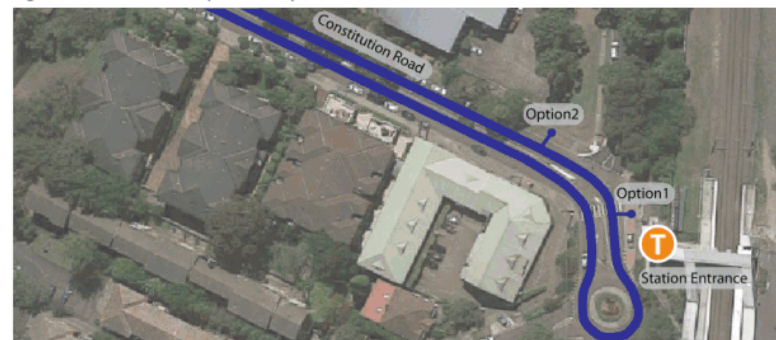


Figure 6.21: Shuttle bus stop location options at Meadowbank



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6.4.7 Implications of new bridge across Parramatta River to public transport

The Melrose Park precinct proposes to create a new connection between Melrose Park and Wentworth Point via a new bridge suitable for active transport trips and public transport (bus and/or light rail) services. This is a key transport infrastructure component to create a direct, grade-separated link between the Parramatta River foreshore the southern end of the Melrose Park precinct.

A new bridge across Parramatta River offers a significant future opportunity for a local and regional transport connection between Melrose Park and Sydney Olympic Park / the Sydney CBD. Being separate from local and regional traffic would offer a major improvement in directness and amenity to people walking and cycling. The potential to establish a light rail service through PLR Stage 2 along this line is being considered, but there is also an opportunity to establish an active transport connection which also connects to the Parramatta River and Wentworth Point foreshore shared paths.

The key benefits of a new bridge across Parramatta River include:

- Significantly improved public transport access between Melrose Park and the following key centres:
 - Sydney Olympic Park – including the proposed Sydney Metro West station
 - Carter Street precinct
 - Rhodes business park
- The enabling of key new bus routes between:
 - Top Ryde and Concord Hospital via Wentworth Point and Rhodes
 - Top Ryde and Lidcombe via Sydney Olympic Park
- Improved active transport connections to the southern foreshore of the Parramatta River including the shared path.

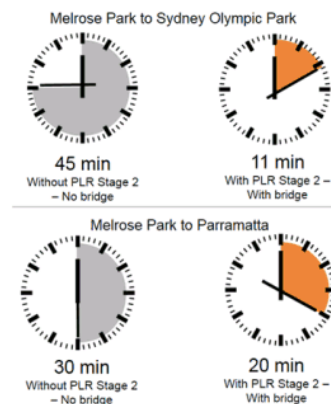
The provision of the new bridge will enable a light rail river crossing as part of Parramatta Light Rail Stage 2. This will lead to significant travel time savings for public transport trips between Melrose Park and both Sydney Olympic Park and Parramatta.

As shown in Figure 6.25, trips to Sydney Olympic Park would reduce from 45 minutes to 11 minutes. Trips to Parramatta would reduce from 30 minutes to 20 minutes. These are significant savings which will:

- Enhance the attractiveness of public transport trips between Melrose Park and these key centres.
- Reduce car reliance for future residents of Melrose Park and surrounding suburbs.
- Minimise the impact of the proposed development on the surrounding transport network.

It is noted that the delivery of PLR Stage 2 is yet to be confirmed and a business case is still to be finalised. If PLR Stage 2 was not to proceed, the Melrose Park development could be adequately supported by the provision of high frequency buses over the bridge connecting to Sydney Olympic Park.

Figure 6.25 : Public transport travel time savings resulting from new bridge



Public transport accessibility from Melrose Park

The future accessibility of Melrose Park is highlighted in Figure 6.26, which shows the catchment reachable from Melrose Park within 30 minutes by public transport. Accessibility is greatest in the north-south direction along the proposed PLR Stage 2 route with a new bridge across Parramatta River, reflecting the higher speeds of light rail which is also connected to Sydney Metro West (at Sydney Olympic Park) providing frequency services to Parramatta CBD and Sydney CBD. Accessibility is also enhanced considerably in the east-west direction with key connection opportunities provided with PLR Stage 2 to Parramatta via Rydalmere. The Melrose Park accessibility reflects coverage of the future network design, frequency, and speed of public transport services.

Figure 6.27 shows that approximately 175,000 jobs will be accessible within a 30-minute public transport journey from Melrose Park by 2036. Further, more than 200,000 people will live within a 30-minute public transport journey. This indicates that the proposed public transport network combined with a new bridge over the Parramatta River will ensure that Melrose Park is a highly accessible precinct for both residents and visitors. The delivery of regionally significant infrastructure in conjunction with the Melrose Park development will also have wide reaching benefits for surrounding communities.

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Figure 6.27 : 30 minute job and population catchments

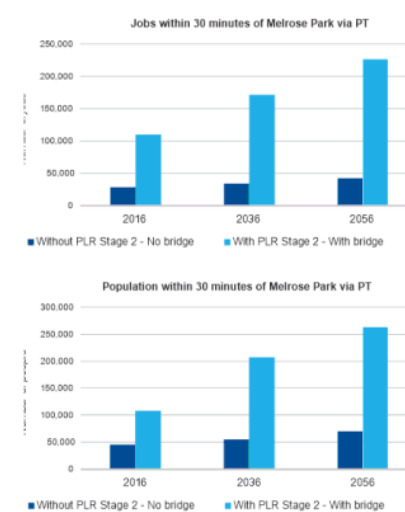
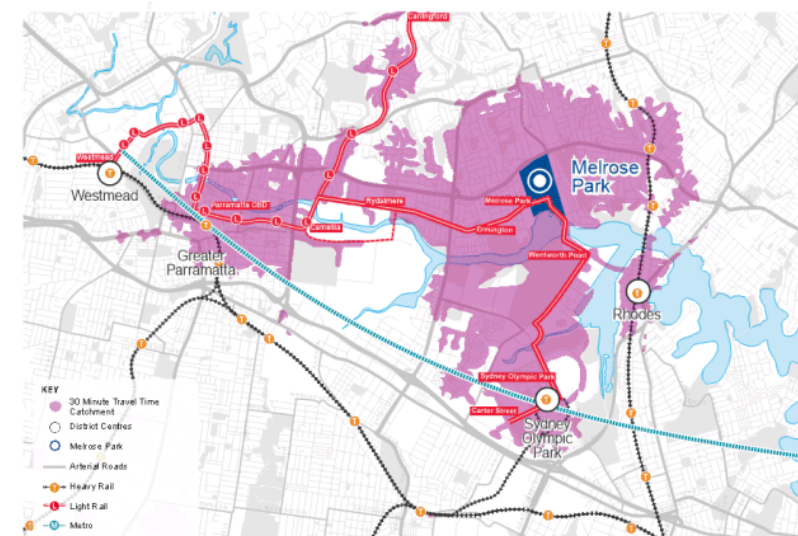


Figure 6.26 : Melrose Park 30 minute PT catchment (2036)



6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

6.4.8 Ferry services

The current F3 Parramatta River Services provides all-stop services from Parramatta to Circular Quay and Darling Harbour/Barangaroo. The current peak hour frequency is three (3) services per hour. All-stop services to/from Parramatta suffer speed and reliability issues due to tidal and river conditions. The Melrose Park public transport network is set to include bus, light rail and connections to existing heavy railway and the future Sydney Metro system.

In this context, ferry services are not an essential component of Melrose Park transport network. Any new ferry services (private or public) at Melrose Park must stand on its own merits to determine whether new infrastructure and services are viable. The requirements for future ferry services and potential upgrade to the existing wharf at the end of Wharf Road are influenced by a number of considerations including:

- Forecast patronage
- Service frequency and vessel characteristics
- Navigation and safety considerations
- Operational considerations both maritime and land side
- Design parameters and site conditions.

Patronage forecasts

Patronage modelling was undertaken to produce a broad, strategic estimate of potential ferry demand at Melrose Park. Patronage modelling is based on the current service plan and the available information provided by TINSW during the course of the TMAP. For the purpose of this modelling a new wharf was assumed at Melrose Park. This patronage modelling indicates that:

- Ferry mode share for trips from Melrose Park is projected to be approximately 1%
- Projected patronage in the AM peak hour at Melrose Park in 2036 would be less than 100 people.

The preliminary modelling results indicate fairly low patronage demand at Melrose Park. This suggests that travelling by ferry is generally less attractive when compared with competing land based public transport network on bus/light rail/metro.

Summary

The introduction of a ferry service will have minimal appreciable effect on both future public transport patronage and mode share targets for Melrose Park. For ferry services to provide a viable alternative to private vehicles and to complement the surface public transport network proposed, it must be based on infrastructure needed to enable efficient ferry service operation suitable to the conditions and requirements of its particular location. The location of new ferry wharf on the northern side of Parramatta River (near Wharf Road) to cater for relatively large vessels (i.e. Rivercat), will need to be further examined.

The Melrose Park public transport network has been developed to reflect the demand and growth potential of the precinct without the need for ferry services. Ferry users on the Parramatta River will have access to the newly-upgraded Sydney Olympic Park and Meadowbank wharves, as well as the new proposed ferry wharf proposed at Rhodes East. The proposed new bridge across Parramatta River (at the end of Wharf Road) will also provide the ability for Melrose Park residents to conveniently and comfortably access transport and ferry facilities on the southern side of Parramatta River and, when necessary, transfer between different transport modes.

Table 6.6: Ferry opportunity and constraints

Criterion	Advantages	Disadvantages
Land use	<ul style="list-style-type: none"> • Integrated with high density mixed use development • Land available for a potential park and ride function at existing wharf. 	<ul style="list-style-type: none"> • New ferry wharf location will be located in sensitive mangroves and coastal salt march • Land acquisition may be required for a new ferry wharf.
Public transport integration	<ul style="list-style-type: none"> • Strategic opportunity to develop a sustainable transport option • Future light rail stop on Wharf Road (yet to be confirmed) may be within walking distance • Potential to expanding public transport services to address other customer markets (visitors and tourists) • Provides long-term growth and operational flexibility in response to demand. 	<ul style="list-style-type: none"> • Low public transport market share and patronage for commuters • New ferry wharf must provide high level of access between future light rail stops on Wharf Road and ferry wharf • Ferry services are generally very slow and therefore not attractive to commuters who are time sensitive.
Pedestrian access	<ul style="list-style-type: none"> • Good access via Parramatta River foreshore shared path • Opportunity to integrated with existing Parramatta River foreshore shared path. 	<ul style="list-style-type: none"> • Existing wharf location pedestrian access constrained and through an existing car park.
Road access	<ul style="list-style-type: none"> • Land available for potential park and ride site to be integrated with the ferry system • Land available to provide a coherent and legible road network. 	<ul style="list-style-type: none"> • Existing car parking and boat ramps is likely to cause potential conflicts • New bridge proposed across Parramatta River (end of Wharf Road) will impact on circulation roadways to/from ferry terminal.
Maritime operations	<ul style="list-style-type: none"> • Protected from open water • Adjacent to F3 Parramatta River Services and the opportunity to join the broader ferry network for longer trips • Potential to operate on demand services via a private operator. 	<ul style="list-style-type: none"> • Speed and tidal restrictions along Parramatta River may cause disruption to ferry operations particularly towards Parramatta trips • New bridge proposed across Parramatta River (end of Wharf Road) will impact on location of ferry wharf and vertical clearance requirements • Potential maritime operations issues relating to navigation safety considerations, turning and maneuvering space • Existing boat ramp activities closely spaced with existing wharf location • Water depth along foreshore near existing wharf and may need to be dredged • Significant subsidies required for both the initial investment and operational costs.

6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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6.5 Walking and cycling

6.5.1 Introduction

There are numerous opportunities for walking and cycling in and around the Melrose Park precinct, particularly for short trips to nearby strategic centres. This is in line with one of the customer outcomes of *Future Transport 2056*, which aims to make walking and cycling the most convenient choice for short trips.

6.5.2 Active transport planning principles

Active transport planning for Melrose Park has been informed by a guiding set of planning principles. These aim to ensure that residents of and visitors to Melrose Park have the opportunity to walk and cycle as part of their everyday travel, especially for short trips and as part of multi-modal public transport trips. These include:

- **Encourage walking and cycling for short trips** by providing high quality, comfortable and safe facilities for walking and cycling, encouraging residents, visitors and in particular Melrose Park Primary School students to use active transport.
- **Integrate walking and cycling with public transport access** by providing adequate walking and cycling access and facilities at key public transport nodes, such as light rail stops, heavy rail stations and metro stations, promoting active transport as part of multi-modal public transport trips.
- **Provide connected and permeable walking and cycling networks** by ensuring that the walking and cycling networks are complete, closing existing gaps and improving connections where required. Provide connections to key local destinations such as Melrose Park Primary School and the new town centre. Pedestrian and cycle paths to be separated where feasible.

6.5.3 Walking and cycling network

The street network surrounding Melrose Park is relatively permeable for walking. The Melrose Park precinct will improve permeability by providing new links connecting through the precinct to Victoria Road, Hughes Avenue, Wharf Road and Hope Street. Travel to the north is somewhat constrained by uphill grades.

Major east-west cycling access is currently available along the Parramatta Valley Cycleway, which follows the Parramatta River. This is identified in *Sydney's Cycling Future and Future Transport 2056* as a key strategic cycling corridor, providing access to Parramatta CBD, Western Sydney University at Rydalmere, Meadowbank and Rhodes. Apart from this corridor there are presently limited cycling facilities provided in and around Melrose Park.

A number of new and upgraded active transport facilities are proposed in the precinct:

- *Parramatta Bike Plan 2017* proposes a fully separated cycleway is proposed for Hope Street, providing a new high quality east-west cycle connection through Melrose Park to Rydalmere
- A separated shared path on the western side of Wharf Road, connecting the Hope Street cycleway to the existing Parramatta Valley Cycleway
- Safe and adequate connections to Melrose Park Primary School as identified in the Southern Precinct Structure Plan

A new public and active transport bridge across Parramatta River is proposed which will provide significantly greater walking and cycling access to Sydney Olympic Park and beyond.

Figure 6.28 shows walking and cycling catchments from Melrose Park. The catchment analysis is indicative only and does not take into account locations in the road network which may be difficult for pedestrians and cyclists to traverse, such as major grade separated intersections. It does however provide a useful strategic assessment of active transport accessibility.

The catchment analysis shows:

- **10 minute walking catchment**, with new through-site links through the Melrose Park precinct. This shows that major bus routes on Victoria Road would be accessible within a 10 minute walk from the centre of the Melrose Park site, as well as future light rail services as part of Parramatta Light Rail (PLR) Stage 2. Melrose Park Primary School is within a comfortable walking distance for the entire site and immediate surrounding areas.
- **20 minute cycling catchment**, with a new bridge crossing Parramatta River. The area shaded yellow shows the expanded cycling catchment resulting directly from the new bridge. Stations on the T1 Northern Line would be easily within a 15 – 20 minute ride, as would light rail stops on PLR Stage 1. The new bridge would provide access to Sydney Olympic Park and access to the future Sydney Metro West station in this location.

Active transport connections to key nearby public transport services are shown in Figure 6.29. Meadowbank is able to be accessed by a predominantly off-road route utilising the Parramatta Valley shared path. An on-road/footpath route is also available via Andrews Street. Connections to Rhodes will be possible via the new bridge over Parramatta River and the Bennelong Bridge. The majority of this route is via separated paths or local streets.

Figure 6.28 : Walking and cycling catchments

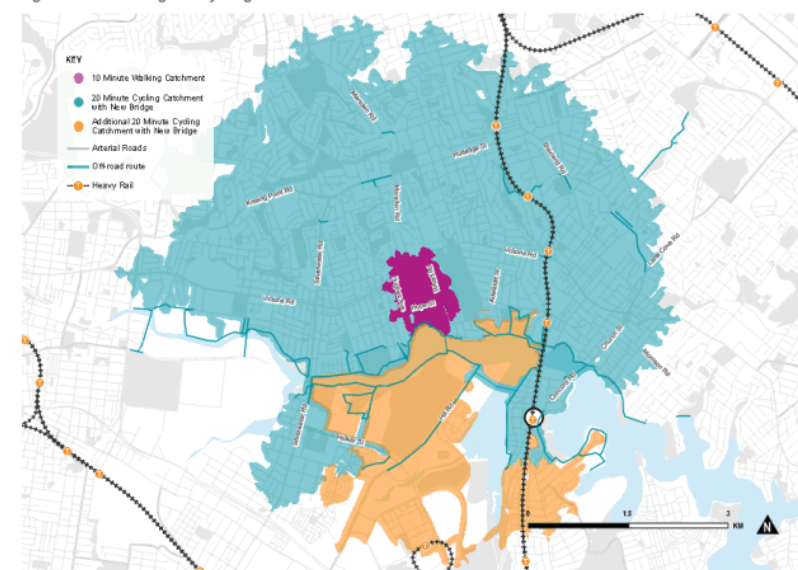


Figure 6.29 : Walking and cycling routes to public transport



6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

6.5.4 Integration with other modes

There are several opportunities for multi-modal travel commencing with a walk or cycle trip from Melrose Park. Nearby public transport nodes should be provided with good active transport integration, including:

- Suitable pedestrian treatments at and around bus stops, light rail stops, heavy rail and metro stations. This includes traffic calming treatments to provide safe and easy pedestrian access.
- Provision of adequate bicycle parking facilities at or nearby bus and light rail stops, and bike cages or lockers at heavy rail and metro stations.
- Provision of adequate weather protection at stops and stations for waiting customers.
- Appropriate wayfinding signage in the Melrose Park precinct and at public transport stops and stations, advising customers on location and access points.

6.5.5 Promotion of walking and cycling within Melrose Park

A range of measures are proposed to promote walking and cycling within Melrose Park, including:

- Provide sufficient bicycle parking provision for residents, employees and visitors, including secure bicycle parking for residents
- Provide end of trip facilities for employees and primary school students
- Ensure residents and employees have access to sufficient travel information, including:
 - Maps of the walking and cycling network in and around Melrose Park precinct
 - Recommended walking and cycling routes
 - Average travel times to key destinations.
- Provide wayfinding and signage within the precinct to facilitate walking and cycling trips, and access to bicycle parking facilities
- Provide basic bicycle repair support, such as flat tyre repairs and tyre inflation.

All active transport infrastructure will be designed and implemented in accordance with the Disability Discrimination Act (1992)

Figure 6.30 : Example of supporting facilities for walking and cycling integration with public transport



6.5.6 Bicycle parking provision

An appropriate level of bicycle parking should be provided to support cycling to and from the Melrose Park precinct. The *Parramatta DCP 2011* has been used to develop a set of recommended minimum bicycle parking rates.

Table 6.7 outlines the bicycle parking provision for Melrose Park based on the *Parramatta DCP 2011* rates.

Table 6.7: Recommended minimum bicycle parking provision for Melrose Park (Parramatta DCP 2011)

Melrose Park land use		Minimum bicycle parking provision
Development type	Dwellings / GFA	
Residential	11,086 dwellings	5,543 spaces (0.5 per dwelling)
Commercial	19,400m ² GFA	97 spaces (1 per 200m ² GFA)
Retail	15,600m ² GFA	78 spaces (1 per 200m ² GFA)

6.6 Parking

6.6.1 Introduction

The Melrose Park structure plan recognises that there is a very strong link between parking provision and travel behaviour, and that it is a critical element of the integrated transport strategy. At the same time, it is necessary to develop a staged approach to parking that will balance the short term needs with the long term objectives for sustainable parking management within Melrose Park. Parking provision in the early stages at Melrose Park will need to balance the imperative of achieving development as early as possible, while parking provision in the later stages (beyond 2020) will need to constrain parking supply as a means of reducing travel by private car and to encourage public transport use. It is proposed to achieve the objectives relating to parking through physical planning, parking design, future trends in mobility as well as parking provision rates that reflect the site's accessibility.

6.6.2 Benchmarking and trends

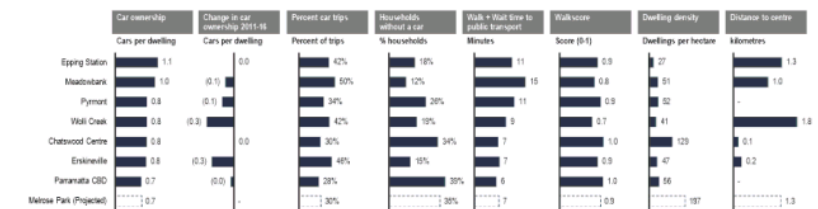
Car ownership patterns

In developing a parking strategy for Melrose Park a benchmarking exercise was undertaken by Kinesis "An Evidence Base Parking Strategy for Melrose Park" (06 March 2018) of car ownership and car use patterns for similar high density developments within the Sydney context (refer Figure 6.31).

The results show:

- Car ownership in the selected locations is between 0.7 and 1.1 vehicles per household
- Most areas have seen a decrease in car ownership in the last 5 years.
- 50% of all trips are generally made by car
- Areas with high access to public transport contain a large number of households (30-40%) that don't own a car.

Figure 6.31 : Benchmarking and trends (Kinesis)



6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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Comparison of Parking Provision

Some examples of existing parking rates in selected Sydney councils are shown in Figure 6.30 for residential car parking controls. These councils have been selected as part of the TMAP for the following reasons:

- To reflect different areas or parking policy approaches to parking
- To highlight different parking provision approaches to implementing parking strategies
- To identify and compare a wide spectrum of parking policy from other local government areas within the Sydney Metropolitan spectrum
- To identify parking policy approaches in areas with similar urban and transport environments.

Parking controls across Sydney vary widely by council areas, with some council's providing a more 'best practice' model than others. Generally, adoption of maximum parking rates is considered to be desirable to ensure that there is not an oversupply of parking. Minimum parking rates effectively force proponents and developers to provide a certain number of car spaces and provide no restriction on the overall number.

Parking provision

Parking provision rates specified by the City of Parramatta DCP, Epping Town Centre DCP and the RMS Guidelines have been compared to assess various scenarios the total number of parking spaces required for the Melrose park structure plan and these calculations are provided in Table 6.8 below. It is noted that the RMS rates are recommended only for high density centres with a significantly higher jobs to dwellings ratio than is proposed at Melrose Park. It has however been included in this analysis to demonstrate the variance in total parking requirements as a result of different available rates.

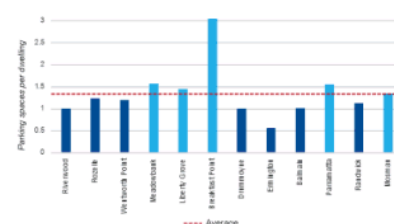
Table 6.8 : Comparison of parking requirements

Land use	GFA/ Dwellings	City of Parramatta DCP		Epping Town Centre		RMS (High density centre)	
		Parking Rate	Spaces	Parking Rate	Spaces	Parking Rate	Spaces
Commercial	19,400m ²	1 per 50m ²	388	1 per 70m ²	277	1 per 40m ²	485
Retail	15,600m ²	1 per 30m ²	520	1 per 60m ²	260	1 per 20m ²	780
Residential: 1 bed	2,910	1.0	2,910	0.75	2,182	0.6	1,746
2 bed	6,781	1.0	6,781	1	6,781	0.9	6,103
3 bed	1,190	1.2	1,428	1.5	1,785	1.4	1,666
4 bed	205	2	409	1.5	307	1.4	286
Total			12,436		11,592		11,066

Parking Provision for High Density Developments

Figure 6.32 shows the parking rates for high density residential dwellings from recent survey data provided by TfNSW and RMS. It is observed that the majority of these sites provide between 1.0 and 1.5 spaces per dwelling. The average across all sites is 1.3 spaces per dwelling. The majority of these sites do not have immediate access to mass transit comparable to the access that will be available to future residents of Melrose Park i.e. Parramatta Light Rail Stage 2. Furthermore, unlike Melrose Park, several of these sites are not located within 30 minutes of both the Eastern and Central cities. There is a clear opportunity for Melrose Park to provide parking spaces at a rate towards the lower end of the range presented in these surveys.

Figure 6.32 : Parking provision benchmarking



It is clear that the application of existing parking controls would result in the provision of a significant amount of on-site parking. This would require significant construction and excavation costs, reducing the affordability of homes whilst also facilitating excessive car use and reducing the livability, vibrancy and sustainability of the precinct.

The current approach to parking provision does not represent industry best practice for an integrated transport network which entails innovative measures to achieve more sustainable access. There are several factors that would warrant a revised approach to parking policy for Melrose Park:

- Proposed future improvements to public transport as proposed by TfNSW, through the implementation of PLR Stage 1/2 and Sydney Metro West services improving connectivity and accessibility to public transport and major strategic centres
- The constraints of the higher order road network surrounding the site to accept a marked increase in traffic projected from other developments, even with improvements to capacity over time
- Planning trends show that residents living in areas of high dwelling density have lower car use and as such, lower car ownership relative to the Sydney Metro average
- Residents living in areas proximate to major centres areas exhibit lower car use relative to the Sydney Metro average. Melrose Park is located:
 - 5km from Rhodes Business Park
 - 8km from Sydney Olympic Park
 - 6km from Parramatta CBD
 - 7km from Macquarie Park
 - 15km from Sydney CBD.
- Melrose Park development includes a town centre with retail shopping, childcare centres and community facilities limiting the need for residents to make short car trips.

6.6.3 Parking provision considerations

Parking provision to public transport facilities

As development densities and public transport options increase at Melrose Park, the rate of parking demand is likely to decline. Public transport infrastructure such as Sydney Metro West, Parramatta Light Rail Stage 2 and new bridge across Parramatta River (suitable for active transport and public transport trips only) will constitute significant elements in the urban structure of the Melrose Park structure plan. Parking levels can be decreased as the public transport system improves and development momentum increases. In this context, the estimated reduction in the number of parking spaces required in major dense urban centres close to public transport facilities is provided in Table 6.9 (Professor Hans Westerman, *Cities for Tomorrow*).

By having development close to public transport infrastructure and services (such as Victoria Road and Hope Street) and by sharing and consolidating parking, overall parking requirements can be realistically reduced by 20%-30% for 'ultimate' build-out of Melrose Park. These parking reductions would need to be rolled out incrementally over time as higher mass, intermediate and active transport options are delivered to Melrose Park and GPOP.

Table 6.9 : Parking reductions near public transport facilities

Location of development	Reduction (estimate)
Transit corridor	5%-10%
Station influence area	15%-20%
Transit interchange	25%-30%
Multi-modal transit hub	60%

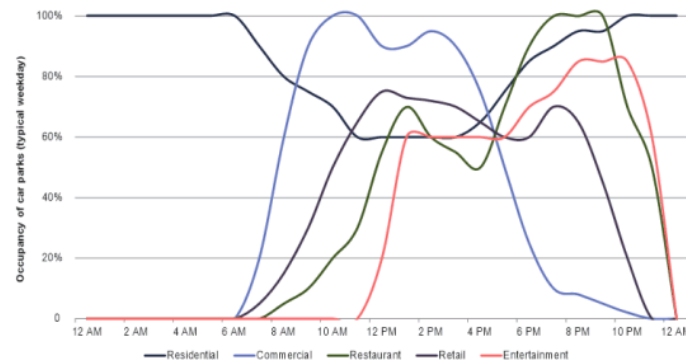
6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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Shared and complementary use of parking

By providing common parking facilities in locations where they can be used for a range of surrounding land uses, it will be possible to reduce the net parking provision as development progresses. Shared parking is parking shared by more than one user, which allows parking facilities to be used more efficiently. This arrangement reduces the potential for over-provision of parking spaces since complementary land uses can effectively use the same spaces. For example, the use of commercial parking for retail activities, since their times of peak demand do not coincide. These relationships are illustrated graphically in Figure 6.32 with parking assigned by type of activity based on time of day variations as reported in Urban Land Institute.

Figure 6.33 : Shared parking opportunities (Urban Land Institute)



Innovation to promote sustainable travel behaviour

Innovative parking solution for Melrose Park needs to respond to the site's level of accessibility but also to future trends in mobility. To complement the innovation incorporated into the structure plan elements of Melrose Park, we have developed a range of innovative approaches aimed at promoting more sustainable travel these include:

1. Unbundled Parking

Unbundled parking is parking that is separated from the cost or rent of a dwelling or building. In this case, residents have the choice to purchase/lease parking rather than it being bundled in the cost of housing. This can also reduce the total amount of parking required for the building. For buildings with unbundled parking, an overall parking rate reduction of 10-30% may be feasible.

2. Decoupled Parking

Decoupled parking is parking that is spatially separated from the building to which the parking services. It is also generally unbundled from the sale or rental of an apartment or building. The benefits of decoupled parking are significant, enabling transition to a low car dependent future and reduce parking rates by up to 10%. Decoupled parking has the potential to deliver the significant and mutually reinforcing benefits of parking. The shift towards lower car ownership rates and emergence of the autonomous vehicle will reduce the need for parking and investment in underground parking. In particular, parking stations/basement parking may lose value as vehicles may no longer need to be parked or housed at origin or destination locations.

3. Car Share and Planning for Reduced Car Ownership

Melrose Park is a multi-decade development and will be built out over the next 10 to 20 years. Encouraging residents to use car share schemes is one approach that can be used to reduce car dependence and ownership levels. A reduction in parking to reflect recent reductions and trends in car ownership could be expected to continue with the emergence and growth of car share, Mobility as a Service (MaaS) and connected autonomous vehicles. This will be initially supported through the delivery of car share spaces across the development and can potentially reduce parking rates by up to 10%.

4. Physical planning and design

Melrose Park will allow for common parking facilities in locations where they can be used for a range of surrounding land uses, it will be possible to reduce the net parking provision as development progresses. The physical planning and design will incorporate:

- Dedicate parking space for car share programs and electric vehicles
- Parking location, design and access will enable better sharing of spaces and active management of supply. This will improve productivity of parking spaces and assist in achieving transport targets.
- Share mobility pods. Space will be provided within the Melrose Park for car and bike share, as well as emerging forms of share mobility such as e-mobility (electric mopeds etc).
- End of trip facilities for active transport (e.g. a bike hub providing showers, lockers and maintenance equipment).

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Recommended parking provision

The overall transport objective of Melrose Park is to reduce the impact of the private car and promote alternative modes of transportation. Whilst there is a need to ensure that adequate access can be provided before public transport measures are introduced, in the medium and long term it is a core objective to reduce car parking and promote alternatives modes. This objective is supported by the demand management measures that are discussed above.

It is observed that all areas of the precinct will be within walking distance on high frequency buses and future light rail services on Victoria Road and Hope Street respectively. An 800 metre walking catchment was adopted on the basis that it is a readily accepted land use planning assumption that can be comfortably walked in 10-15 minutes. This also means the location is within close proximity to local services currently existing or planned within the Melrose Park precinct. The combination of the above strategies is expected to enable parking provision for Melrose Park as outlined below.

All parking rates are proposed to be maximum rates consistent with best practice to ensure there is not an oversupply of parking and that developers are not forced to provide additional costly parking that is not required, and which contributes to increased living costs.

It may be appropriate for earlier stages of the development to apply slightly higher rates if deemed appropriate and lower rates applied in the longer term. For this reason, proposed parking rates in Table 6.10 use the existing Parramatta Council DCP rates for short term development with medium to longer term rates representing the overall parking vision for the precinct.

Table 6.10 : Proposed maximum parking rates

	Residential (spaces per dwelling)						Non-residential (GFA per space)	
	Studio	1 bed	2 bed	3 bed +	Visitor	Total ¹	Commercial	Retail
Short term	1	1	1	1.2	0.25	1.27	50m ²	30m ²
Med-long term	0	0.3	0.7	1	0.1	0.73	50m ²	30m ²

1. Total residential rate per dwelling based on dwelling mix specified by Melrose Park proponents

Off-street

The parking provision rates set out in the Table 6.11 reflect suggested rates adopted for above which will have good public transport provision when the overall development is completed. The parking rates shown for the Bartlett Park site have already been approved. The number of spaces proposed for 'full build-out' (2036) is below the levels required by the City of Parramatta standard parking standards. An overall objective of the Melrose Park development is to reduce the impact of the private car and promote alternative modes of transportation. Whilst there is a need to ensure that adequate access can be provided before public transport measures are introduced, in the medium and long term it is a core objective to reduce car parking and promote alternatives modes. In line with the objectives to reduce the level of car dependency it is recommended that the level of car parking provided on the site is reduced to a total of 9,441 spaces comprising 6,161 and 3,280 spaces for northern and southern precincts respectively.

Table 6.11 : Recommended off-street parking provision for Melrose Park (full build-out)

Land use	Parking Rate	GFA/Dwellings	Spaces
Northern Precinct			
Office/Commercial	1 space per 50m ²	15,000m ²	300
Retail	1 space per 30m ²	12,500m ²	417
Residential	0.73 spaces per dwelling	5,650 dwellings	4,125
Residential (Bartlett Park) ¹	1 space per dwelling + 0.1 visitor spaces per dwelling	1,200 dwellings	1,320
Sub-total			6,161
Southern Precinct			
Office/Commercial	1 space per 50m ²	4,400m ²	88
Retail	1 space per 30m ²	3,000m ²	100
Residential	0.73 spaces per dwelling	4,236 dwellings	3,092
Sub-total			3,280
TOTAL			9,441

1. Parking rate as previously approved

6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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On-street parking (within Melrose Park)

The amount of on-street parking within the Melrose Park has been raised as an issue by the City of Parramatta (CoP). The majority of residential parking for the Melrose Park precinct will be provided off-street including visitor parking. To cater for greater variability in parking demand for on-street parking in the future, CoP would like to see on-street parking on both sides for all internal streets where possible within the Melrose Park precinct.

The amount of on-street parking within Melrose Park should be time restricted as far as possible to ensure parking spaces are allocated efficiently around key transit nodes and the proposed town centre. This will prevent long term parking for residents and commuters within Melrose Park, in particular when light rail is implemented. On-street parking within the internal street network will incorporate parallel kerbside parking either on-carriageway parallel bays and/or indented parallel parking bays. Car share parking spaces are also planned to be on-street that would highlight the presence of these share cars and encourage residents to take up car share instead of purchasing private vehicles. An estimate of the number of on-streets spaces proposed for Melrose Park is summarised below:

- Northern Precinct – approximately 700 spaces
- Southern Precinct – approximately 500 spaces
- Total – 1,200 spaces.

Car share on-street parking (within Melrose Park)

City of Sydney and Leichhardt DCPs have been used in the development of car share rates as these are considered best practice and applicable to the future vision of the precinct (1 space per 40 dwellings). Car sharing rates have been developed using the parking categories outlined above. Car share schemes are generally more successful in higher density areas with limited off-street parking availability and high quality public transport, and this aligns well with the parking categories.

The Melrose Park Parking Strategy (Kinesis 2018) suggests that car share spaces can be provided in lieu of standard car parking spaces. Each car share space can replace up to 5 standard spaces.

Car share spaces will be located in publically accessibility parking spaces and located in strategic sites across the development to enable short walking distances.

6.7 Travel demand management

6.7.1 Introduction

The success of the overall TMAP requires the identification of demand management options that could potentially address future congestion problems that could be experienced on the transportation system within and around Melrose Park. In order to enable the desired changes to travel behaviour, a number of headline demand management options are discussed in the sections below. All of these support the overall transport network approach outlined in the TMAP.

6.7.2 Approach

The provision of demand management measures has been undertaken based on the following principles:

- Reduce car dependency, improve and maximise the share of travel by public transport, pedestrians and cyclists.
- Support a modal shift from private vehicles to public transport.
- Recognise the competing demands for car parking and set out parking management measures.
- Provide environmental protection through the reductions in total travel and the congestion levels in the transportation system.
- Apply an approach consistent with 'Travel Choices' method adopted by Transport for NSW focusing on re-mode, re-time, re-route or reducing journeys.

6.7.3 Demand Management Measures

There are a broad range of travel demand management options outlined in Table 6.12 that could be applied to Melrose Park. These range from "hard measures", such as parking charges and workplace parking levies through to "soft measures" such as car sharing, car clubs, public transport information, tele-working, etc.

Parking Management and Control

There are a number of ways in which parking management and control can be used to influence demand. These primarily include:

- Parking charges – for all or certain road user categories (i.e. time based pricing, vehicle occupancy pricing).
- Reducing or limiting available parking space for all or certain road user categories (i.e. vehicle size parking to encourage the use of smaller and more environmentally friendly vehicles).
- Variable parking pricing programs during congested hours of the day.
- Improving enforcement and control of available parking.
- De-coupling and/or unbundling of off-street car parking from being 'locked into' specific building structures or rent / ownership arrangements

Table 6.12: Suite of demand management measures

SOFT		HARD		
Providing Information	Encouraging behaviour change	Enabling behaviour change	Discouraging unsustainable behaviour	Preventing unsustainable behaviour
Awareness campaigns	Workplace and school travel plans	Prioritising public transport	Parking charges	Access control
Cycling and walking information	Flexible working hours	Car share schemes	Parking management	Pedestrianisation
Advanced traveller information	Personalised travel planning	Car pooling scheme		
	Opal card with pre-loaded value provided upon occupation	Smart work hubs		

6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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Car-sharing

Car-sharing is an effective approach for encouraging reduced levels of car ownership. Car-sharing is best suited to high density, mixed use environments that provide a range of alternative transport options. Many car share providers provide a membership car share service that enables efficient online car booking and rental for registered users.

The service allows users to book, and have on-demand access to, a shared car or vehicle as their needs require. Cars are accessed through smart card technology with cars located in designated reserved spaces in established strategic locations. For example, GoGet has partnered with Parramatta City and City of Ryde councils to facilitate car share schemes within its boundaries with policy dedicated to promoting car share use including actions orientated towards management of kerbs and off-street car share parking.

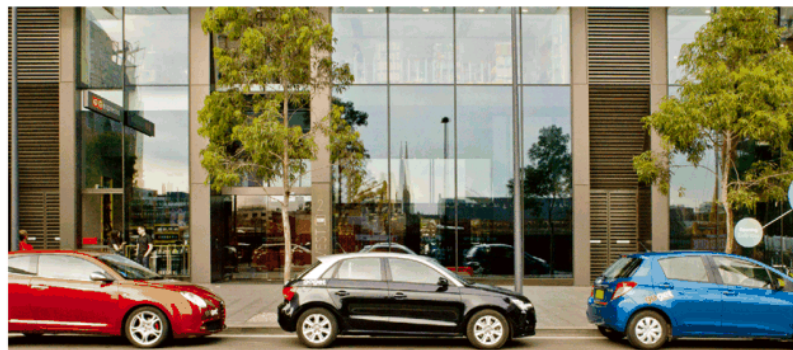
Travel Choices

Travel Choices is a simple framework designed to help reduce peak hour travel, allow people to move around more efficiently and improve business productivity.

- *Remode*: use public transport as driving may no longer be your best option.
- *Retime*: avoid travel during the peak, especially between 8-9am and 5-6pm.
- *Reduce*: minimise the number of times you have to travel, especially by car.
- *Reroute*: use the city's preferred driving routes where possible.

Retiming and reducing are effective ways for people to avoid driving in the AM and PM peak. A number of approaches within the Travel Choices framework could be applicable to managing demand for private vehicles in Melrose Park.

Figure 6.34 : Car-share opportunities (GoGet)



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Flexible working arrangements

Flexible working arrangements can include:

- *Flexible hours*: changing start or finish times.
- *Flexible patterns*: working longer days to provide for a shorter working week.
- *Flexible rostering*: split shifts.

All of these arrangements would require significant support from employers in employment locations of Melrose Park workers e.g. Sydney CBD, Parramatta CBD, Rhodes and Olympic Park.

A 'smart work hub' could be considered in Melrose Park due to the significant commuter population it is likely to contain. A Smart Work Hub offers all the conveniences of a modern office – high speed internet, meeting rooms, videoconferencing facilities, informal lounges and quiet booths – but in close proximity to home. It is a shared workspace with others from small businesses, government and corporate organisations utilising the facilities. Telecommuting allows worker to either eliminate a commute trip altogether by working from home or to reduce trip length by working from a satellite office, such as a smart work hub.

End-User Facilities

The decision to travel to work via walk or cycle tends to be driven in large part by the availability of enduser facilities. These may include showers for cyclists, bike cages or other bicycle parking facilities that ensure safe and secure storage of bicycles, changing rooms and drinking water facilities. These facilities should be incorporated within all employment locations within Melrose Park.

Transport Management Association

The implementation of the Melrose Park TMAP could be supported by the establishment of a Transport Management Association (TMA) charged with managing the delivery and monitoring of the plan's outcomes. The TMA's responsibilities in terms of travel demand management may include, but not be limited to:

- *Personalised Travel Planning*: Personalised travel planning involves the provision of tailored information and incentives directly to households with the aim of influencing travel behaviour and reducing car usage.
- *Travel Information*: Working with transport service providers to provide road users with information about congestion in the surrounding network so the trip characteristics can be altered to avoid congestion.
- *Public Transport Information*: Establishing a marketing campaign and developing a strong, overarching, brand image for public transport has the potential to perform a key role in supporting other demand management options and encouraging modal shift from the private car to public transport alternatives. It is imperative that a good level of public transport service be in place before the promotion and marketing of a route or service can be considered as an effective tool. This could also be supported by a commitment to the early provision of Opal cards by proponents.

Workplace and Green Travel Plans

Workplace travel plans and green travel plans are generally a set of practical initiatives that are put in place by employers or building managers before occupying a new or existing development that encourages staff and residents to choose alternatives to driving that are healthier and more sustainable. For travel plans to be successful in reducing vehicular travel demand, they should be developed in a tailored manner that respects the specific needs to each particular location / organisation.

Elements of such travel plans can include many of the initiatives mentioned above, as well as information programs for sustainable transport, active transport initiatives, flexible work hours, proactive cooperation with transport agencies to tailor public transport facilities to the site and employer initiated parking policy that support public transport use.

A TMA would be charged with supporting the development, delivery and monitoring of all travel plans within the precinct. Expected outcomes of the plans (e.g. mode share targets) will be monitored by the TMA.

Recommendations

A summary of the demand management measures recommended as a part of this study area are outlined below

- Implement comprehensive parking management and control approach for Melrose Park including consideration of de-coupling and unbundling off-street parking
- Develop car sharing approach for Melrose Park including parking rates to be delivered for specific developments
- Investigate the provision of a 'smart work hub' within Melrose Park to reduce commuter peak demand
- Provide high quality end-user facilities for all new developments in Melrose Park
- Measures be considered for inclusion in relevant site specific control plans for Melrose Park.

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6. APPRAISAL OF MELROSE PARK STRUCTURE PLANS

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7.1 Overview

The development of an integrated package of measures and strategies for the Melrose Park TMAP has evolved over an ongoing process based upon close consultation with City of Parramatta, Department of Planning & Environment, Transport for NSW, Roads and Maritime Services and key stakeholders.

The implementation plan provides a framework to ensure an integrated and coordinated approach to achieve the objectives set out in the TMAP.

Whilst a number of the specific measures and strategies of this TMAP will be pursued jointly by both local and NSW Government, there will also be a number of measures and that will be taken forward by Melrose Park proponents separately. In implementing the processes outlined in this TMAP, the outcomes across the precinct and wider region will be consistent and coordinated.

7.2 Staging and trigger points for major infrastructure and services

Melrose Park precinct is a multi-decade development and will be developed in stages. The initial staging will be based on land ownership, market demand, cash flow, constructibility, community needs and design considerations.

Melrose Park precinct needs to build in flexibility to accommodate future changes and to ensure land use strategies are closely coordinated with infrastructure delivery. It is important to understand the short, medium and long term changes in demand and service level requirements as the development progress. Although a particular capacity or service level is required for ultimate development, infrastructure will usually be provided in stages to match demand and lower levels of service can be tolerated in the short term.

A key aspect in the timely and cost-effective provision of infrastructure and services is the integration of land release strategies with the delivery of infrastructure. This is to ensure that the use of existing assets and any spare capacity is maximised early in the process to ensure efficient delivery of future infrastructure.

The key aspects of the Melrose Park staging approach include:

- Assessing infrastructure demand over the proposed development period and identifying critical short term, medium and long term demands
- Ensuring public transport services are provided in line with development to encourage sustainable behaviour and reduce car reliance

- Investigation of existing and future infrastructure capacity to identify "trigger" thresholds and timeframes for contribution and implementation
- Preparing an infrastructure staging plan which moderates the development staging plan as required taking advantage of infrastructure capacity.

The detailed staging and sequencing for Melrose Park will be further refined after the planning proposal with development contingent on the delivery of transport infrastructure. The following staging scenarios have been considered:

- An extension of the existing development front from Victoria Road following development occurring at the former Bartlett Park site (Figure 7.1)
- Development occurring on two fronts (i) an extension of the existing Bartlett Park site, and (ii) the proposed new town centre at the south-east corner of the northern precinct (Figure 7.2)

The indicative staging described below has been formulated in conjunction with the establishment of the road network and public transport facilities to ensure that Melrose Park evolves in a coherent and efficient manner.

Dwelling yields for each stage reflect the trigger point for the associated infrastructure. e.g. Stage 1A works are required in order to support a yield of more than 1,100 dwellings. Years shown are indicative only.

Stage 1A: Delivered at approx 1,100 total dwellings (2021)

- Widening of Wharf Road south of Victoria Road
- Left in/left out access from Victoria Road to NSR-2 (i.e. at Kissing Point Road)

Stage 1B: Delivered at approx 1,800 total dwellings (2022)

- Upgrade of Victoria Road/Wharf Road intersection to provide:
 - Additional dedicated left turn lane on eastern Victoria Road approach
 - 4 lanes at the stopline on Wharf Road approach - 1 left, 1 through, 2 right
 - Removal of slip lane on western Victoria Road approach and realignment of stopline to allow for more efficient 'diamond' signal phasing
- Additional through lane on Marsden Road approach

Stage 1C: Delivered at approx 3,200 total dwellings (2024)

- Upgrade of the Victoria Road/Kissing Point Road intersection to provide:
 - Fully signalised intersection allowing all turning movements.
 - Dual right turn lanes on the eastern and western Victoria Road approach
 - Dual right turn lanes and a shared left/through lane on the southern Kissing Point Road approach
 - 4 lanes at the stopline on the northern Kissing Point Road approach - 1 right, 2 through, 1 left.
 - New signalised pedestrian crossings on the northern, southern and western intersection legs
- Widening of Victoria Road between Kissing Point Road and Wharf Road to allow for a continuous bus lane in each direction

There is potential to provide an indented bus bay for eastbound Victoria Road services directly east of the upgraded Kissing Point Road intersection. It is recommended that the provision of this facility be further investigated at the detailed design stage to ensure that relevant design standards can be met at this location.

Throughout Stage 1

- Provide shuttle buses to service the public transport demand from Melrose Park to Meadowbank Station. Provision of this service will commence with one shuttle bus, with further shuttles to be brought into service in line with delivery of dwellings with a total of 4 buses providing an ultimate Stage 1 frequency of 12 shuttles per hour in the peak periods.
- Staged improvements to frequency of M52 bus services on Victoria Road as described in section 6.4.6 to provide ultimate frequency of 18 per hour in peak direction. (Noting that Melrose Park demand accounts for 5 of the additional 12 hourly services)
- Staged delivery of internal road network and associated pedestrian and cycling infrastructure to provide access to development.

Stage 2: Delivered at approx 6,700 total dwellings (2028)

- New public transport and active transport bridge over the Parramatta River between Melrose Park and Wentworth Point. The bridge will be designed to cater for both bus and light rail vehicles.
- Public transport services as described in section 6.4.6 including maintaining Stage 1 M52 service improvements and also providing services over the new bridge either via Parramatta Light Rail Stage 2 or high frequency bus connections.
- Staged delivery of internal road network and associated pedestrian and cycling infrastructure to provide access to development.

Figure 7.1: Single front staging scenario

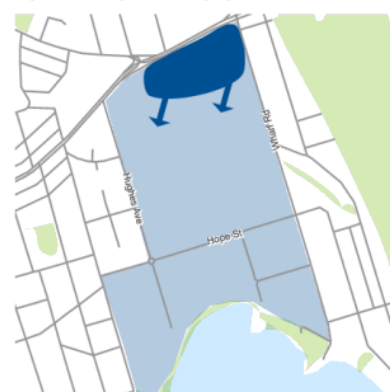


Figure 7.2: Two front staging scenario



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A summary of the proposed staging and the total dwelling yield able to be supported by each stage is shown in Table 7.1

Table 7.1: Staging summary

Stage	Delivered at (dwellings)	Yield supported (dwellings)
Existing network	N/A	1,100
Stage 1A	1,100	1,800
Stage 1B	1,800	3,200
Stage 1C	3,200	6,700
Stage 2	6,700	11,000

Figure 7.3 to 7.5 set out the staging of identified road infrastructure recommendations for the Melrose Park precinct. Intersection designs and pedestrian crossing facilities will be subject to further refinement at the detailed design stage. It is noted that all traffic modelling presented in this TMAP assumes full one-stage pedestrian crossings on all legs of Victoria Road intersections with Kissing Point Road and Wharf Road.

Figure 7.3 : Victoria Road Stage 1A upgrades (Northrop) - Required at approx 1,100 dwellings



Figure 7.4 : Victoria Road Stage 1B upgrades (Northrop) - Required at approx 1,800 dwellings



Figure 7.5 : Victoria Road Stage 1C upgrades (Northrop) - Required at approx 3,200 dwellings



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7.3 Implementation plan

The table below sets out a summary of the proposed transport infrastructure and services required to support the Melrose Park development. Detailed staging of these items is outlined in section 7.2

ID	Description	Responsibility	Background	Objective	Timing
Road network					
1	Internal road network	Proponents	The internal road network will be delivered in lockstep with the staged development of Melrose Park. It is proposed to develop internal roads progressively to provide access to core development areas as they come online.	2,5,6	Ongoing
2	Wharf Road intersection upgrade at Victoria Road	Proponents/ RMS	Proposed upgrade to the Victoria Road/Wharf Road intersection will improve access to and from Melrose Park whilst also improving efficiency for buses, freight and general traffic on Victoria Road.	2,4,5,6	Short term
3	Kissing Point Road - new access at Victoria Road	Proponents/ RMS	New left-in/left-out access into the precinct via the Victoria Road/Kissing Point Road intersection. This will be required in the initial stages of the development to allow for local access.	2,4,5,6	Short term
4	Intersection upgrades - As part of PLR Stage 2	TfNSW	Intersections along Hope Street will require adjustments as PLR stage 2 is delivered. This will result in newly signalised intersections at Hughes Avenue, NSR-2 and NSR-3/Waratah Street.	2,4,5,6	Medium term
5	Kissing Point Road - intersection upgrade at Victoria Road	Proponents/ RMS	Full upgrade of the Victoria Road/Kissing Point Road intersection. This will provide full access into and out of the Melrose Park precinct whilst also improving efficiency for buses, freight and general traffic on Victoria Road.	2,4,5,6	Medium term
6	Victoria Road upgrade between Wharf Road and Kissing Point Road	Proponents/ RMS	Widening of Victoria Road between Kissing Point Road and Wharf Road to allow for extended turning lanes and a continuous bus lane in each direction.	2,4,5,6	Medium term
Public transport network					
7	On-demand services	TfNSW	On-demand services to Macquarie Park are currently being trialled in the Melrose Park area. The possible expansion of these services to other hubs will reduce car reliance for Melrose Park residents and workers.	1,2,5,7	Short term
8	Local bus shuttle services	Proponents	The provision of bus shuttle services to promote integration with local bus and rail services at Meadowbank. Staged provision of buses to allow an ultimate Stage 1 (pre-bridge) headway of 5 minutes in the weekday peak period. 4 buses required to support up to 6,700 dwellings. Potential minor works and pedestrian crossing on Bank Street or at kiss and ride facility to support shuttle operations at Meadowbank station.	1,2,5,7	Short term
9	Bus service enhancements	TfNSW	The following improvements will provide efficient and sustainable travel options for residents and visitors of Melrose Park in the short to medium term: <ul style="list-style-type: none"> Increased frequency on M52 to cater for both background growth and Melrose Park demand along Victoria Road to Parramatta and the Eastern City Potential new service Top Ryde to Concord Hospital via a new bridge over Parramatta River New and upgraded bus stops on Wharf Road to ensure a maximum 400m spacing and to provide increased waiting areas and passenger amenity 	1,2,5,7	Short to medium term
10	Ferry services	TfNSW	Investigations into the following ferry service improvements are recommended: <ul style="list-style-type: none"> Service improvements for F3 Parramatta River services to cater for future commuter ferry and tourist patronage demand Investigate and consult with TfNSW and RMS on ferry shuttles between Olympic Park and Parramatta and a potential new wharf at Melrose Park 	1,2,5,7	Short to medium term
11	New bridge across Parramatta River	Proponents/ TfNSW	A new bridge connecting Melrose Park and Wentworth Point will have a transformative impact on Melrose Park and the wider region. Rapid transport connections via bus or light rail will directly connect Melrose Park with jobs, services and key transport corridors at Rhodes and Sydney Olympic Park.	1,2,3,4,5,7	Medium term
12	PLR Stage 2	TfNSW	A new light rail line will be provided connecting Melrose Park with Parramatta CBD and Olympic Park. At least two stops will be provided within Melrose Park to cater for central / northern and southern precinct access to the light rail corridor. The structure plans makes provision for a LRT corridor along Hope Street.	1,2,4,5,7	Medium term
13	Sydney Metro West	TfNSW	New metro line connecting Westmead, Parramatta CBD, Olympic Park, the T1 Northern rail line, Bays Precinct and Sydney CBD. This will be a key connection for Melrose Park residents who can access the line at Sydney Olympic Park via PLR Stage 2.	1,2,4,5,7	Medium term
14	Victoria Road bus improvements	TfNSW	As outlined in Future Transport 2056 - Improvements will include upgrading bus services and infrastructure on the Victoria Road corridor. Improvements will transform the Victoria Road Corridor into a more attractive place to live and work. Improvements would enhance access for Melrose Park residents traveling to Parramatta or the Eastern City. A potential indented bus bay to be investigated eastbound on Victoria Road east of Kissing Point Road.	1,2,4,5,7	Medium term
15	T1 Northern Line improvements	TfNSW	Investigations into capacity improvements for the T1 Northern Line are currently underway. TfNSW has indicated improvements will be necessary within the next 10 years. Improved services would enhance access for Melrose Park residents who could reach West Ryde/Meadowbank via bus or on-demand services before transferring to the T1 Northern Line	1,2,4,5,7	Medium term
16	T1 Western Line improvements	TfNSW	The T1 Western Line Rail Upgrade Program is recommended to be implemented in order to provide more capacity for Northern Line services	1,2,4,5,7	Medium term

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ID	Description	Responsibility	Background	Objective	Timing
Active transport network					
17	Walking and cycling infrastructure on internal network	Proponents	The internal road network within the Melrose Park precinct will include provision for safe, efficient and attractive walking and cycling trips, particularly to/from Melrose Park Primary School. A midblock crossing on Hope Street between Wharf Road and Waratah Street is recommended to be investigated to facilitate safe connections between the northern precinct and the school. This will encourage local trips to be undertaken via active modes whilst also enhancing access to nearby public transport services. A shared path will be provided on the western side of Wharf Road.	1,2,3,7	Ongoing
18	Enhanced local connections	Proponents/ CoP	Enhancements to active transport infrastructure linking Melrose Park Precinct to the surrounding activity areas through new connections via the internal road network to the Parramatta River foreshore shared path and to George Kendall Reserve	1,2,3,7	Short term
19	Cycle parking and end of trip facilities	Proponents	End of trips facilities and secure and visible cycle parking should be provided at all commercial centres and other major trip generators Adopt bicycle parking provision of: <ul style="list-style-type: none"> 1 per dwelling + 1 visitor space per 10 dwellings 1 per 150m² commercial GFA + 1 visitor space per 450m² commercial GFA 1 per 250m² retail GFA + 1 visitor space per 100m² retail GFA 	1,2,5,7	Short term
20	Implement and refine Parramatta Bike Plan 2017	Proponents/ CoP	<ul style="list-style-type: none"> Fully separated cycleway for Hope Street providing a new high quality east-west connection between Melrose Park and Rydalmere Painted lanes on Wharf Road connecting Hope Street cycleway to existing Parramatta Valley cycleway New shared path connecting north-south through the Melrose Park precinct and connecting with the Parramatta Valley cycleway 	1,2,3,7	Short to medium term
21	Shared mobility facilities	Proponents	Shared mobility pods to be provided within Melrose Park for bike share, as well as emerging forms of shared mobility such as electric mopeds.	1,5,7	Medium term
22	New bridge across Parramatta River	Proponents/ TfNSW	A new bridge connecting Melrose Park and Wentworth Point will include dedicated walking and cycling infrastructure. This will provide direct active transport connections between Melrose Park and key centres such as Rhodes and Sydney Olympic Park.	1,2,3,4,5,7	Medium term
23	Walking and cycling facilities to be delivered as part of PLR Stage 2	TfNSW	Improved cycling and pedestrian facilities should be investigated during planning and delivery of PLR Stage 2 along the Hope Street and Waratah Street corridors.	1,2,3,7	Medium term
Policy					
24	Parking policy	CoP/ Proponents	<ul style="list-style-type: none"> Consider maximum parking rates for Melrose Park in the long term with parking provision of: <ul style="list-style-type: none"> 0.73 spaces per dwelling (average based on currently assumed dwelling mix) 1 space per 30m² commercial GFA 1 space per 50m² retail GFA Prioritise on-street car share within Melrose Park at a residential car share rate of 1 space per 40 dwellings On-street parking to be provided within the internal road network and be designed to support the function for the street. Provide real-time parking information along key access streets and the proposed town centre Unbundling /decoupling parking from the sale of apartments, to deliver housing choice and efficient allocation of parking across the development. Monitor on-street parking activity on the surrounding street network at Wharf Road, Hope Street and Hughes Avenue to minimise over flow parking from Melrose Park 	1,6,7	Ongoing
25	Demand management	Proponents	<ul style="list-style-type: none"> Ensure that transport information is up to date and liaise with the local residential and business communities on transport issues Aligning information at stops and streets with digital transport information provided through websites, apps and electronic information displays Liaise with transport providers to resolve any impediments to their efficient service and promote regular improvements Enabling significant investment in car share, providing accessible mobility choice to households without parking or who choose not to own a car Introduce parking management and control measures e.g. parking charges, constraining parking supply, unbundled/decoupled off-street parking Facilitate car-sharing to reduce the need for private car ownership Provide shared work spaces and 'smart hubs' to facilitate flexible working arrangements and minimise the need for peak hour commute trips Provide opal cards to initial residents of the precinct 	1,2,6,7	Ongoing

7. IMPLEMENTATION PLAN

8. KEY FINDINGS AND CONCLUSIONS

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8. KEY FINDINGS AND CONCLUSIONS

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Overview

The Melrose Park TMAP has examined a wide range of issues in a complex land use and transport planning environment given the strategic location of the precinct within Greater Parramatta Olympic Peninsula (GPOP). The TMAP has sought to address the following key issues:

- The need to achieve a high level of public transport use, cycling and walking in order to achieve the *Future Transport Strategy 2056* broad strategic planning objectives of improved integration of land use and transport planning
- A strong commitment to bring light rail into the precinct as part of PLR Stage 2 and anchored by future connections to PLR Stage 1 and Sydney Metro West at Sydney Olympic Park
- The need to balance transport and access expectations in an environment where the road network, particularly at key intersections surrounding the site, is already close to capacity
- A staged approach to parking provision that will balance the short term needs with the long term objectives for sustainable parking management within the precinct
- To cluster residential, commercial and retail development in such a way that a 'critical mass' of trip generation is established within public transport catchments from the earliest stages of development.

8.2 Key findings

The key findings of the Melrose Park Precinct incorporating 11,000 dwellings in terms of transport infrastructure and services requirements are:

- Based on the nominated service levels for the road network, upgrades to Victoria Road intersections (Wharf Road and Kissing Point Road) will be required in order to efficiently service the Melrose Park precinct
- The road network analysis has identified that the remainder of the existing road network is able to cater for traffic generated by the proposed development, with no significant impacts compared to a future 'do minimum' scenario
- The public transport network for Melrose Park has been planned to cater for the full development without the need for light rail.
- Increased bus service frequencies on Victoria Road are required to support development and achieve mode share targets. Investigations have confirmed the required bus service levels are feasible

- A new bridge crossing (public and active transport only) across the Parramatta River linking Melrose Park to Wentworth Point is required by 2028 (approximately 6,700 dwellings) to enable connections from residential and employment areas to key public transport nodes
- New bus services between Top Ryde and Concord Hospital via Melrose Park are proposed to operate via the new bridge
- Shuttle services between Melrose Park and Meadowbank station are proposed to operate prior to the implementation of the new bridge. Proposed operations can be implemented without significant works or impacts
- Ferry user patronage demand from Melrose Park is likely to be small but may play an important role for discretionary trips. A new bridge across the Parramatta River will provide access to Sydney Olympic Park and proposed new ferry wharf at Rhodes East
- A light rail corridor is being proposed by TINSW established through the core of the development. This would bring light rail services through the heart of Melrose Park with direct access to the proposed Sydney Metro West station at Olympic Park
- The introduction of PLR Stage 2 leads to a number of access implications along Boronia Street, Hope Street and Waratah Street which will need to be carefully managed
- The northern precinct structure plan maintains a corridor on Hope Street between Hughes Avenue and Waratah Street to enable the implementation of light rail. The southern precinct allows for light rail along Waratah Street.
- The entirety of the road works shall be delivered early with all upgrades delivered prior to the implementation of the new bridge over the Parramatta River. This plan ensures that infrastructure is in place to support the development and minimise wider network impacts.
- Key elements of Stage 1 - Prior to bridge (up to 6,700 dwellings):
 - Stage 1A, Stage 1B and Stage 1C road upgrades
 - Enhanced Victoria Road bus services to cater for background growth and Melrose Park demand
 - Shuttle services to Meadowbank Station
- Key elements of Stage 2 - After new bridge (more than 6,700 dwellings)
 - New high frequency services (bus or light rail) over the bridge
 - Continued enhanced Victoria Road bus services to cater for background growth and Melrose Park demand

8.3 Key conclusions

The key conclusions of the Melrose Park TMAP are:

- The scale of development envisaged for Melrose Park (11,000 dwellings) presents very significant, but manageable challenges for road and public transport infrastructure and services
- The package of transport infrastructure and services proposed and assessed in the TMAP is capable of accommodating the Melrose Park development yields (11,000 dwellings) and regional transport requirements as defined in *Future Transport Strategy 2056*
- Sydney Metro West will deliver significant benefits across the entire rail network for residents from Melrose Park with high capacity and more frequent services between Parramatta CBD, Sydney Olympic Park and Sydney CBD
- A new bridge crossing (public and active transport only) across the Parramatta River linking Melrose Park to Wentworth Point is required by 2028 (approximately 6,700 dwellings) to enable connections between multiple trip origins and destinations linking residential and employment areas to key public transport nodes
- Parramatta Light Rail Stage 2 will provide a direct link to and through the Parramatta CBD, and to the broader rail network, for the growing areas of Melrose Park, Wentworth Point, Sydney Olympic Park, North Parramatta and Westmead
- The public transport network needs for Melrose Park Precinct has been planned to match the type and scale of development without the need for light rail. The new bridge across Parramatta River linking Melrose Park and Wentworth Point will provide a key connection and will provide, a fast, direct, high frequency feeder bus services linking Melrose Park to Rhodes Station and future metro station at Sydney Olympic Park
- The signalised intersections within the study area are adequate and will operate at acceptable level of service with the improvements recommended. The TMAP analysis has shown LOS E or better for all the signalised intersections within the study area during the peak hours
- The additional traffic demands as a result of Melrose Park development on the surrounding local road network fall within acceptable capacity thresholds
- Parking provision in the early stages will need to balance the imperative of achieving as much development as early as possible (to contain travel within the area), while parking provision in the later stages will need to constrain parking supply as a means of reducing travel by private car

- The proposed 9,441 off-street parking spaces provided within Melrose Park is considered adequate to cater for the likely parking demand generated from the site at full build-out by 2036, which will be complemented by the public transport initiatives identified in the TMAP
- An integrated package of measures is required to be implemented over the next five to ten years as the development progresses, with the package containing a mix of policy and infrastructure and transport services measures
- The staging of the development will not cause any noticeable degradation of performance on the surrounding road network with the proposed integrated package of mitigation measures
- The staging of infrastructure and services is focused on ensuring high levels of accessibility in the short term. Road network upgrades and significant public transport service improvements are proposed in the early stages of the development.
- The measures presented within the TMAP need to be integrated comprehensively and consistently over the short, medium and long term if the mode split targets are to be achieved, and if the surrounding road network is to continue to function at an acceptable level of service.

APPENDIX A - MELROSE PARK PRECINCT MODEL (MPPM)

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Memorandum

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Subject	MPPM Spreadsheet model	Project Name	Melrose Park TMAP
Date	12 October 2018	Project No.	IA130100

1. Introduction

The purpose of the Melrose Park Precinct Model (MPPM) is to assist in understanding the impacts of proposed developments and the potential travel behaviour for trips to and from the precinct. The model provides forecasts for trip generation, trip distribution, mode choice and trip assignment to and from a development. This memorandum details the process of generating forecasts using the MPPM.

2. Step 1 – Zoning System

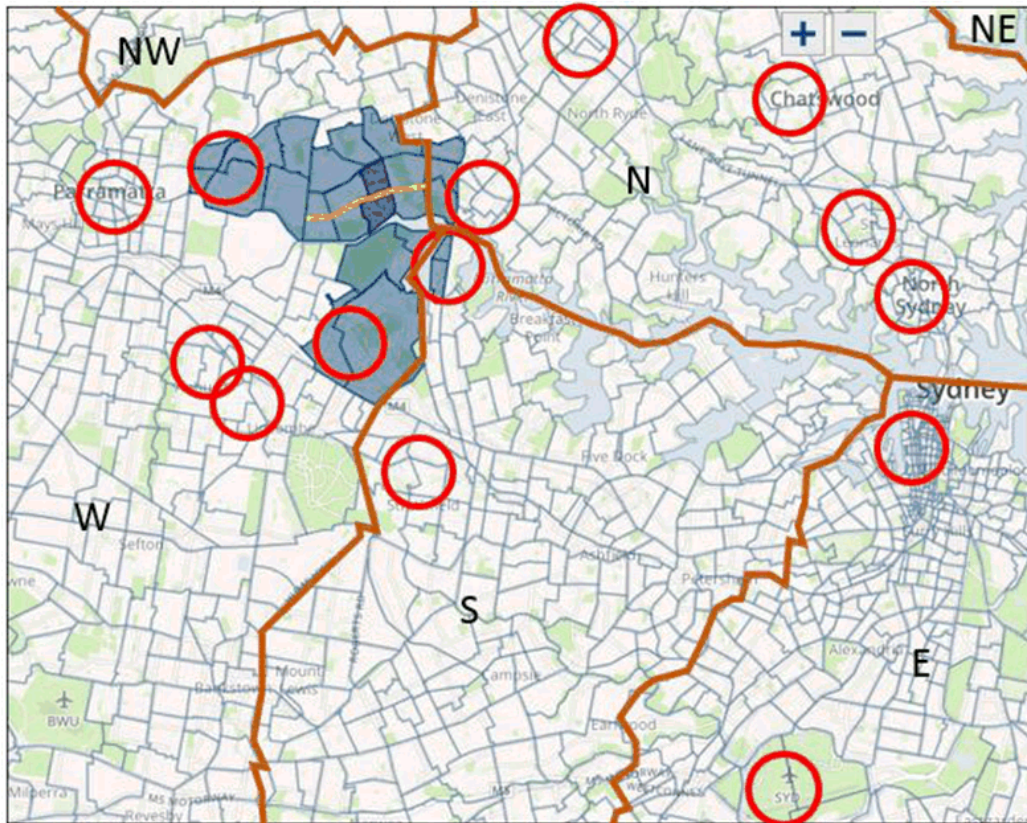
The first step is to define the zoning system. The zoning system forms the basis of the four-step analysis that is undertaken in the MPPM. MPPM uses Journey To Work (JTW) data from the 2011 census (the latest available at time of model development) for forecasting demand. As a result, JTW zones are used to define the geography of the model.

All JTW zones are defined into two types: internal and external. Internal zones comprise of the zone containing the development and its surrounding zones (the study area). If necessary, these zones can be further disaggregated to better reflect their public transit network connectivity. In the case of Melrose Park, travel zones between Victoria Road and the Paramatta River are all split into a North and a South zone because the North-South distance between Victoria Road and the Paramatta River is 2km. Therefore, residents in the Southern parts of these zones fall outside of the catchment of bus services running along Victoria Road.

External zones are divided into two types: employment centres, and wider external zones. These zones are created through the amalgamation of appropriate JTW travel zones. Employment centres represent the main places of employment for the residents of the internal zones (e.g. the CBD, Paramatta, Macquarie Park etc.). Employment centres are chosen to capture the majority of work trips which are made by the residents of the internal zones.

The figure above shows the zoning system used in the model. Internal zones are shaded blue, employment centre zones are indicatively shown by the red circles. Wider external zone boundaries are marked by the brown lines, which extend to cover the rest of Sydney (not shown above). Melrose Park is shaded purple. The yellow line marks the location of the split for the zones between Victoria Road and the Paramatta River, including the Melrose Park zone.

Figure 2.1: MPPM zoning system



All remaining travel zones are amalgamated into wider external zones. These zones represent large geographic areas (e.g. North West) and are comprised of many zones to which there are a low number of trips from the internal zones.

3. Step 2 – Demand development

Once the zoning system is developed, an origin-destination demand matrix (OD matrix) is created. JTW data provides the number of work trips which take place between every travel zone disaggregated by mode. MPPM uses the sum of all car and public transit trips; modes 1-5 in the JTW. Trips which report modes such as 'other' and 'mode not stated' (modes 6-9 in the JTW) are excluded from the analysis.

The sum of all car and public transit trips is amalgamated to provide OD demand for each OD pair using the zoning system defined in Step 1; with the exclusion of external to external zone pairs, as these do not influence the study area. This provides the base OD matrix for the year 2011.

Census projections are used to factor the base 2011 OD matrix in order to create the base study year matrix (2016) as well as future study year matrices (2026, 2036). The census provides population and employment projections for every JTW travel zone. These projections are split or amalgamated in the same manner as the JTW data to convert them into the MPPM zoning system. Using the reported



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2011 employment and population, and the projected future population and employment in each zone, growth factors are derived. These are applied to the 2011 OD matrix to create the base and future year OD matrices.

Each OD pair is factored by two growth factors to arrive at the future OD value.

The population growth factor is simply the percentage by which the population in the origin zone has grown over time. Every origin zone has a growth factor which is applied to all trips originating from that zone.

The employment shift growth factor takes into consideration the fact that not all destination zones will grow at the same pace. First a distribution of trips from each origin zone is created using the 2011 OD matrix. This distribution is then factored by the relative growth in projected employment in each destination zone. This way, the fact that certain destinations, such as Paramatta, grow at a faster rate than others, such as the CBD, and will attract more trips in the future is accounted for. This new distribution of trips is then applied to the trips factored by the population growth factor to arrive at the future year number of trips for each OD pair.

4. Step 3 – Benchmarking

The growth factors used in Step 2 cannot be applied to the development zone as the land use will be completely different than it currently is. Benchmarking is needed to develop an accurate representation for trip generation and trip distribution for this zone. Additionally, any other internal zones where significant change in land use has occurred or is planned to be happen must also be benchmarked.

In the MPPM benchmarking was applied to the development zones in Melrose Park, and the fast-growing zones at Olympic Park and Wentworth Point South.

Firstly, benchmark zones are specified. Benchmark zones of similar location, development level and public transit connectivity are chosen as they will provide the most accurate estimates for the trip generation and distribution for the zones which require benchmarking.

Benchmarking is used to provide an estimate for trip generation and trip distribution. Population and employment projections for other internal benchmark zones can be obtained from the census projections used in Step 2. For the development zones, projections for population and employment are extracted from the development documents.

A weighted average number of JTW trips out per population for the appropriate benchmark zones is calculated and applied to the projected population to obtain the projected total number of trips from the zone. These are then distributed by the weighted average distribution for the appropriate benchmark zones.

Once benchmarking is completed, final OD matrices for the base and future year are created. This completes the process of trip generation and distribution.



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5. Step 4 – Public Transit Generalised Cost

The next step in the MPPM is to assign the trips from the final OD matrix. The MPPM uses a generalised cost binomial logit model to assign all trips for each OD pair to one of two modes: public transit (PT) or car.

To carry out the assignment, generalised cost for each OD pair for PT and car trips are computed. The generalised cost represents a representative average trip for each OD pair.

PT trips are divided into three types: Local to External (LE), External to Local (EL), and Local to Local (LL). LE trips take place between internal and external zones; EL trips the opposite, and LL trips occur between two internal zones. A representative average PT trip is then computed for each PT trip type.

LE trips are broken down into 3 legs. Leg 1 represents the walk to a local bus stop (or local light rail stop in light future light rail scenarios). Each internal zone is served by a local bus stop. All bus services which go through an internal zone stop at the local bus stop. Using GIS, a centroid is estimated for each travel zone based on its land use; i.e. accounting for dwelling density and green spaces. The centroid is taken as the origin of all trips from each zone to represent the average trip.

The distance from the centroid to the local bus stop via the road network is calculated using a GIS network of the area. The generalised cost is expressed in minutes. The formula for calculating Leg 1 costs is shown below:

$$\text{Cost} = \text{Walk Distance} \times \text{Walk Speed} \times \text{Walk Factor}$$

The cost of Leg 1 is computed by converting the distance to a walking time using an assumed average walking speed, and applying a factor reflecting the relative desirability of walking as a means of commute. The factor used in the MPPM is 1.5 reflecting the fact that walking is seen as a relatively undesirable means of commute.

Leg 2 represents the trip on a local bus to a gateway. A gateway is a train/ferry/metro/light rail stations inside or near the study area. A representation of bus services running through the study area is created. Each bus service is modelled to stop in each zone and at each gateway through which it passes. The travel times and frequencies are taken from the Transport for New South Wales (TfNSW) timetable for each local bus service. The cost for Leg 2 of the trip is calculated using the formula below:

$$\text{Cost} = \text{Wait Factor} \times 0.5 \times \frac{60}{\text{Frequency}} + \text{IVT Factor} \times \text{IVT} + \text{Fare Factor} \times \text{Fare} + \text{Mode Transfer Penalty}$$

Where;

- ☐ Wait factor represents the disutility of waiting for a local bus service to arrive
- ☐ Frequency is the number of busses per hour
- ☐ In vehicle time (IVT) is the time taken for the trip
- ☐ IVT Factor represents the relative attractiveness of each mode of travel. It is different for busses, trains, light rail, ferry etc.



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- ☐ Fare is calculated using Opal distance bands
- ☐ Fare factor converts the monetary value of the fare to a perceived minute cost
- ☐ Mode transfer penalty represents the perceived inconvenience in minutes of changing modes of travel at the end of Leg 2

Where zones are served by multiple overlapping services the frequency is the sum of all overlapping services per hour, since travellers would board the first available service.

The centroid of certain zones falls within 1km of a gateway. For these zones, Legs 1 and 2 are replaced by a single walking trip from the zone centroid to a gateway. The cost of the trip is calculated using the same methodology used in Leg 1.

Leg 3 refers to the trip from the gateway to the destination. It is divided in two parts. First, travellers use the rail/light rail/ferry/metro network to travel to a destination station. A destination station is the station which acts as the proxy for an external zone. Each external zone, both employment centre and wider external zone, is represented by a destination station. A representation of the rail/ferry network is created for Leg 3 using the TfNSW General Transit Feed Specification (GTFS). The formula for computing costs in Leg 3 is the same one used in Leg 2; with the exception of the mode transfer penalty, as it was already applied in Leg 2.

The second part of the Leg 3 trip is the trip from the destination station to the destination. Again, an average trip is created to represent the trips from the destination station to the final destination. For employment centres, this trip is a walking trip of various durations to account for the differing sizes of the employment centres. The cost of this part of the trip is computed using the same formula as in Leg 1. For wider external zones, another local bus trip is assumed to take place from the destination station to the destination. The costs of this trip are computed using the same formula as in Leg 2.

The final cost of a local to external public transit trip is calculated by the summation of the costs from all components of the three legs.

External to local trips are equivalent to LE trips but take place in the opposite direction. Since the only change is the order in which the trip is made, their costs are identical for equivalent EL-LE pairs.

Local to local trips also consist of three legs. Leg 1 is the walk to the local bus stop and is the same as in EL trips. Leg 2 consists of taking the local bus to a destination zone. The formula used is the same one as in Leg 2 of EL trips, with the only difference being that the trip is taken to another internal zone instead of a gateway. Finally, Leg 3 is another walking trip from the local bus in the destination zone to the centroid of the destination zone. The cost of this leg is calculated the same as Leg 1. If two zone centroids are within 1km of each other, or if two zones share the same local bus stop, a walking trip from one zone centroid to the other replaces Legs 1-3 of a LL trip.

The final cost of a local to local public transit trip is calculated by the summation of the costs from all components of the three legs.

An important note is that most zones are connected to multiple gateways via multiple local bus services. Each of these alternatives has a different generalised cost. For the purposes of public transit vs car mode choice, the generalised cost of a public transit trip is considered to be the lowest generalised cost of any of the possible public transit trips. Later, when the trips are assigned, they are assigned through a logit model so that trips are distributed via different gateways and via different local bus services.



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6. Step 5 - Car Generalised Cost

Car generalised cost for each OD pair is computed via the following formula:

$$\bullet \quad \text{Cost} = \text{IVT} + \text{Fare Factor} \times \frac{(\text{Distance} \times \text{Car Operating Cost Per Km} + \text{Toll} + \text{Parking Cost})}{\text{Car Occupancy}}$$

Where;

- ☐ IVT is in-vehicle time (travel time)
- ☐ Fare factor is used to convert monetary costs to perceived minute cost. It is the same factor used to convert fares into a perceived minute cost for public transit fares in Step 4

Car travel time, distances and tolls are all obtained from the Sydney Strategic Traffic Model (STM).

Car occupancy cost per km and car occupancy are globally assumed parameters. Parking costs are different for each external zone. Parking costs are chosen to reflect the scarcity of parking at each destination.

7. Step 6 – Mode Choice

A simple binomial choice model is used in the MPPM to calculate mode choice. Specifically, the following formula is used to calculate the proportion of public transit trips:

$$PT \text{ Proportion} = \frac{e^{-\beta \times GC_{PT}}}{e^{-\beta \times GC_{PT}} + e^{-\beta \times (GC_{car} + ASC_{car})}}$$

Where;

- ☐ PT Proportion is public transit mode share
- ☐ GC_{PT} is the public transit generalised cost calculated in step 4
- ☐ GC_{car} is the car generalised cost calculated in step 5
- ☐ ASC_{car} is the alternative specific constant for car
- ☐ β is the sensitivity parameter

The two parameters used in calibrating the model; the β and the ASC_{car}, are varied for different trip types. All trips are divided to fall into one of eight trip types. All origin zones are divided into two types – rail walk and rail non-walk, depending on whether the zone falls within the walking distance of a gateway station. Destination zones are divided into 4 types: CBD, other centre, rail walk and rail non-walk, where;

- ☐ CBD is the CBD
- ☐ Other centre refers to employment centres outside of the CBD
- ☐ Rail walk refers to destination zones which are within a walking catchment of a gateway station but are not employment centres



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- ☐ Rail non-walk refers to destination zones which are not within a walking catchment of a gateway station

Trip types are the combinations of the origin and the destination types and are:

- ☐ Rail walk to CBD
- ☐ Rail walk to Other Centre
- ☐ Rail walk to Rail walk
- ☐ Rail walk to Rail non-walk
- ☐ Rail non-walk to CBD
- ☐ Rail non-walk to Other Centre
- ☐ Rail non-walk to Rail walk
- ☐ Rail non-walk to Rail non-walk

To ensure the most accurate representation of traveller's behaviour, a unique sensitivity and alternative specific constant for each of the eight trip types because the difference in costs is perceived differently depending on the trip type.

For example, the ASCcar for rail non-walk to rail non-walk trips is negative, indicating a preference for making these trips by car. This occurs because making such trips via public transit requires a minimum of two mode changes. While a mode transfer penalty is applied to each when computing generalised cost, the additional perceived inconvenience of having to change modes twice is not accounted for until the ASCcar parameter is applied. Conversely, the ASCcar for trips to the CBD is positive indicating a preference for public transit on such trips due to the additional perceived cost of spending additional time in congestion and difficulty finding parking at the destination.

The sensitivity parameter is also varied to reflect how strong some of these preferences are. It is lower for trip types where there is a clear preference for one mode over the other, such as the preference for public transit to the CBD or the car for non-walk to non-walk trips, and higher for trip types where there isn't a clear preference and the difference in general costs is the most important factor in mode choice.

Variation of the two parameters based on trip type allows for a better calibration of the model. The model is calibrated based on the 2011 JTW data. The shape of the logit curve represents a limitation for zone pairs where mode share is significantly skewed to either mode. While it would be very easy to replicate the 2011 mode choice using very high parameters, these parameters would not be realistic. Thus, the 2011 JTW mode shares are used as a guide rather than calibration targets.

The logit model is applied to each zone pair in the model to determine mode share to and from each individual zone. Demand values refer to JTW trips across the 24-hour period. These are converted into all trip purposes over a 3.5 Hr AM peak and then a 1 Hr AM peak using appropriate factors. The factors are derived by comparing the number of JTW trips assigning to the rail network to the total observed 3.5 Hr rail station entries. The 3.5 Hr rail station entries are sourced from the Rail Station Barrier Counts 2013 report authored for the Bureau of Transport Statistics and TfNSW.



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8. Step 7 – Trip Assignment

The mode choice model provides forecasts for public transit trips between each zone pair. Multiple alternative paths exist for public transit trips, as they can be made via multiple gateways. Also, most gateways can be accessed via multiple local bus services. In the trip assignment stage, these trips are assigned to alternative paths through the modelled transit network.

First, the demand for each OD zone pair is distributed to all the possible gateways which can be used to complete each trip. This is done using a simplified version of the binomial choice used in determining mode choice. There is only one parameter in this model – the sensitivity parameter. The alternative specific cost parameter is not used as all of the trips are made using the same mode. The sensitivity parameter used here differs from the one used in the mode choice model. It is calibrated to create a reasonable distribution of trips to each gateway depending on their relative costs for each zone pair. The costs used in this assignment are the cost of making the entire trip via each gateway, not just the cost of leg 3, as the decision of which gateway to use is made at the beginning of the trip and not at the beginning of leg 3.

Next, the demand from each zone to a gateway (or to another internal zone for LL trips) is assigned to the appropriate bus services. Again, a simple binomial choice model is used, with the sensitivity parameter being the only factor. This is another internally calibrated factor based on a reasonable distribution in regards to relative costs of alternative routes which differs from sensitivity parameters used previously. Again, the costs used are for the whole trip made via each service, not just leg 2.

An allowance for park and ride is included at this stage. It is recognised that a certain proportion of public transit trips will be made via park and ride or kiss and ride instead of the local bus network, especially at gateways where significant parking provisions or on-street parking facilities exist such as Meadowbank or West Ryde. The park and ride factor reduces the demand on the local bus services leading to these gateways, while leaving the demand at the gateway unaffected.

Once the trips are assigned to each local bus service, statistics such as demand at gateways or bus on/off diagrams can be reported.

APPENDIX B - AIMSUN CALIBRATION REPORT

JACOBS



Melrose Park Transport Management and Accessibility Plan (TMAP)

Payce Property

Calibration and Validation Report

Rev B - Final

10 May 2018



Calibration and Validation Report



Melrose Park Transport Management and Accessibility Plan (TMAP)

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1. Introduction

1.1 The project

Jacobs have been commissioned by Payce Property to develop a Transport Management and Accessibility Plan (TMAP) for proposed development at Melrose Park. Currently comprised of primarily industrial development, the Melrose Park site presents significant opportunities for redevelopment and rezoning to increase population density.

The Melrose Park TMAP will be informed by operational traffic modelling undertaken using a hybrid mesoscopic and microscopic traffic model using the Aimsun software package. The *Melrose Park Hybrid Traffic Model* will provide a tool for the assessment the impacts of new proposed mixed-use development on travel times and traffic performance through the study area.

Hybrid mesoscopic and microscopic traffic modelling provides the ideal tool to assess the requirements of the surface transportation network, effects of congestion and identification of network constraints.

1.2 Model purpose

The purpose of the model is to provide a strategic assessment of the road-based transport infrastructure requirements to support proposed development at Melrose Park. The wider mesoscopic areas of the model are not for the purposes of detailed road design. The microsimulation area directly impacted by the proposed development will be more detailed in nature and may be used to inform road design activities.

1.3 Modelling process

The Sydney Strategic Travel Model (STM) has been used to provide initial travel demand and will also be used for future demand development.

The *Melrose Park Hybrid Model* has been developed using the Aimsun modelling platform (version 8.2.1) and has been calibrated and validated based on the principles outlined in the *Roads and Maritime Traffic Modelling Guidelines, 2013*, modified for the specific purposes of the model and specified in the *Melrose Park Traffic Model Scoping Report* (23 October 2017) prepared by Jacobs.

Mesoscopic modelling provides sufficient detail to determine the performance of the road network under proposed future land use scenarios and provides guidance on the need for further road infrastructure requirements. In addition, mesoscopic simulation allows for true dynamic equilibrium assignment where vehicles can select their optimal travel routes based on their previous travel experiences. This provides a confidence that the modelled pattern of traffic represents a realistic response to the delays and capacity constraints that would be experienced by traffic on a day-to-day basis.

Additionally, the model includes a microscopic simulation area in the immediate vicinity of the development site in order to better reflect detailed behaviour such as lane-changing and weaving which is best modelled using microscopic simulation.

1.4 Purpose of this report

This report is intended to document the development, calibration and validation of the *Melrose Park Hybrid Model*. It details the process undertaken to calibrate and validate the model and specifies the conformance of the model to relevant modelling guidelines for calibration and validation.

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1.5 Assumptions and limitations

1.5.1 Assumptions

The calibration and validation of the *Melrose Park Hybrid Traffic Model* is based on a number of assumptions:

- ☐ Peak period private vehicle travel demands supplied from STM are representative of peak period travel demand
- ☐ Traffic count data is a true and accurate representation of existing traffic conditions
- ☐ Public transport data supplied by Transport for NSW is a true and accurate representation of existing services
- ☐ Signal timing data supplied by Roads and Maritime Services from 2017 is a true and accurate representation of existing traffic signal operation
- ☐ Travel time data is an acceptable representation of existing delays across the network.

1.5.2 Limitations

The calibration and validation of the *Melrose Park Hybrid Model* documented in this technical report is subject to the following limitations:

- ☐ Traffic analysis has been limited to the morning (6-10am) and evening peak (3-7pm) four-hour periods for a typical weekday
- ☐ The traffic model development has been limited to mesoscopic modelling of the study area, except for the specified area surrounding the Melrose Park proposed development which was simulated using microscopic modelling
- ☐ The zoning system within the model is limited to some subdivision of the Sydney Strategic Travel Model (STM) zone system (TZ11). This subdivision includes detailed zone disaggregation down to the level of local or collector roads.
- ☐ Traffic data, including counts, signal timings and travel time surveys were gathered from a number of sources. While every effort has been made to ensure continuity in these sources, some inconsistency in count data is expected which may have an impact on the calibration and validation process.

1.6 Report structure

This report is structured as follows:

- ☐ Section 2: *Model development* – Outlines the methodology used in the development of the model and illustrates all supplied transport data
- ☐ Section 3: *Demand matrix development* – Details the sources and development of traffic demand
- ☐ Section 4: *Model calibration* – Details the calibration procedures and results
- ☐ Section 5: *Model validation* – Details validation procedures and results
- ☐ Section 6: *Conclusions* – Outlines the conclusions of the calibration and validation process.

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2. Model development

2.1 Overview

The *Melrose Park Hybrid Model* has been developed using the Aimsun (version 8.2.1) traffic modelling platform. Aimsun allows for the development of static and dynamic traffic models within a unified platform, performing traditional static macroscopic modelling using volume delay functions as well as more detailed dynamic mesoscopic and microscopic simulation modelling. Dynamic traffic models are useful in modelling congested or capacity-constrained conditions where traffic demand exceeds available capacity and traffic diverts to seek less congested alternative routes. These conditions result in queuing that builds up and dissipates over time and dynamic routing of traffic that is responsive to this build-up of delays.

The model is based on an initial road network and traffic demand supplied by Transport for NSW, converted from the Roads and Maritime Strategic Highway Assignment Model and refined for the study area. This model has been built within the Greater Metropolitan Sydney network as a sub-model.

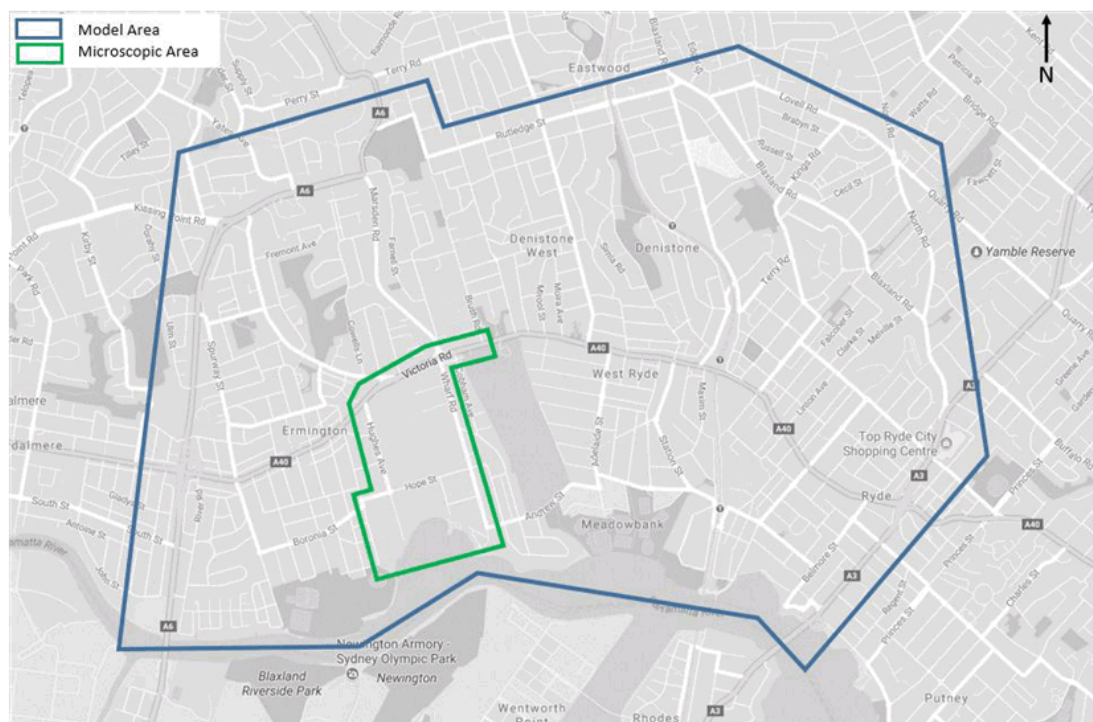
2.2 Model scope

2.2.1 Geographical coverage

A map of the model extents is provided in Figure 2.1. The model extends beyond the immediate area surrounding the proposed development to ensure that all traffic movements potentially related to development at Melrose Park are captured by the model.

Located in Sydney's North-West, Melrose Park is bounded by Victoria Road to the North, Archer's Creek to the East, the Parramatta River to the South and Hughes Avenue to the West.

Figure 2.1 : Aimsun model extents



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2.2.2 Temporal coverage

The model covers the morning and evening peak periods from 6:00am to 10:00am and from 3:00pm to 7:00pm respectively. In addition to these simulation periods, a "warm-up" period of an additional 30 minutes has been specified to sufficiently load the network at the start of each analysis period. Results from the warm-up period are not included in the reported model statistics.

Traffic demand has been defined in 15-minute matrices, while signal control plans have been defined per-hour. Signal times were averaged per-hour as minimal phase time variance within the hour was observed for the majority of intersections within the modelled area. The accuracy that would be provided by the use of separate 15-minute signal plans would be minimal, particularly when considering traffic count data and traffic signal data are not from the same day. The profiles of 15-minute traffic counts would not correspond directly to the 15-minute profile of green time; furthermore, under future scenarios, fine-tuning of traffic signal settings at the 15-minute level is not practical.

2.2.3 Vehicle classes

The following four vehicle classes have been explicitly modelled:

- ☐ *Cars*: comprised of cars, taxis and light vans (all modelled as the same vehicle class), Austroads classes 1 and 2
- ☐ *Trucks*: comprised of small and large rigid trucks, Austroads classes 3, 4 and 5
- ☐ *Heavy trucks*: comprised of articulated semi-trailers and B-doubles, Austroads classes 6 and above
- ☐ *Buses*: modelled using fixed routes and timetables rather than demand matrices.

2.3 Road network

Key components of the existing road network in the study area are detailed in this section.

2.3.1 Victoria Road

Victoria Road is a state arterial road that provides access between Parramatta and the Anzac Bridge. Near the study area, the Victoria Road experiences moderate to high delays during the morning and evening peak periods, particularly near Kissing Point Road and Marsden Road. Clearways and bus lanes are in effect in both directions during peak periods. Several bus routes run along Victoria Road, including the M52 bus route. Parking is not permitted along Victoria Road, except near the West Ryde.

2.3.2 Silverwater Road

Silverwater Road is an arterial road that connects Dundas Valley to Lidcombe in a north-south direction. Some delays occur during the peak periods at Silverwater Road, south of Victoria Road. Near the study area, the posted speed limit is 80 km/hr and no parking is permitted along Silverwater Road.

2.3.3 Marsden Road

Marsden Road is a sub-arterial road that provides access between Carlingford and West Ryde. The posted speed limit is 60 km/hr and on-street parking is available on both sides of the road. The road generally operates with spare capacity, but experiences moderate delays near Victoria Road and between Morris Street and Stewart Street.

2.3.4 Wharf Road

Wharf Road is a collector road that connects Ermington to Melrose Park. The road experiences minor congestion at the intersection with Victoria Road. The posted speed limit is 50 km/hr and on-street parking is available along some sections of the road.

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2.4 Zoning system

The model has a base centroid configuration corresponding with Transport for NSW's Transport Performance and Analytics (TPA) Travel Zones 2011 (TZ11). The TZ11 Travel Zones cover large areas and hence have been disaggregated in order to provide sufficient detail and resolution in future scenarios. This disaggregation has been based on observed dwelling within each travel zone.

A summary of disaggregated centroids is shown in Table 2.1.

Table 2.1: Summary of centroid disaggregation

Travel Zone	Name	No. of disaggregated centroids
1113	Lottie Stewart Hospital	2
1118	Ermington	3
1121	Reckitt Benckiser	27
1123	George Kendall Riverside Reserve	4
1124	Ermington_River Rd and Lindsay Ave	2
1582	Marsden High School	2
1583	West Ryde Station_West	2
1585	West Ryde	2
1588	Melrose Park	4

2.5 Model data

Traffic data used in the development of the model was collected from various sources. This section details the collection and analysis of this data.

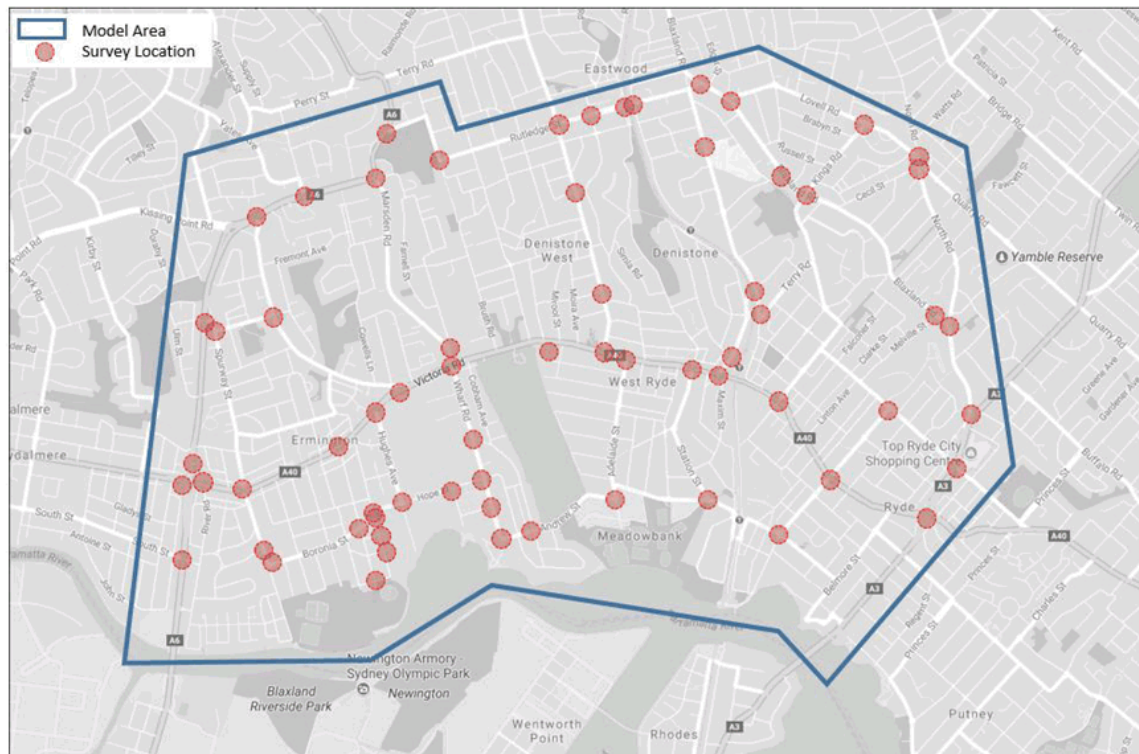
2.5.1 Turning movement counts

Classified turning movement surveys for 64 intersections were collected at 15 minute intervals during the morning and evening peak and do not identify rigid and articulated heavy vehicles separately. A summary of intersection turning movement counts within the study model area is shown in Figure 2.2. The intersection movements were collected on 1 August 2017.

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Figure 2.2 : Intersection survey locations



2.5.2 General traffic travel time data

General traffic travel time data was collected in August 2017 for three key routes in the study area using floating car travel time surveys:

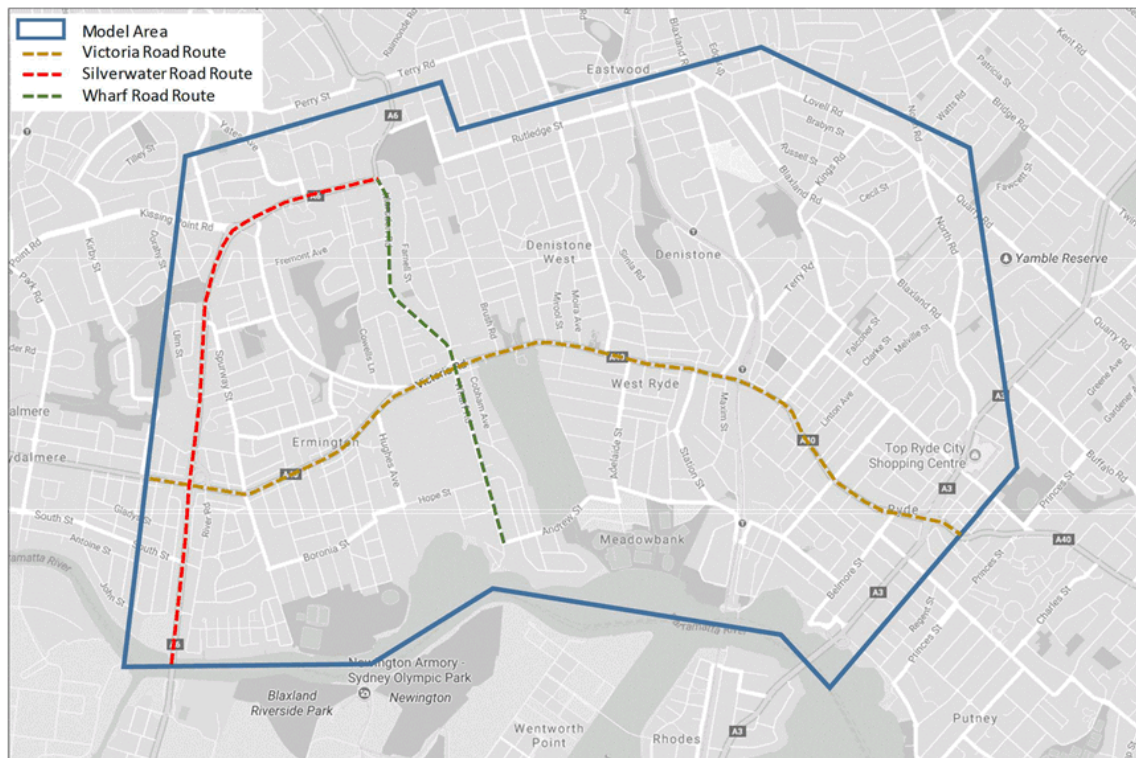
- ☐ Victoria Road (between Silverwater Road and Devlin Street)
- ☐ Marsden Road (between Andrew Street and Silverwater Road)
- ☐ Silverwater Road (between Silverwater Bridge and Marsden Road)

These routes are shown in Figure 2.3.

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Figure 2.3 : Travel time survey routes



2.6 Development of Real Data Sets

Real Data Sets (RDS) of target volumes were prepared for two purposes:

- 1) Target volumes against which model calibration is measured
- 2) Target volumes to guide the matrix adjustment processes

The RDS covers the full four hours of the morning and evening peak model periods. The RDS contains a total of 432 count movements for each hour.

2.6.1 Consistency checks and balancing

To provide a sound basis for calibration and demand adjustment, especially in view of the range of types and dates covered by the surveys, the counts have been checked and adjusted for consistency. This also provides an additional check that the counts have been processed and imported into the model correctly.

For each time interval, the counts have been propagated through the network to identify section volumes based on both upstream and downstream sources, and the turn or midblock counts which contribute to each.

Where a discrepancy is found between the propagated upstream and downstream sources, the contributing counts are adjusted accordingly.

Discrepancies have been adjusted for in cases where the GEH is greater than 2.0 or 50 vehicles per hour (whichever is larger) between adjacent intersections. As quoted in the *Roads and Maritime Traffic Modelling Guidelines version 1.0*, Transport for London (TfL) suggests that the accuracy of observed counts must be

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within +/- 50 pcu/hr or within a GEH of two. Adopting this method ensures that the larger counts remain within this range while providing good consistency between the lower volume counts.

2.7 Road network coding

2.7.1 Initial network coding

Coding of the road network was undertaken on the basis of updating Transport for NSW's latest Sydney GMA Aimsun network. In-filling of detail within the study area was undertaken on the basis of site observations, aerial photography and Google Streetview.

Additional time-dependent traffic management policies were coded in the network to reflect features such as school speed zones.

In locations where parking in a traffic lane is allowed across both peak periods, and aerial photographs indicate demand for this parking, the affected lane is not included as a trafficable lane in the model.

2.8 Public transport network coding

Coding of the public transport network was undertaken based on bus stop, bus route and bus timetable data from the Transport for NSW Operational Spatial Database (OSD). This database provides the location of bus stops, bus routes and stopping patterns as well as timetabled arrival times at each stop along each route.

A subset of the OSD was extracted that detailed the stops and routes for all public and school buses passing through the study area during the morning and evening peak periods. These bus stops were imported and bus routes created based on linking stops according to the shortest path between stops. Review and correction of imported routes was also undertaken to ensure that stops were imported in the correct locations and that routes operated along the correct paths.

2.9 Traffic signal settings

The traffic signal times have been derived from SCATS History file data which records the times for individual phases across the peak period. These phase times have been aggregated and imported into the models and manually adjusted to reflect a realistic representation of phase and cycle timings.

A limitation of the SCATS History files is that they do not record gap-out behaviour for diamond overlap phases. This behaviour occurs when there is an imbalance in right turns during a diamond phase, causing SCATS to call a short alternative phase to allow a leading right turn and through movement to run before the main through movement phase. The model flows and operation were observed and where it was determined that this gap-out feature was required to meet observed flows, a leading right turn phase was coded taking time from the recorded diamond phase.

Midblock pedestrian crossing in the study area also showed some variability in operation, with many being called inconsistently during the peak periods. A conservative assumption was made to model these pedestrian crossings as being called every cycle for the purposes of simplicity.

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2.10 Behavioural settings

The following behavioural settings were used in the development of the model:

- ☐ Look-ahead distance variability: 40%
- ☐ Simulation step: 0.8 seconds
- ☐ Mesoscopic reaction time (all vehicles): 1.2 seconds
- ☐ Mesoscopic reaction time at traffic lights (all vehicles): 1.6 seconds
- ☐ Microscopic reaction time (all vehicles): 0.8 seconds
- ☐ Microscopic reaction time at traffic lights (all vehicles): 1.1 seconds
- ☐ Global arrivals: exponential distribution

The global jam density was set to 180 veh/km, which is the value used in the Sydney Aimsun model and suggested by the developers of Aimsun (TSS). Jam density is measured as number vehicles allowed per kilometre of road. Vehicles under mesoscopic simulation are modelled with instantaneous acceleration and deceleration; to better account for the impact of this behaviour in mesoscopic simulation, the jam density of road sections has been adjusted to more accurately represent delays in areas where driver merge and diverge behaviour is critical to the network, for example Victoria Road before Hermitage Road. The global jam density parameter has been retained for the majority of sections within the network, with the following exceptions:

- Sections of Victoria Road westbound between Mellor Street and West Parade, where jam density is less than 180 veh/km due to a 'lane-drop' from 3 to 2 and a narrowing of the road corridor as vehicles travel under the rail bridge.
- Sections of Victoria Road westbound on approach to Wharf Road/Marsden Road due to observed lane changing/weaving associated with the ending of the bus lane and vehicles preparing to turn right at Kissing Point Road.
- The southernmost section of Church Street where downstream constraints on Concord Road outside of the model area reduce the southbound capacity of the section.

These changes to jam density closer replication of the observed capacity reductions through these parts of the road network.

2.11 Traffic assignment and trip demand development

Aimsun allows for a combination of assignment types in combination with different vehicle simulation methods. The Melrose Park model has been developed using the following combinations of assignment and simulation techniques:

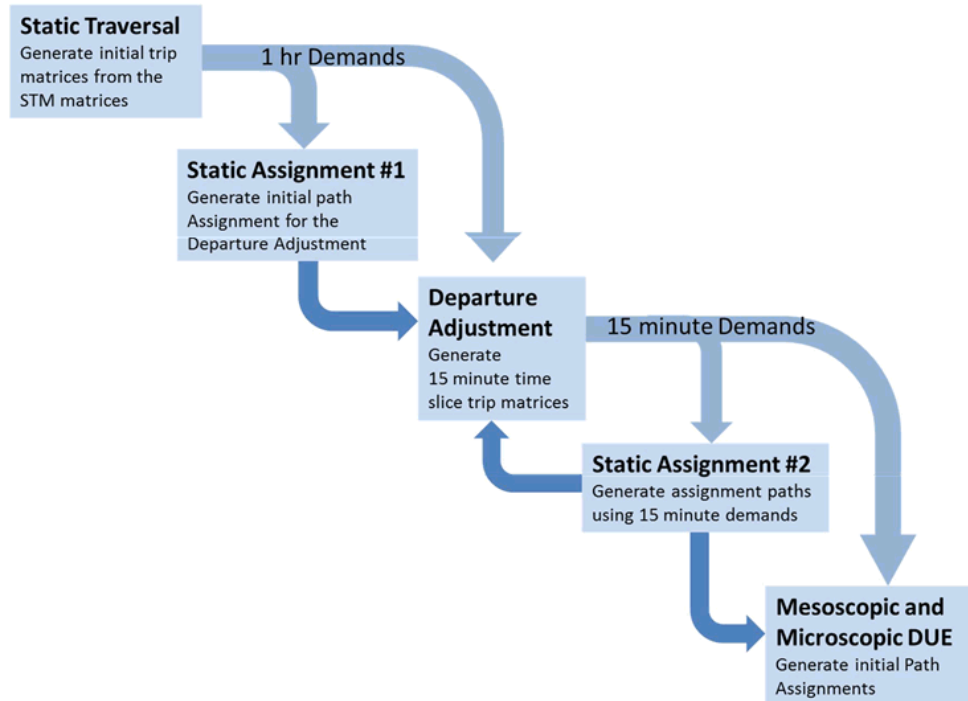
- 1) Static equilibrium assignment using static traffic model
- 2) Dynamic User Equilibrium (DUE) assignment using mesoscopic simulator
- 3) Dynamic User Equilibrium (DUE) assignment using hybrid mesoscopic/microscopic simulator

The process for assignment and trip demand is summarised in Figure 2.4.

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Figure 2.4 : Assignment and trip demand process



The traffic demands were imported from the STM into Aimsun where it was assigned to the Greater Sydney Aimsun model using static assignment. A static traversal was undertaken to obtain the subarea trip matrices for the study area which were then disaggregated to a finer-grained centroid configuration to allow for modelling of the detailed road network.

The subarea matrices were then assigned to the study area road network as part of the first pass of the static assignment. The assignment results were reviewed to make sure that path assignment through the network was reasonable. The assignment paths were then used to undertake the departure adjustment.

The result of the departure adjustment was then reassigned using the static assignment. This was used to calibrate the initial flat traffic demand across the entire network and provide a starting point for mesoscopic simulation. Mesoscopic Dynamic User Equilibrium (DUE) was then used to fine-tune demand and generate the capacity constrained assignment for input to more detailed hybrid DUE simulation which contains the microsimulation area.

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The following settings were used in the final DUE assignment parameters:

- ☐ Assignment cycle: 15 minutes
- ☐ Number of intervals: 1
- ☐ Maximum iterations: 30
- ☐ Stopping relative gap: 2%
- ☐ Attractiveness weight: 1.0
- ☐ User defined cost weight: 1.0
- ☐ Maximum paths from path assignment: 3 (the maximum number of assignment paths between any origin and destination pair taken from the static assignment input)
- ☐ Maximum paths per interval: 4 (the maximum number of assignment paths used by the DUE between any origin and destination pair)
- ☐ Assignment model: Gradient-based
- ☐ Path cost: Experienced

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3. Demand matrix development

3.1 Traffic demand estimation methodology

Traffic demand estimation was undertaken using the Departure Adjustment method available in Aimsun. The following stages were used in the development of base traffic demand:

- ☐ Assignment of the Sydney GMA model and generation of morning and evening peak hour sub-area traversal matrices using static assignment
- ☐ Expansion of the single hour traversal matrices in the strategic model zone system to four hour total matrices in the higher-resolution Melrose Park zone system

Manual adjustment of 15-minute matrices to account for differences in static and dynamic assignment

Each of these stages is described in further detail below.

3.1.1 Static demand adjustment

The four-hour flat traffic demand for the sub-area traversal was adjusted to meet observed traffic flows throughout the network according to the hourly counts for each period using static departure adjustment. The departure adjustment procedure is an iterative matrix adjustment procedure that uses the paths and modelled travel time results from a static assignment to adjust the demand matrix and distribute trips in time so that their arrival profiles match observed flow profiles at count locations across the network. The demand adjustment was undertaken on the basis of turning movement counts outlined in Section 2.5.1.

3.1.2 Departure adjustment and slicing

The aim of this process is to adjust and time-slice an origin-destination matrix that considers static assignment travel times to allocate trips to the correct departure matrix in order to reach the desired location at the observed time under dynamic simulations. This resolves the time shift of long trips by considering static travel times in the adjustment. It should be emphasised that this process uses static modelled travel time, and hence dynamic factors such as congestion at signalised intersections are not considered.

The following are the parameters used in this project:

- ☐ Interval duration: 900 seconds (15 minutes)
- ☐ Matrix weight: 1

The interval duration is the general time duration used for the slicing calculation. The matrix weight provides a limit on the degree to which the original demand matrices can be adjusted, with 1 corresponding to no allowed change and 0 corresponding to complete liberty to change the original matrices.

The 15-minute traffic demands were then manually adjusted as needed for the finer tuning of the calibration in the mesoscopic model to match observed turn flows.

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4. Model calibration

4.1 Overview

The calibration of the *Melrose Park Hybrid Model* has been undertaken with a view to meeting the targets for calibration provided in the *Roads and Maritime Traffic Modelling Guideline (2013)*. The calibration has been undertaken based on hourly turning movement counts over the four-hour AM and PM peak periods.

4.2 Calibration targets

The GEH statistic is used in the calibration of traffic models to compare the differences between modelled and observed traffic flows. The GEH statistic is defined as follows:

$$GEH = \sqrt{\frac{(V_{observed} - V_{modelled})^2}{(0.5 \times (V_{observed} + V_{modelled}))}}$$

Based on the calibration and validation guidelines presented in the *Roads and Maritime Traffic Modelling Guidelines, 2013* and the *Melrose Park Model Scoping Report (23 October 2017)* prepared by Jacobs, the following criteria has been adopted:

Whole model

- ☐ At least 80% of flow comparisons with GEH less than 5
- ☐ At least 95% of flow comparisons with GEH less than 10

Core/microsimulation area

- ☐ At least 85% of flow comparisons with GEH less than 5
- ☐ 100% of flow comparisons with GEH less than 10

In addition to GEH comparisons, regression analysis of observed versus modelled flows was also undertaken. The following criteria for regression analysis were adopted:

- ☐ R² greater than 0.95
- ☐ Slope between 0.95 and 1.05

The R² generally represents the closeness of fit of the observed data points to modelled data points and the slope of the trend line gives an indication of whether the model is general over-assigning (greater than 1) or under-assigning (less than 1) traffic across the network. A total of 432 individual turns were included in this analysis for each one-hour time period.

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4.3 Model convergence

The *Melrose Park Hybrid Model* has been developed using dynamic user equilibrium (DUE) assignment. As the dynamic user equilibrium assignment is an iterative process, the relative gap between iterations is a measure of how close the assignment to the "optimal" network equilibrium.

Unlike static models, Aimsun's dynamic user equilibrium measures the relative gap in the path costs for each path assignment cycle period (in this case 15 minutes) in the simulation. As later periods are dependent on the convergence of earlier time periods, later time periods require more iterations to converge. The relative gap reported for the convergence of the model is the mean relative gap for all time periods.

The hybrid DUE assignment was run using initial paths derived from both an initial static equilibrium assignment and a mesoscopic DUE assignment. A summary of the AM and PM peak hybrid DUE convergence for the model is shown in Figure 4.1 and Figure 4.2.

The hybrid DUE convergence shows that the models terminated at a mean relative gap of 2% after 19 and 23 iterations for the AM and PM peaks respectively. This relatively low variation in relative gap over the last 5 iterations gives confidence that the process has identified a stable equilibrium for the particular input parameters.

Figure 4.1: AM peak hybrid DUE convergence

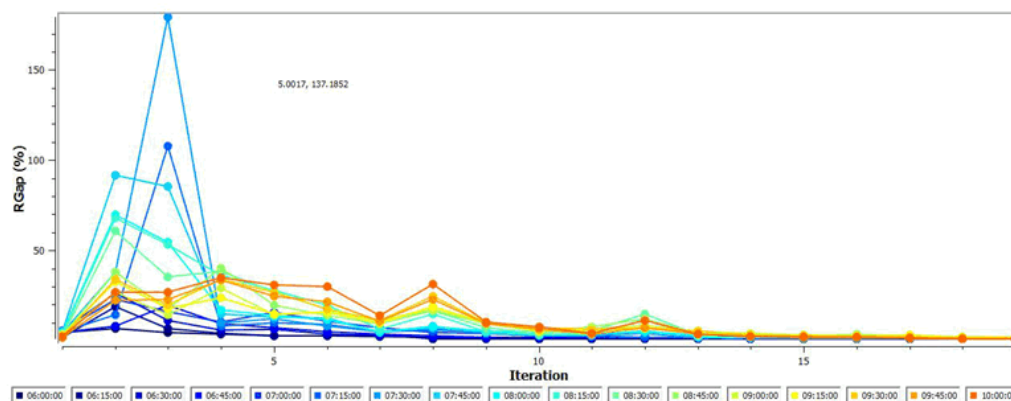
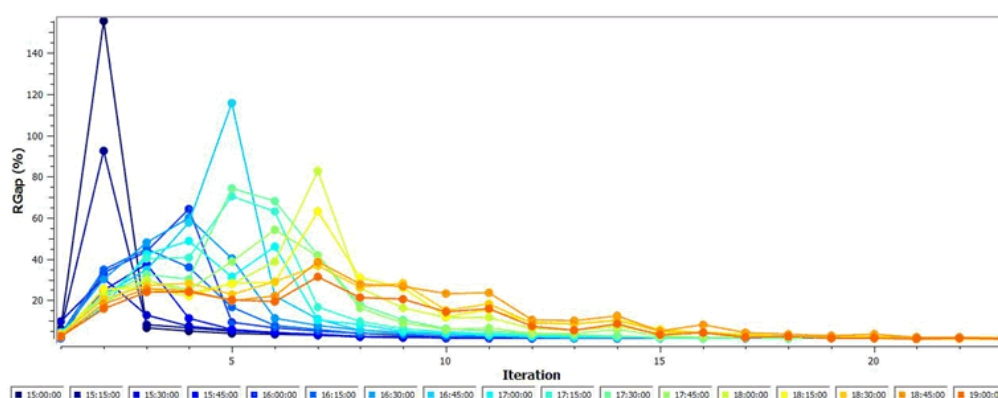


Figure 4.2: PM peak hybrid DUE convergence



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4.4 Calibration results

4.4.1 Total traffic volume calibration statistics

A summary of the target count comparison statistics for the DUE assignment is provided in the following section.

Regression analysis

The following section summarises the regression analysis. Figure 4.3 and Figure 4.4 plot the observed traffic flows to the modelled traffic flows, while Table 4.1 provides a summary of the regression analysis statistics for the morning and evening peak by hour.

Figure 4.3: Morning peak modelled vs observed flows 6 – 10am

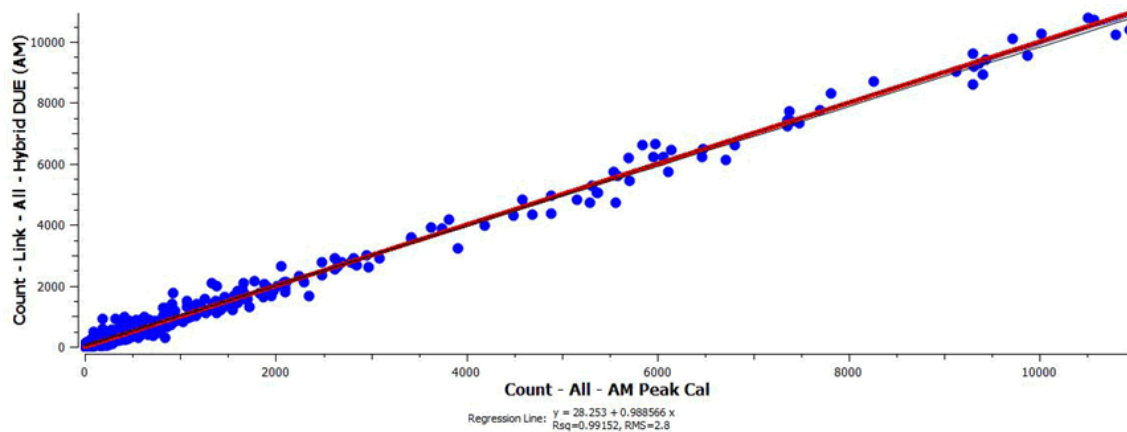
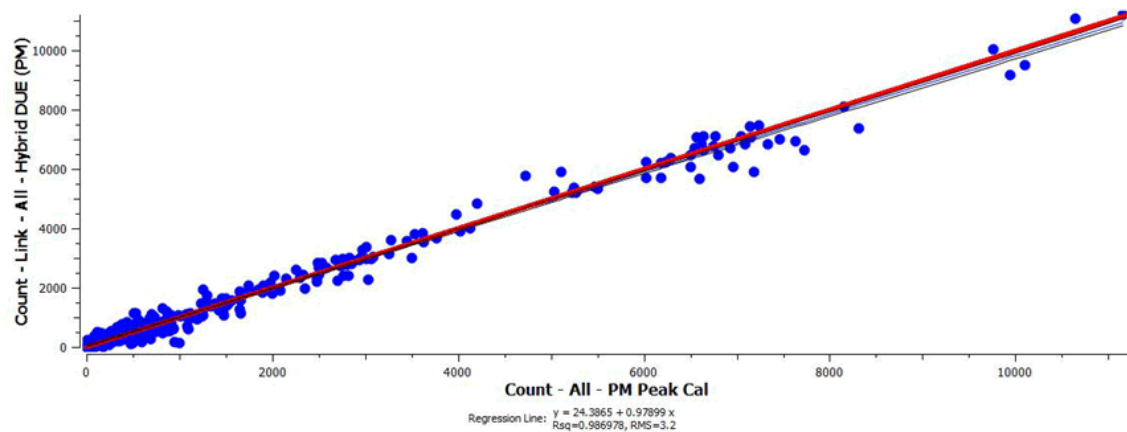


Figure 4.4: Evening peak modelled vs observed flows 3 – 7pm



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Table 4.1: Summary of model calibration – Regression analysis

Time period	R ²	Slope
6:00 AM to 7:00 AM	0.988	0.974
7:00 AM to 8:00 AM	0.990	0.981
8:00 AM to 9:00 AM	0.981	0.975
9:00 AM to 10:00 AM	0.982	1.014
Total morning peak – all hourly volumes	0.992	0.989
3:00 PM to 4:00 PM	0.973	0.950
4:00 PM to 5:00 PM	0.986	0.986
5:00 PM to 6:00 PM	0.986	0.989
6:00 PM to 7:00 PM	0.977	0.982
Total evening peak – all hourly volumes	0.987	0.979

Analysis of the regression parameters show that the targets of R² greater than 0.95 and slope between 0.95 and 1.05 are met in each hour.

Based on regression analysis, the model adequately meets the calibration criteria and is a good fit to the observed traffic volumes.

GEH statistics

Table 4.2 and Table 4.3 present a summary of the turn comparison between observed and modelled by GEH statistic. The results indicate the model achieves the adopted GEH criteria for the combined 4 hour periods in both the morning and evening peak periods. On an hour by hour basis, the whole model generally achieves the criteria. Some hourly periods achieve less than 80% for the GEH<5 criteria however no period is lower than 78%.

Similarly, for the core area, all periods achieve the required criteria with the exception of the first hour in both the AM and PM periods. This is not anticipated to affect the findings of the model considering the peak traffic flows occur in the middle 2 hours of the modelled period.

Table 4.2: Summary of turning movement comparisons (morning peak)

Measure	Target	Hour starting				
		All hours	6:00am	7:00am	8:00am	9:00am
Whole model						
GEH<5	80%	84%	78%	80%	78%	80%
GEH<10	95%	99%	99%	98%	95%	98%
Core area						
GEH<5	85%	91%	82%	88%	85%	85%
GEH<10	100%	100%	100%	100%	100%	99%

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Table 4.3: Summary of turning movement comparisons (evening peak)

Measure	Target	Hour starting				
		All hours	3:00pm	4:00pm	5:00pm	6:00pm
Whole model						
GEH<5	80%	85%	80%	81%	80%	79%
GEH<10	95%	97%	97%	97%	98%	97%
Core area						
GEH<5	85%	91%	83%	85%	89%	85%
GEH<10	100%	100%	100%	100%	100%	100%

Locations where the GEH comparison statistics exceed 10 are summarised in Table 4.4

Table 4.4: Summary of turn locations exceeding GEH 10

	Location	Comment
AM	Right turn from West Parade into Rutledge Street eastbound	This is at the far north-eastern section of the model and is due to the inability of mesoscopic modelling to depict the delays of this priority turn caused by poor road geometry and sight lines. This causes the turn to be too attractive and hence the modelled volume exceeds the observed counts. This turn will not influence the findings of the modelling.
	Left turn from Bartlett Street into Kissing Point Road northbound	This turn is located in the far north-western section of the model. Some local roads in this area are not included in the model so turning movements are more concentrated at the Silverwater Road/Bartlett Street intersection. The discrepancies at this location are required in order for strategically important upstream and downstream flows on Silverwater Road to match observed counts.
	Left turn from Park Street into Devlin Street northbound	This turn is located at the far eastern section of the model. The zonal system and road networking coding in this area is fairly coarse and so this turn is used by trips which in reality would be accessing Devlin Street via the Top Ryde car-park exit ramp. Turn flows cannot be accurately met without detrimental impacts to calibration at the downstream Devlin Street/Blaxland Street intersection.
PM	Right turn from West Parade into Anthony Road westbound	These turns are out of/ into a local road in the West Ryde shopping village, 2km from the study area. The zonal system and road networking coding in this area is fairly coarse and turn flows cannot be accurately met without detrimental impacts to calibration at the nearby Victoria Road intersection.
	Left turn from Anthony Road into West Parade northbound	
	Right turn from Kings Road into Blaxland Road westbound	This turn is located in the far north-eastern section of the model. The zonal system and road networking coding in this area is fairly coarse and turn flows cannot be met without unrealistic fixed route choice constraints.

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4.5 Calibration summary

Based on the model results, the model is considered to be satisfactorily calibrated for the purpose of the Melrose Park TMAP assessment.

5. Model validation

5.1 Overview

Validation of the *Melrose Park Hybrid Model* has been undertaken on the basis of general traffic travel times for routes identified in Sections 2.5.2. As recommended by the *Roads and Maritime Traffic Modelling Guide (2013)*, the target for validation of each route in each hour is for the modelled average travel time for the route to be within 15% or one minute of observed (whichever is larger).

5.2 Validation statistics

5.2.1 General traffic travel time validation results

The travel time validation for general traffic during the morning and evening peak periods are presented in Figure 5.1 to 5.24.

The majority of the travel time observations fall within the 15% upper and lower limits. Some of the modelled times sit outside of the 15% limits, but are still within one minute of the observed travel time.

The delays and travel times at the key areas of project influence along Victoria Road closely match the observed data. The main location where modelled travel times diverge from observed data is on Victoria Road, east of the study area and outside the key areas of influence of the Melrose Park development. At these locations some time periods in the model demonstrate travel times lower than observed data. This is generally due to delays from lane-changing, weaving and merging which cannot be fully captured by mesoscopic modelling. It is also noted that the observed data is highly variable at these locations, with significant differences between the upper and lower 95% confidence intervals.

In summary, these differences between modelled and observed travel times are expected based on the model assumptions and limitations, particularly in the mesoscopic model areas, and do not substantially affect the suitability of the model for assessing impacts of large scale land use changes.

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Figure 5.1 : Travel time validation - Victoria Road eastbound 7am-8am

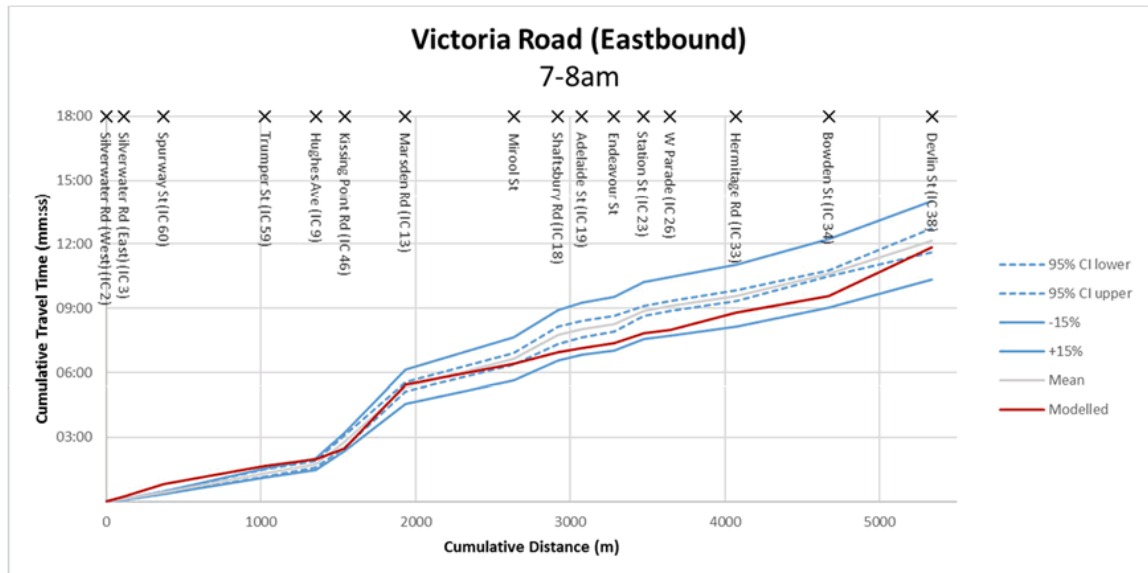
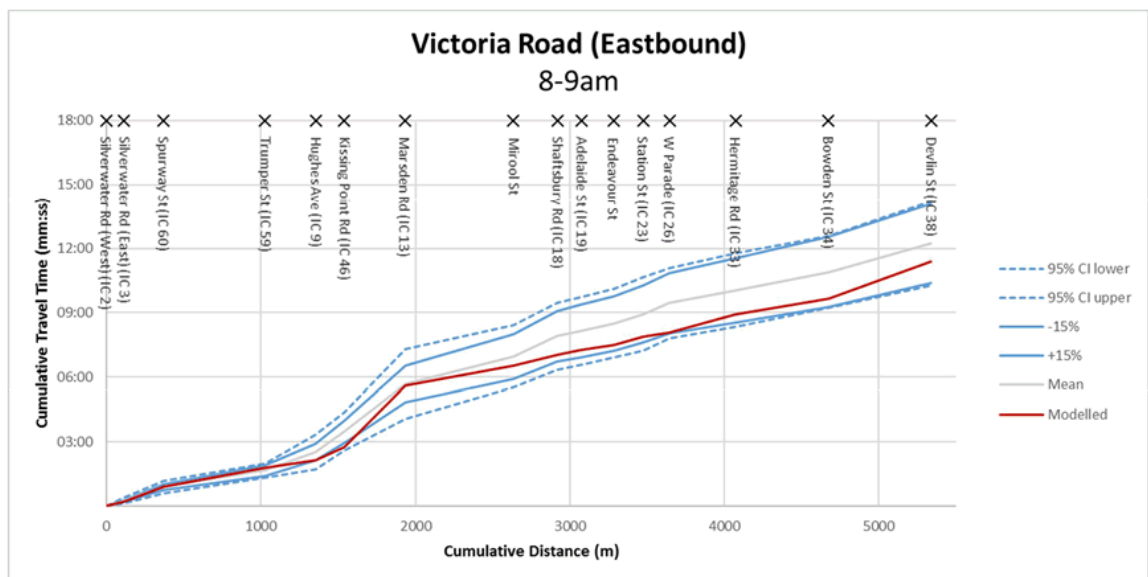


Figure 5.2 : Travel time validation - Victoria Road eastbound 8am-9am



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Figure 5.3 : Travel time validation - Victoria Road westbound 7am-8am

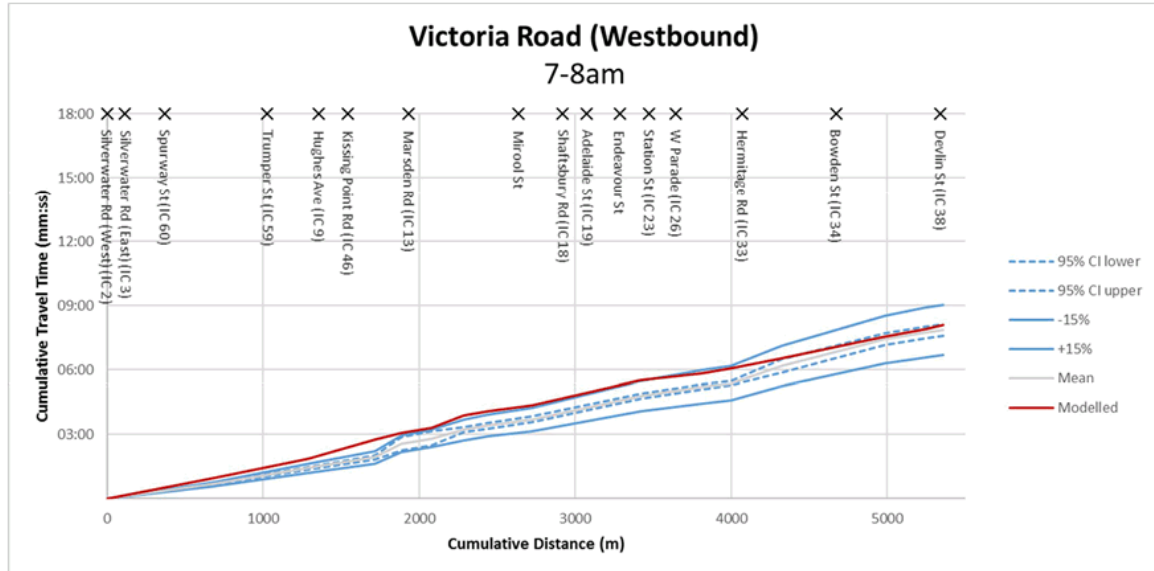


Figure 5.4 : Travel time validation - Victoria Road westbound 8am-9am



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Figure 5.5 : Travel time validation - Victoria Road eastbound 4-5pm

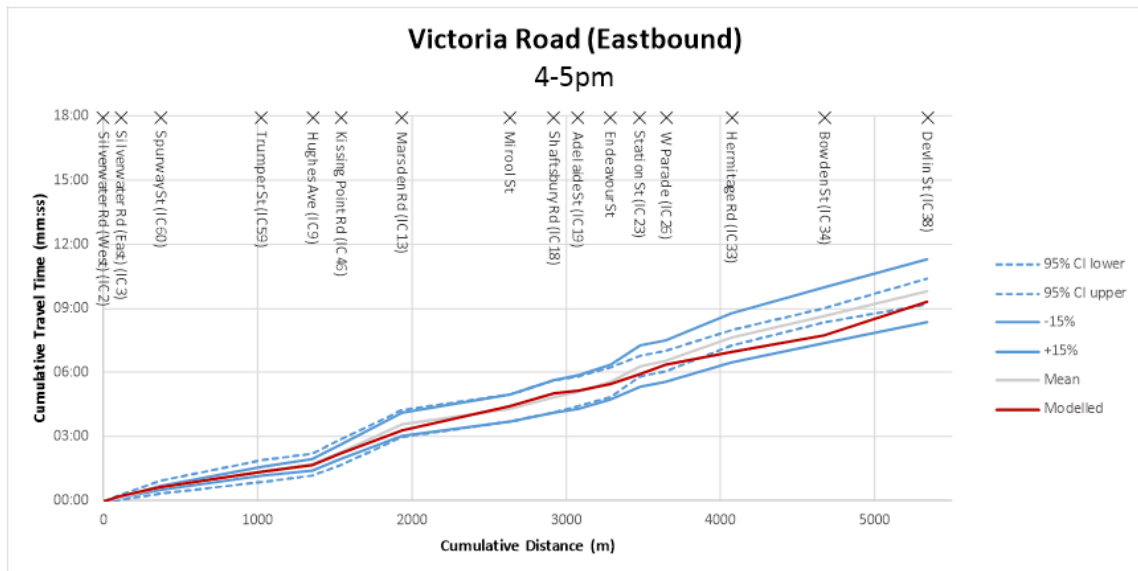
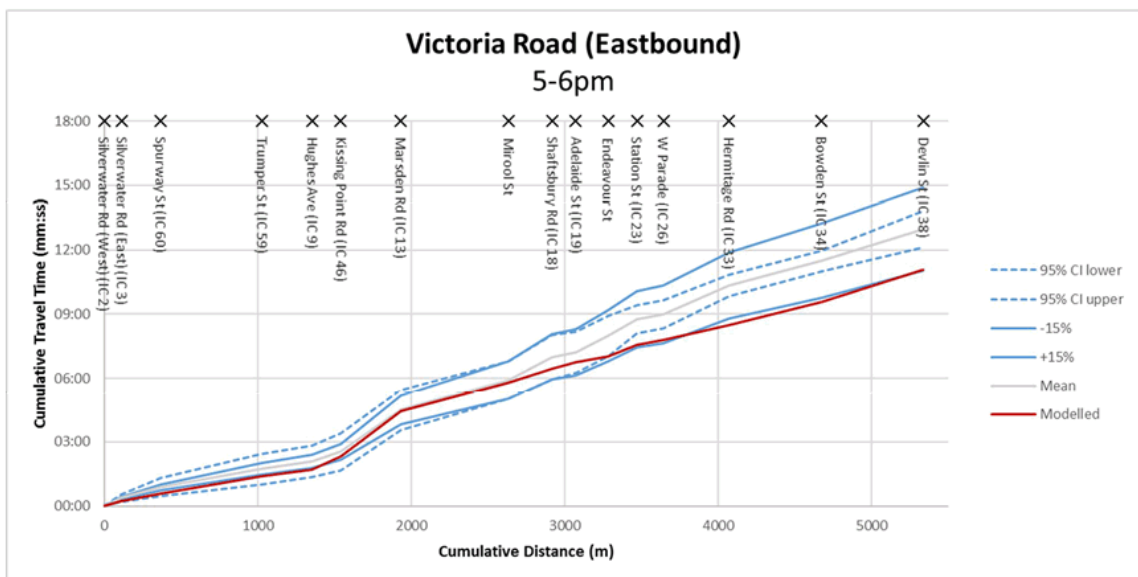


Figure 5.6 : Travel time validation - Victoria Road eastbound 5-6pm



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Figure 5.7 : Travel time validation - Victoria Road westbound 4-5pm

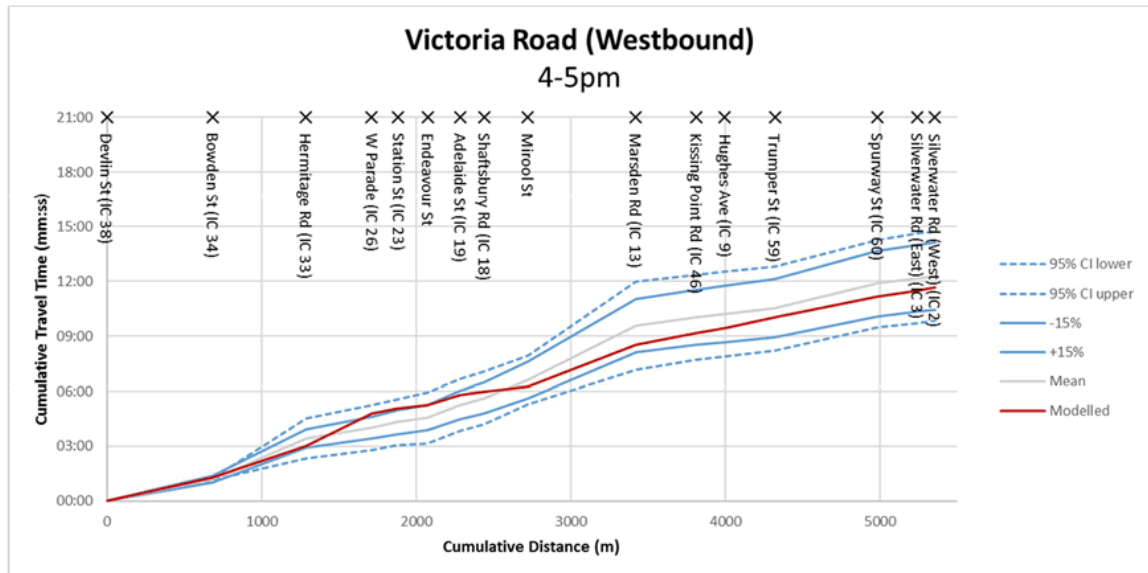
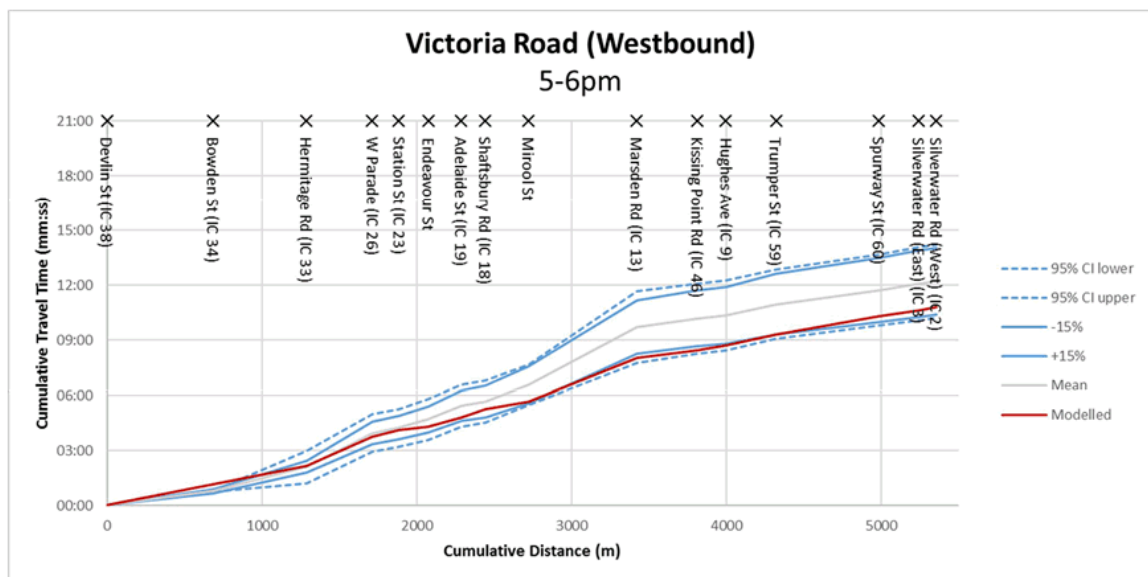


Figure 5.8 : Travel time validation - Victoria Road westbound 5-6pm



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Figure 5.9 : Travel time validation - Silverwater Road northbound 7-8am

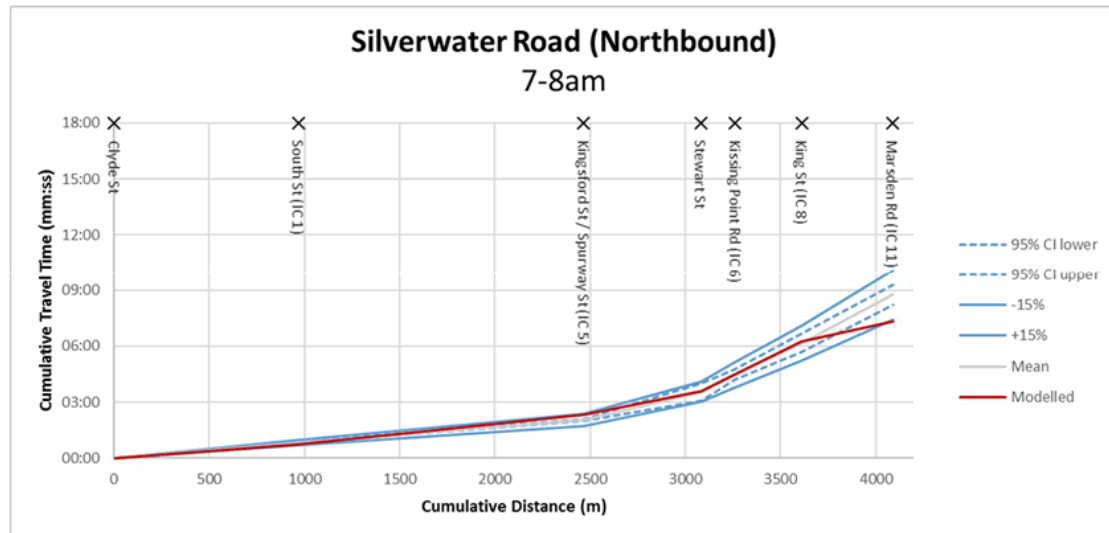
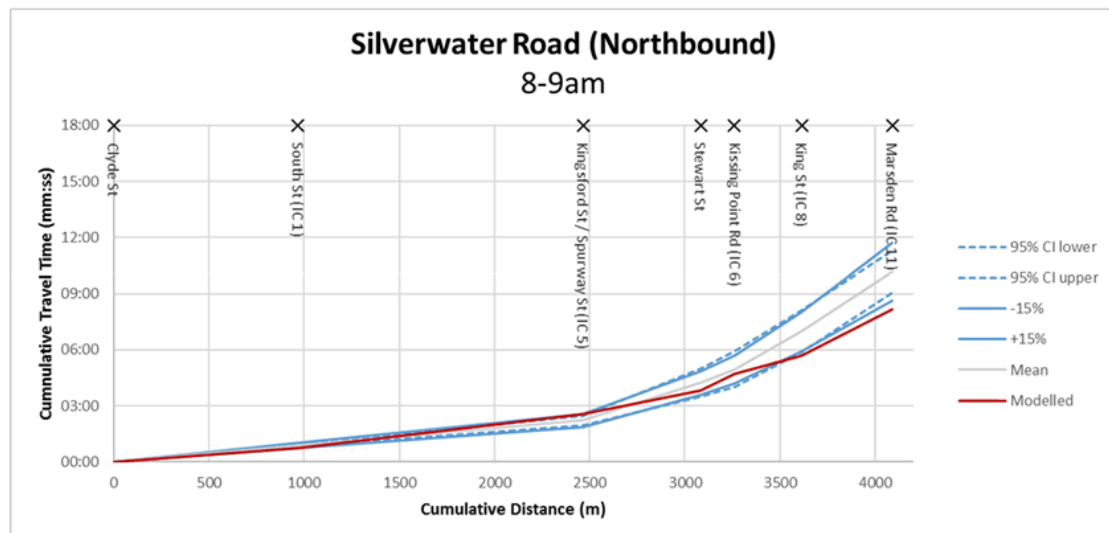


Figure 5.10 : Travel time validation - Silverwater Road northbound 8-9am



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Figure 5.11 : Travel time validation - Silverwater Road southbound 7-8am

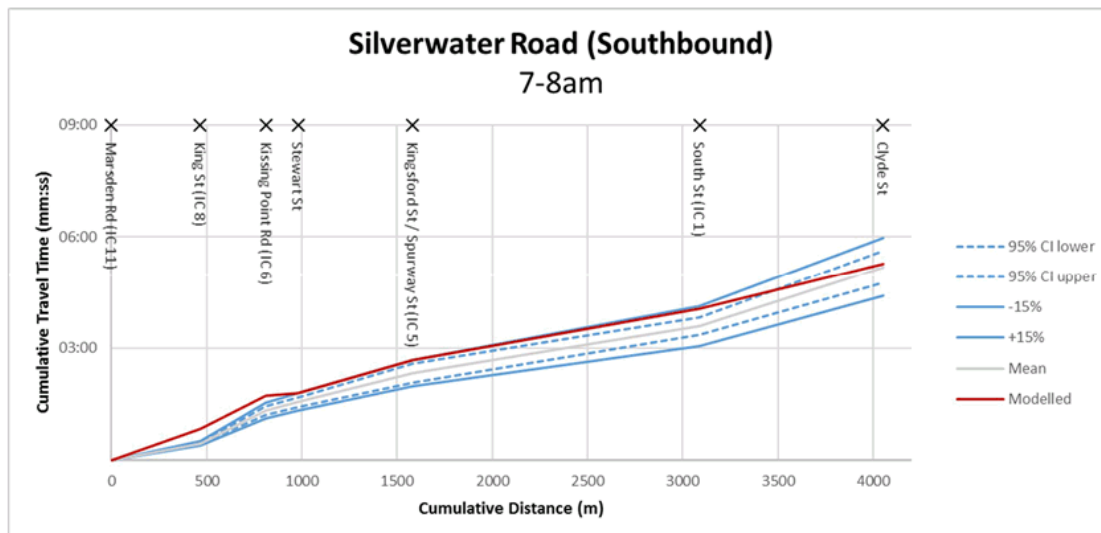
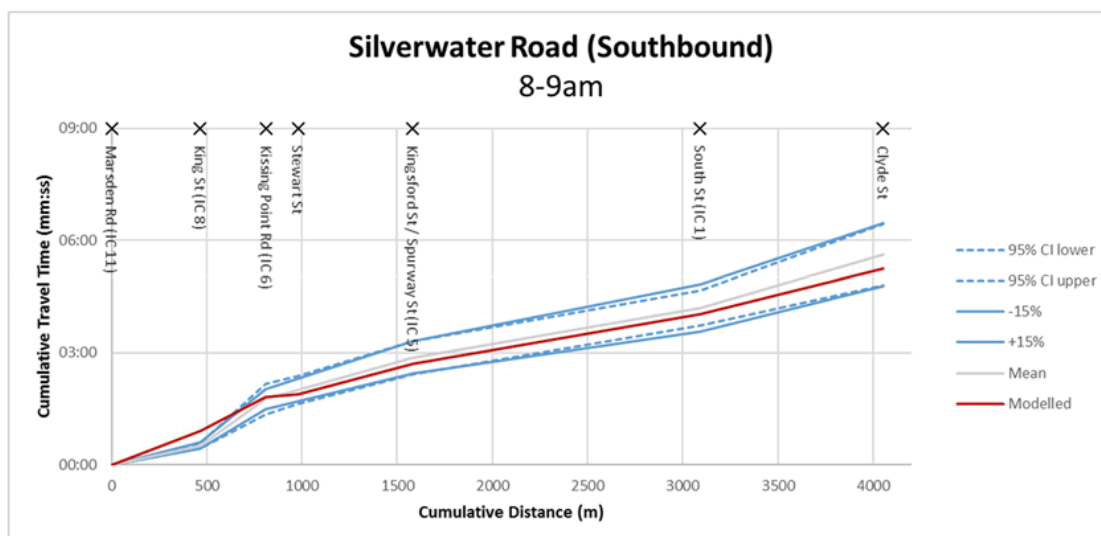


Figure 5.12 : Travel time validation - Silverwater Road southbound 8-9am



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Figure 5.13 : Travel time validation - Silverwater Road northbound 4-5pm

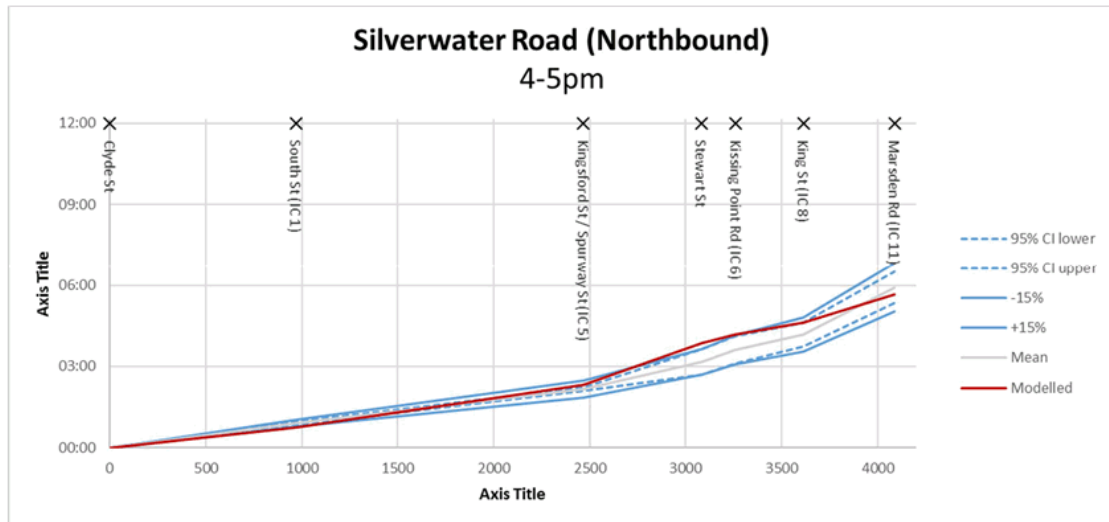
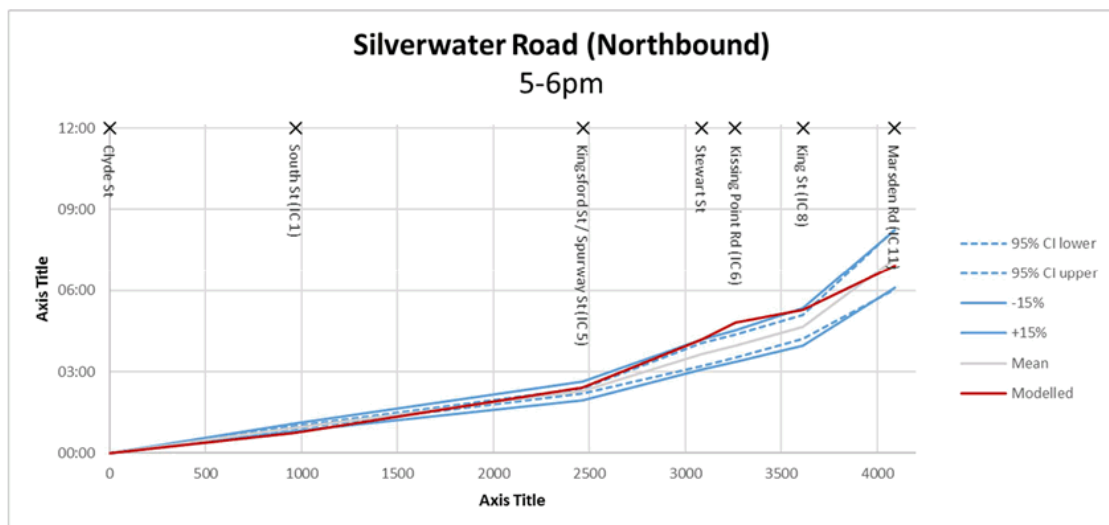


Figure 5.14 : Travel time validation - Silverwater Road northbound 5-6pm



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Figure 5.15 : Travel time validation - Silverwater Road southbound 4-5pm

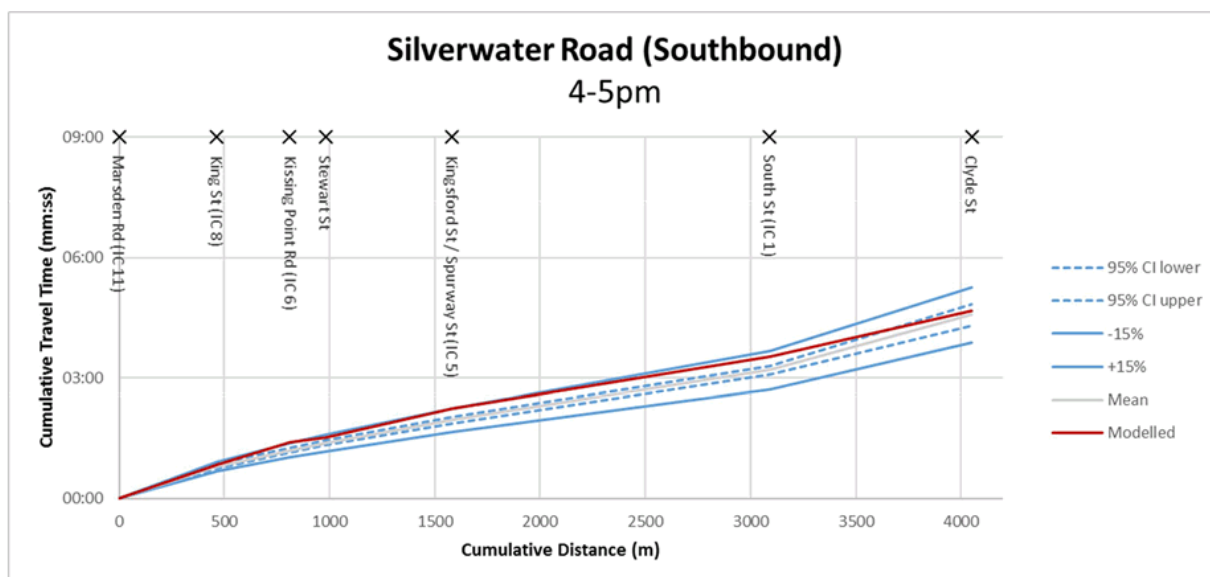
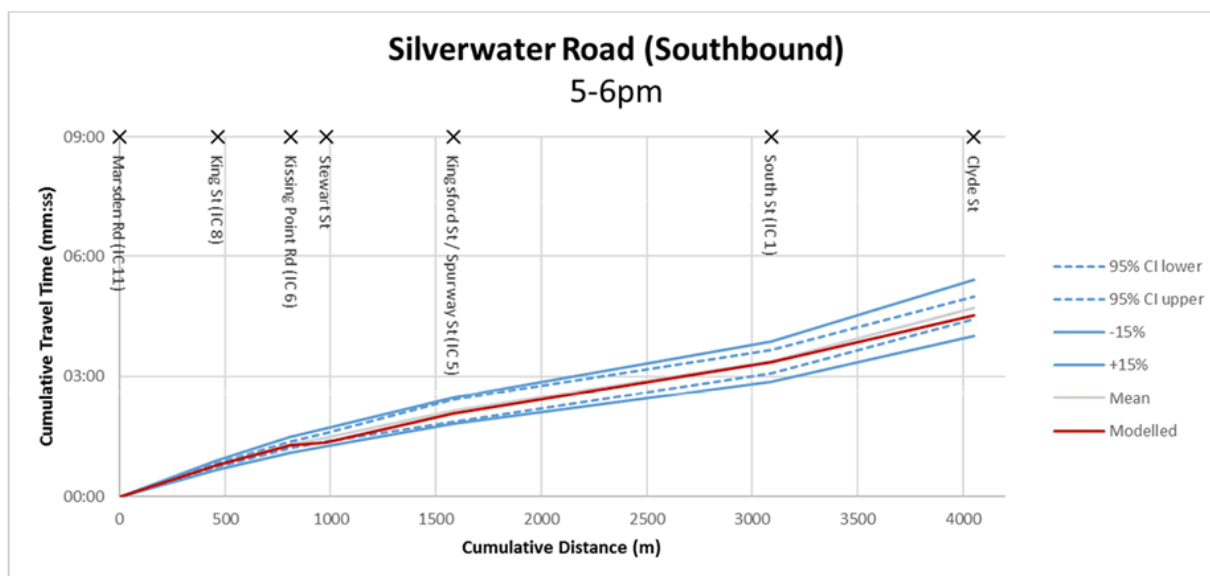


Figure 5.16 : Travel time validation - Silverwater Road southbound 5-6pm



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Figure 5.17 : Travel time validation - Wharf Road northbound 7-8am

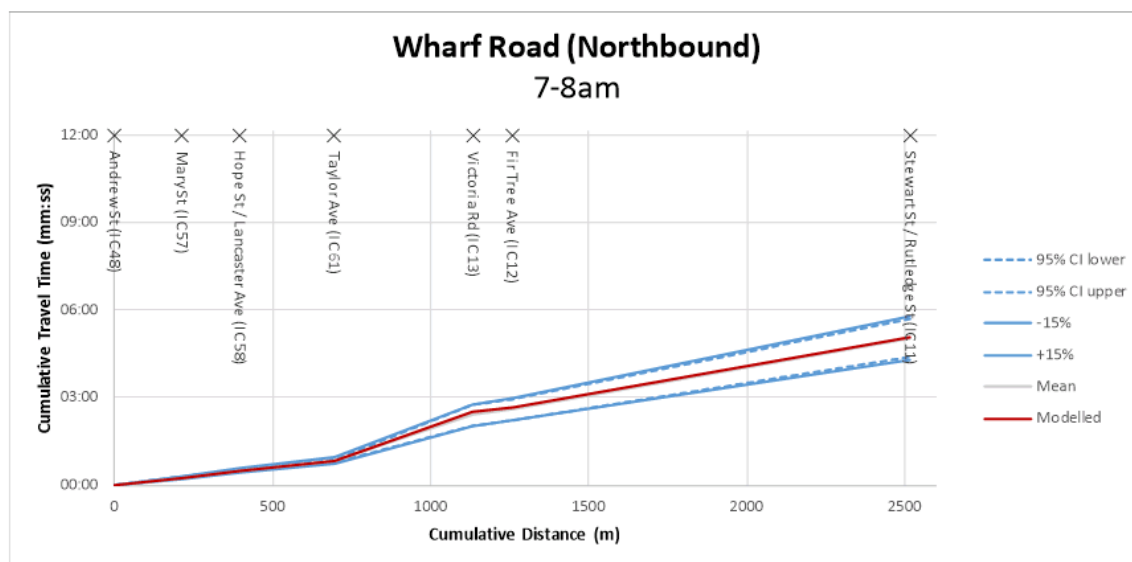
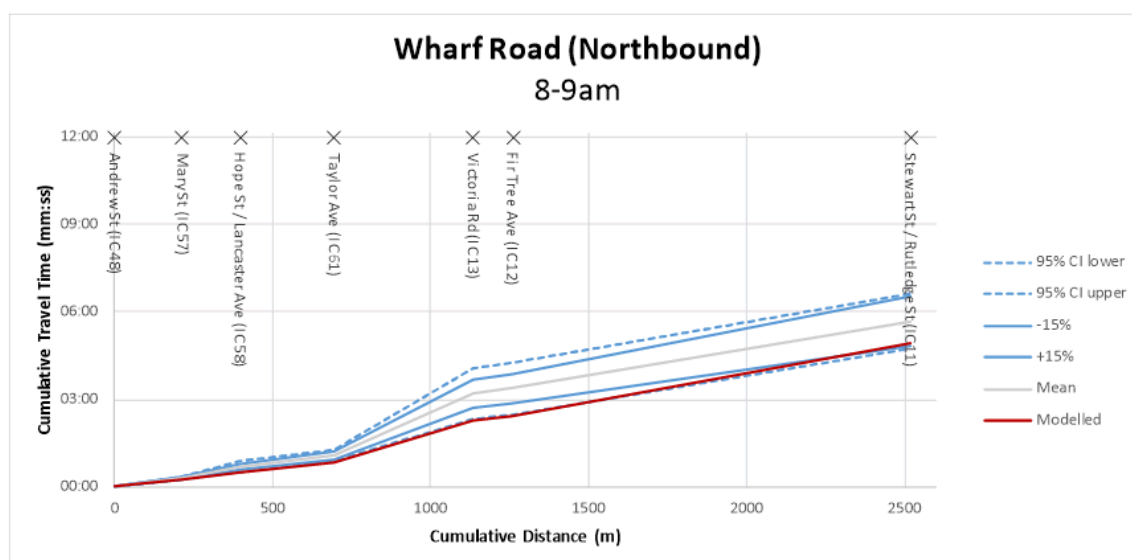


Figure 5.18 : Travel time validation - Wharf Road northbound 8-9am



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Figure 5.19 : Travel time validation - Wharf Road southbound 7-8am

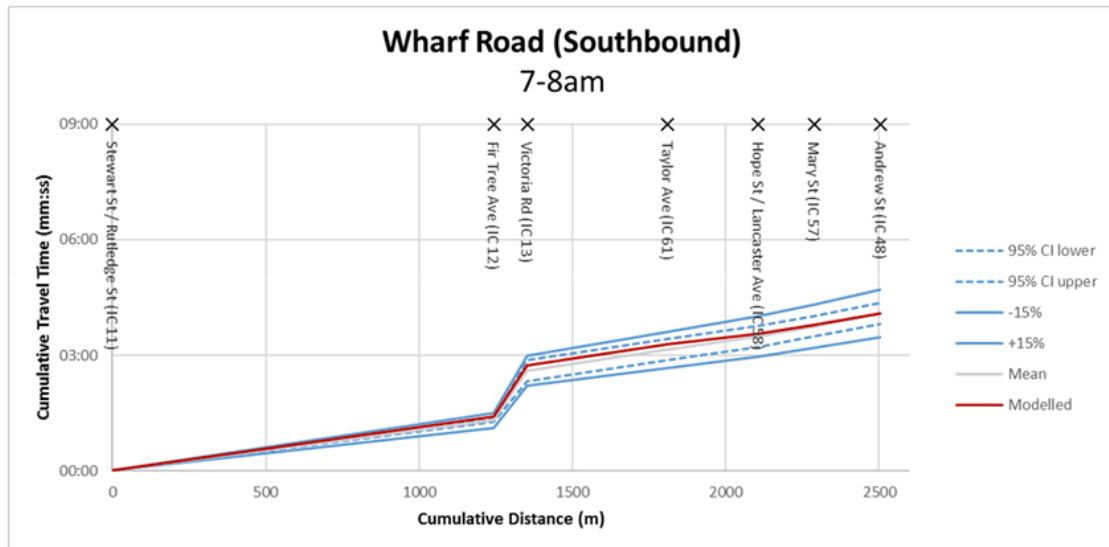
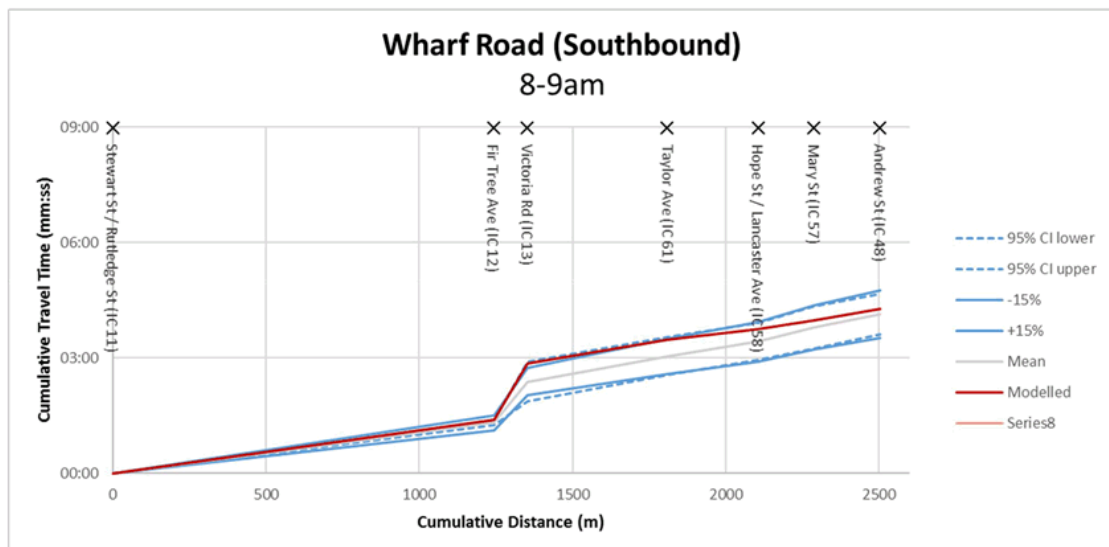


Figure 5.20 : Travel time validation - Wharf Road southbound 8-9am



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Figure 5.21 : Travel time validation - Wharf Road northbound 4-5pm

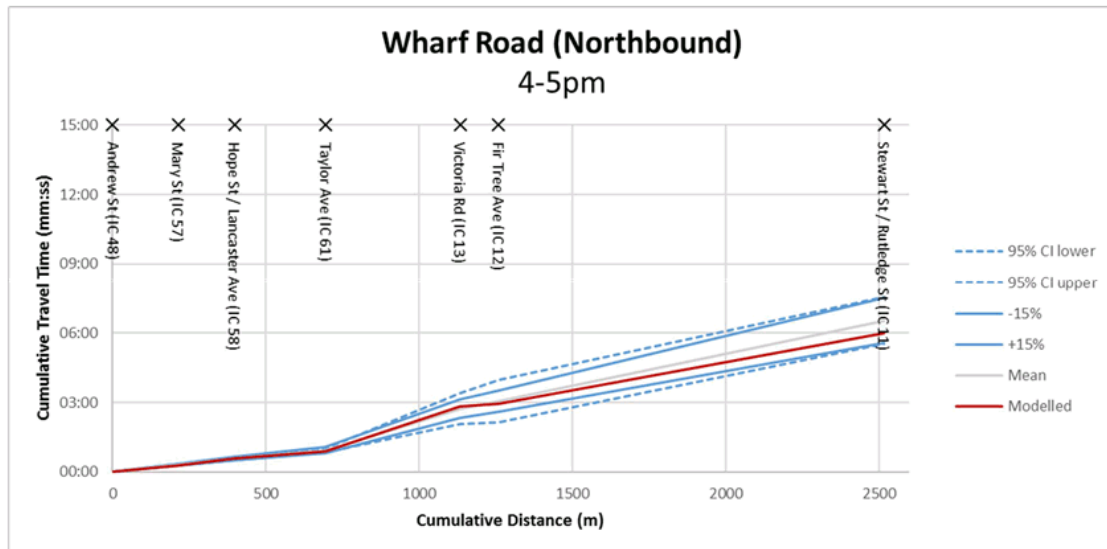
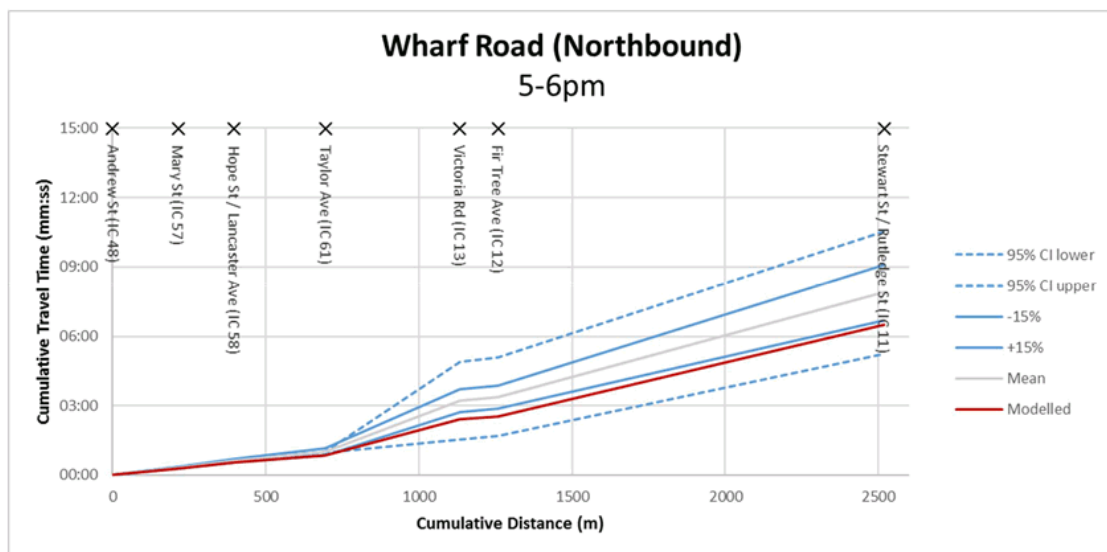


Figure 5.22 : Travel time validation - Wharf Road northbound 5-6pm



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Figure 5.23 : Travel time validation - Wharf Road southbound 4-5pm

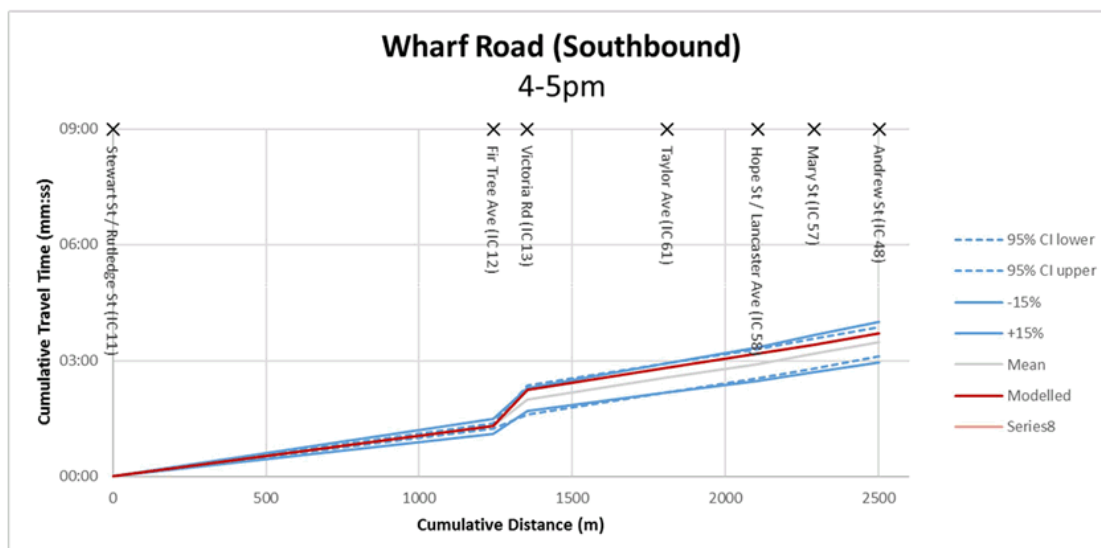
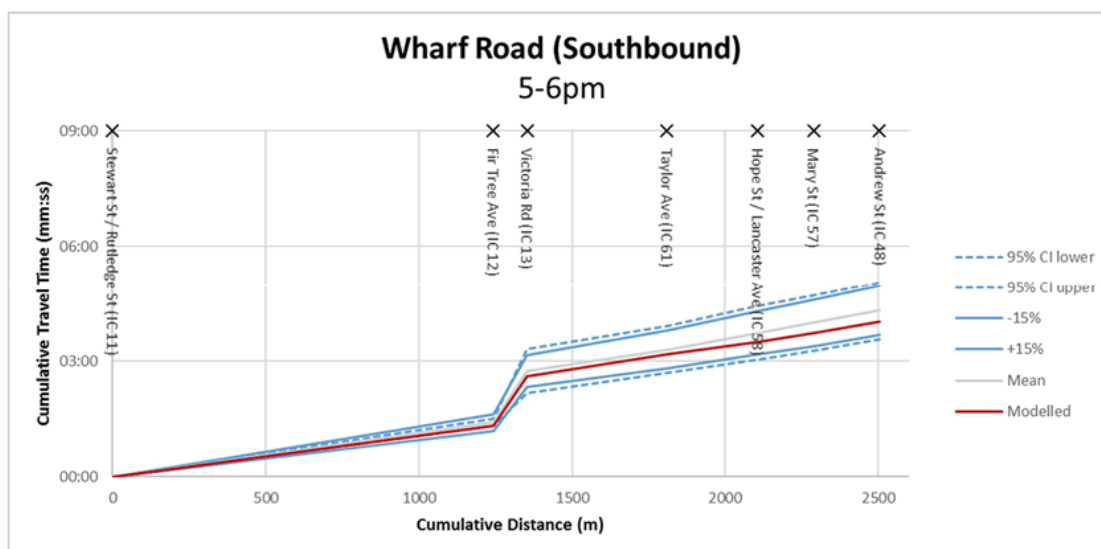


Figure 5.24 : Travel time validation - Wharf Road southbound 5-6pm



5.3 Validation summary

Comparison of the general traffic travel times with observed data shows that the model is generally replicating the pattern of delays and observed cumulative travel times during the peak periods. Minor divergences from the observed data occurs on Victoria Road, east of the study area and outside the key areas of influence of the Melrose Park development. This is generally due to delays which cannot be fully captured by mesoscopic modelling. These differences between modelled and observed travel times are expected based on the model assumptions and limitations, particularly in the mesoscopic model areas, and do not substantially affect the suitability of the model for assessing impacts of large scale land use changes.

Calibration and Validation Report



6. Summary and conclusions

6.1 Overview

This report covers the calibration and validation results of the base *Melrose Park Hybrid Model*. The base model has been developed to inform the Melrose Park traffic and transport assessment.

The Sydney Strategic Travel Model (STM) has been used to provide initial travel demand and will also be used for future demand development.

Data for the model calibration was obtained from Transport for NSW and consisted of:

- ☐ Classified intersection counts
- ☐ Travel time surveys
- ☐ SCATS history files

6.2 Calibration findings

The model has been developed using the Aimsun modelling platform (version 8.2.1) and has been calibrated and validated based on the criteria adopted in Section 4.2.

The model has targeted regression parameters of R^2 greater than 0.95 and slope between 0.95 and 1.05 and 80% of turning movements with GEH less than 5.

All periods achieve the adopted regression targets. The results indicate the model achieves the adopted GEH criteria for the combined 4 hour periods in both the morning and evening peak periods. On an hour by hour basis, the model generally achieves the criteria. Some hourly periods achieve less than 80% for the GEH<5 criteria however no period is lower than 78%.

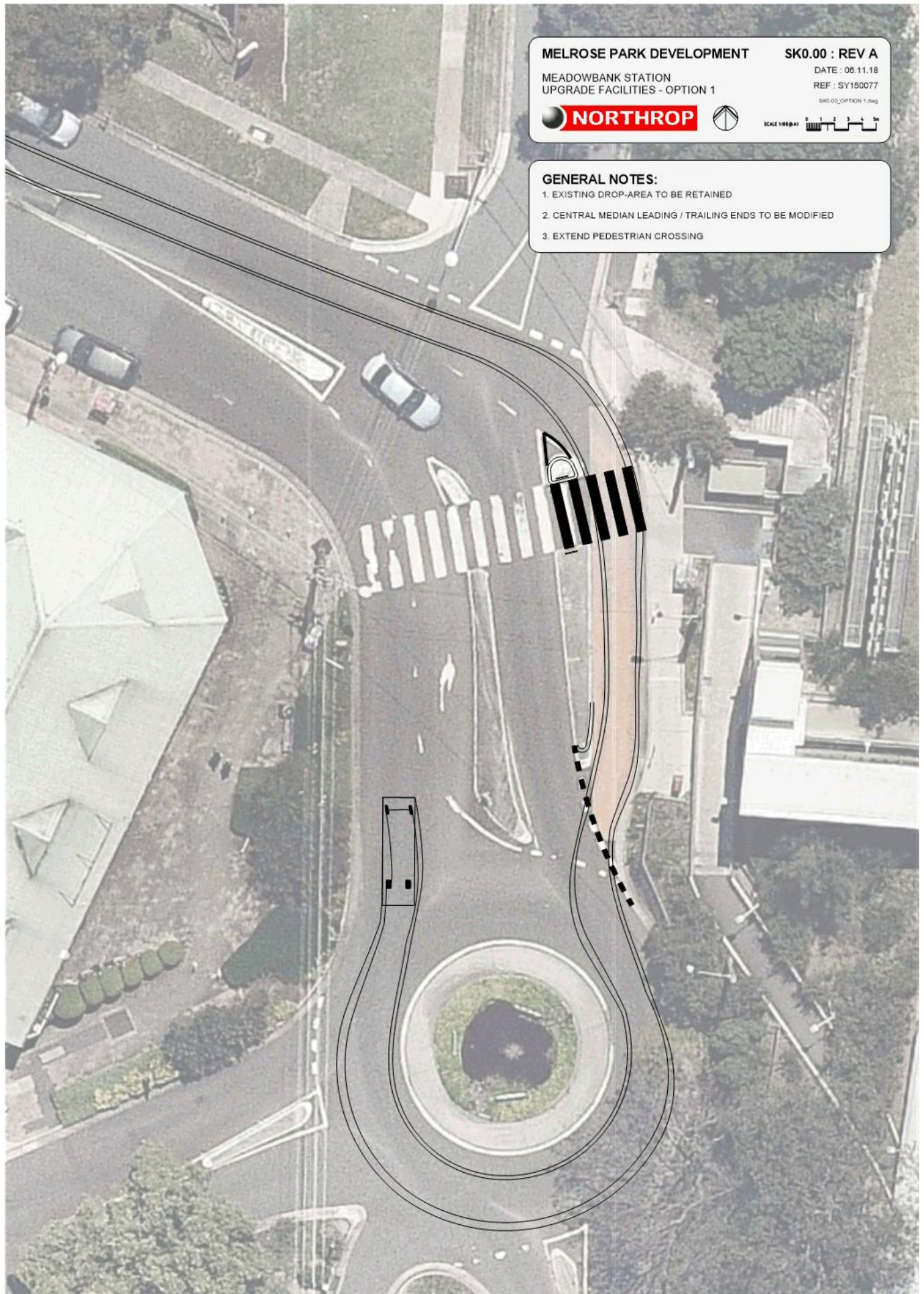
6.3 Validation findings

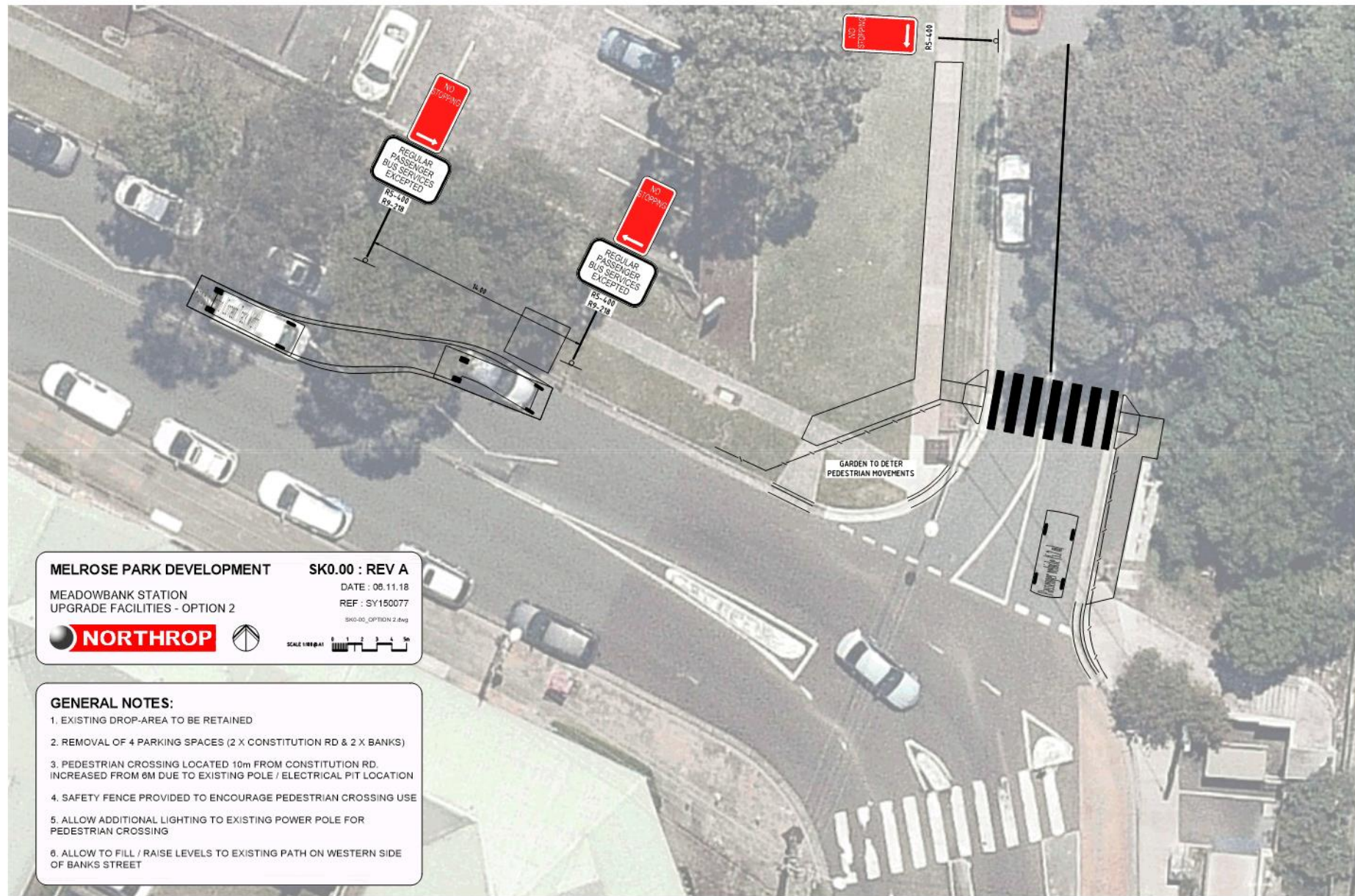
Validation of the model has been undertaken based on general traffic travel times. The travel time validation targets are for modelled times to be within 15% of the average observed travel times.

Comparison of modelled general traffic travel times with observed data shows that the model is replicating the pattern of delays and observed cumulative travel times during the peak period.

APPENDIX C - SWEEP PATH ANALYSIS

JACOBS







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