CITY OF PARRAMATTA COUNCIL

Melrose Park North Site-Specific Development Control Plan

Date Adopted: 11 October 2021

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4.3.10.1 INTRODUCTION

APPLICATION

The provisions of this section of the DCP apply to development in Melrose Park North as shown in Figure 4.3.10.1 and will prevail where there is any inconsistency with other sections of this DCP.

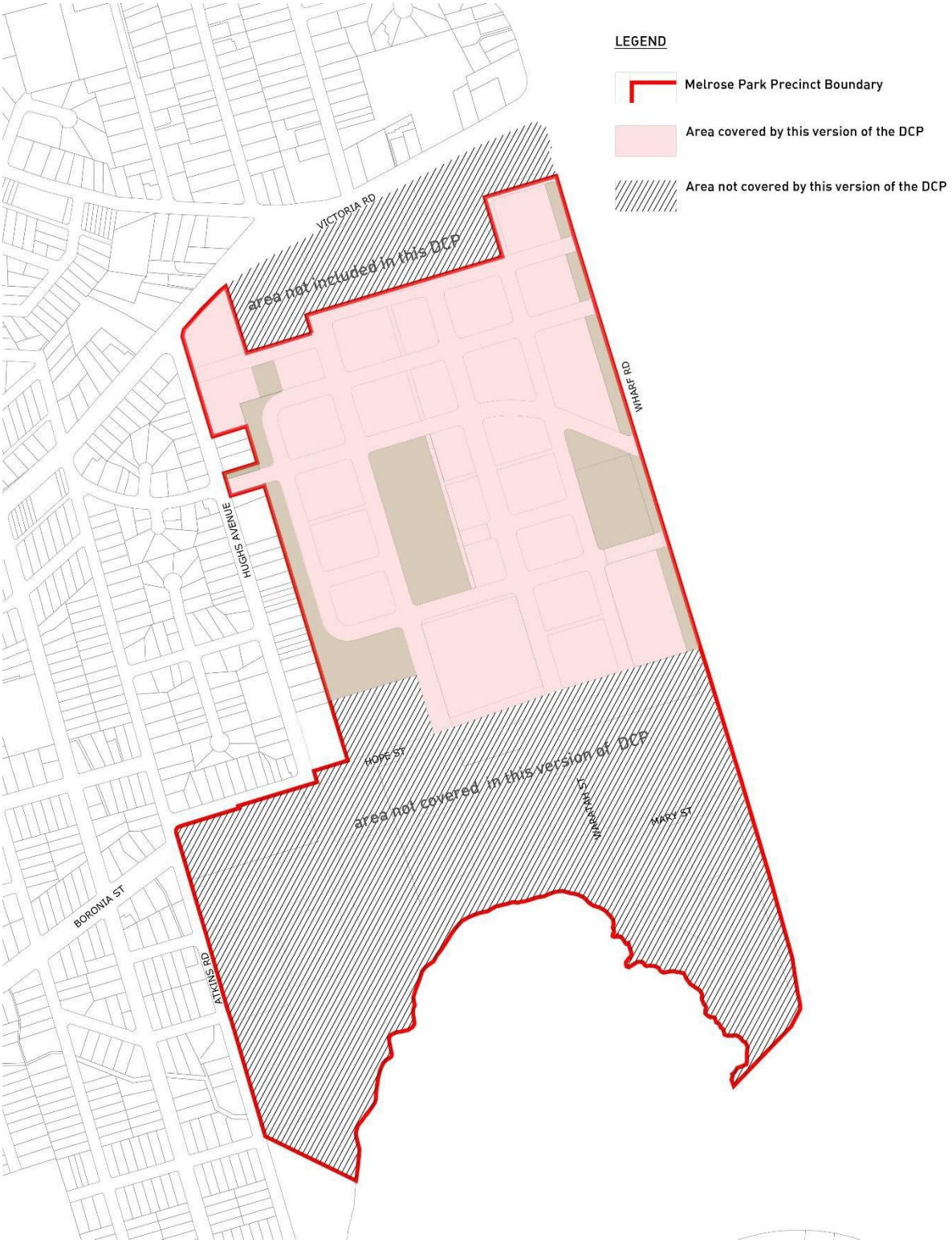

Figure 4.3.10.1 – Area Covered by this DCP

THE DCP

The written document and the Melrose Park North Masterplan.
The Melrose Park Precinct Public Domain Plan
Water Management Control Plan.

MASTERPLAN

The Masterplan describes the intended physical outcome for Melrose Park North and includes:

- Street, Block, Open Space and Building Layout identifies the street layout including the pedestrian connections; the open space; development lot locations and the building footprints. Refer to Appendix 1.
- Setbacks from the Public Domain identifies the setbacks to the buildings from the street and public domain. Refer to Appendix 4.
- GFA by Lot identifies the gross floor area (GFA) generally permitted for each lot and across the site. Refer to Figure 4.3.10.2.
- Heights by Lot identifies the number of storeys generally permitted on each building. Refer to Appendices 2 and 5.

PUBLIC DOMAIN PLAN

Public Domain Plan includes:

- Public domain plan with concept design and layout for all streets, footways, car parking, street trees verge treatments, pedestrian connections and crossings, street lighting and WSUD opportunities
- Street Hierarchy Plan identifies the location and width of all streets
- Street Schedule identifies street arrangement in section in spreadsheet format

WATER MANAGEMENT

The Water Management Control Plan governs development in the precinct and includes:

- Overland flow and flood management;
- Road and public drainage and detention; and
- Environmental management of low flows with OSD and Water Sensitive Urban Design (WSUD).

OTHER DOCUMENTS

Council documents also used for reference:

- Parramatta LEP 2011
- City of Parramatta DCP 2011
- 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. MelrosePark South extends from Hope Street to the Parramatta River. The Wharf Road Precinct has been rezoned and is not the subject of this DCP. This DCP applies to the Melrose Park North Precinct. This DCP will be amended to includeMelrose Park South Precinct and its related masterplan. 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, two 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 Masterplan. The Masterplan has been prepared by City of Parramatta in conjunction with the proponent. The Masterplan responds to the topography and the streetcontext 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 buildingsand landscape in response.

O.08 Ensure that infrastructure is delivered in accordance with the staging plan and TMAP Implementation Plan.

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 three lots as agreed. These lots are Lot E, Lot EA and Lot G. Bonuses in floor space and height are not applicable.

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 North 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 buildingsin 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 development on lots E, EA and G.

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-eat (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 spaceareas

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 peak flows 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

4.3.10.2 BUILT FORM

4.3.10.2.1 GUIDING PRINCIPLES

The following principles apply to all development in Melrose Park

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 Masterplan 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.08 Towers in the town centre are to be set back above street walls to re-enforce the human scale of the streets, mitigate wind impacts, and enable views to the sky in streets and public places.

P.10 The collective built form reinforces the variety evidenced in the topography and the spatial organisation of the streets and open spaces

P.11 The variety within the precinct is 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.

4.3.10.2.2 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 4.3.10.2 (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 allocation of the total floor space relates to the Masterplan 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 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 canbe transferred to any other development lot subject to consideration against the relevant provisionsin this DCP and maintaining the gross FSR of 1.85:1 across the Precinct

C.08. For purposes of these controls, serviced apartments should be treated as a residential use.

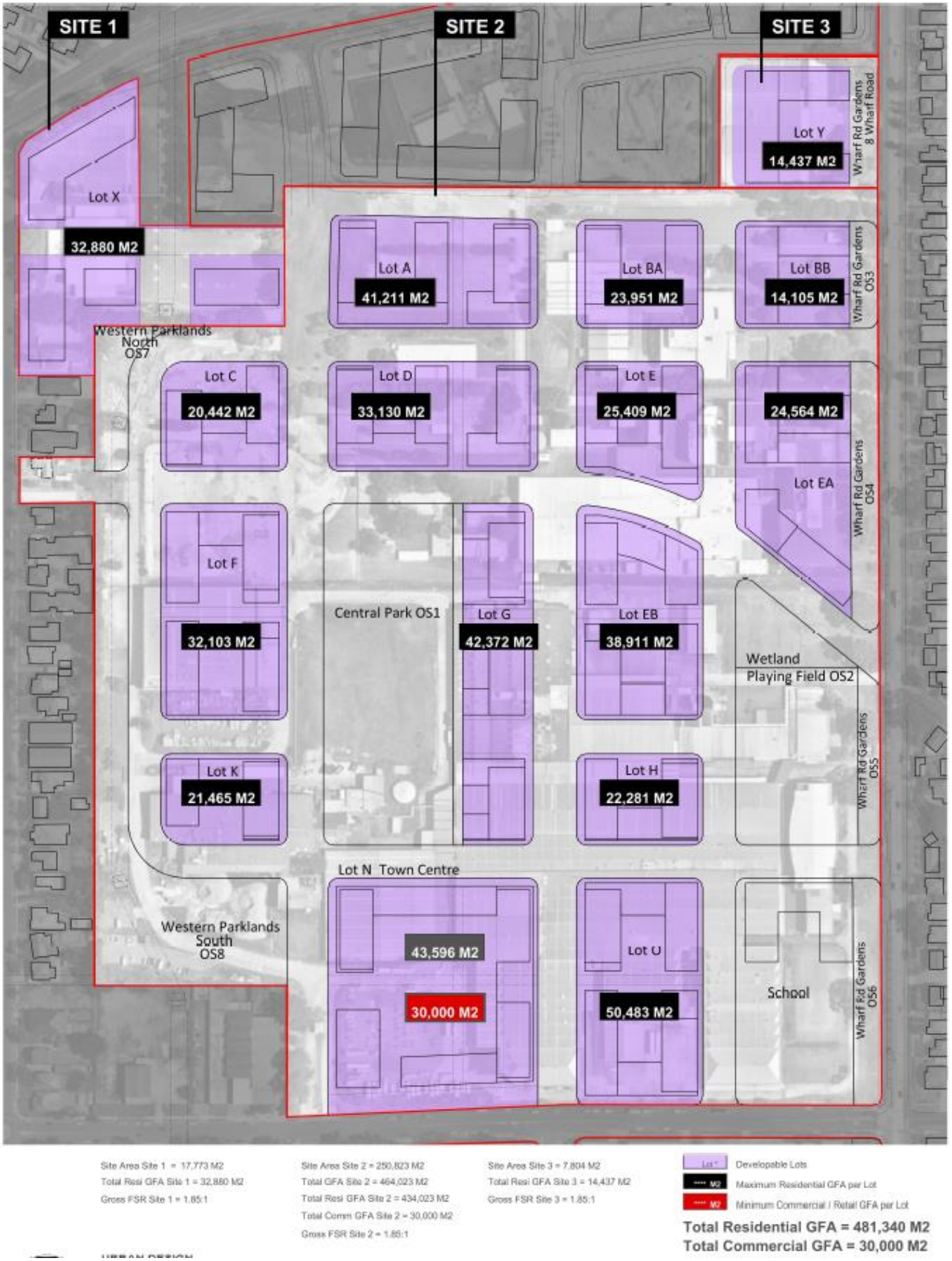

Figure 4.3.10.2 - GFA Plan per Lot

4.3.10.2.3 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 hard 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, dimensionsand sections in the Masterplan and Public Domain Plan

C.02. All streets are to be at ground and public streets be dedicated to Council

C.03. The pedestrian connections that are above basements and privately owned should be publicly accessible 24/7 (except the Mall).

C.04. All subdivision plans should comply with the Masterplan

C.05. The locations of all buildings, tower and perimeter block should comply with the Masterplan

4.3.10.2.4 THE BUILDING ENVELOPE

The building envelopes resulting from the setbacks, floorplate and height outlined in the Masterplan 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 masterplan 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 masterplan are to form the basis of the architectural resolution

C.02 All view corridoes as defined by the streets and pedestrian connections in the masterplan are to be retained.

C.03 The floor space is to be distributed as shown in the Masterplan and in the Application of the Building Envelopes Appendix 5.

4.3.10.2.5 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.

Above the 4-6 storey height and the Town Centre podium buildings are to be set back as shown in the Masterplan and Appendix 5. some retail uses, setbacks and public domain design should be considered together.

In the town centre the street wall 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 generally comply with the Masterplan Appendix 4

C.02 Above the 4-6 storey component and the Town Centre podium, buildings are to be set back as shown in the Masterplan and Appendix 5.

C.03 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.04 The 8 storey residential buildings can have an upper setback of one or two storeys

C.06 All residential buildings 10 storeys and above are based on a maximum length of 50 metres

C.07 The Town Centre is to have nil setback for the podium. Residential and Commercial towers are to have a minimum of 2m, 5m or 6m from the street boundary/ podium edge, to suit final design refer to Figure 4.3.10.3.

C.08 Where additional active uses are proposed at ground, preference is placed on the NSR 2 and EWR 4 intersection and the NSR 3 and EWR 4 intersection.

C.09 The ground floor, first and second floors of the NSR 2 and EWR 4 intersection and the NSR 3 and EWR 4 intersection may extend into the setback zone for a distance of 3 metres maximum from the building line towards the property boundary, refer Figure 4.3.10.4. In plan the decreased street setback can extend for a distance of up to 25 metres along each street, refer Figure 4.3.10.5

C.10 All buildings with the decreased setback at these intersections are to relate to each other and define the space of the intersection up to a height of 3 levels. The corner design is to incorporate a building form such as a splayed setback, orthogonal recess to address the intersection. The levels above the ground floor are to relate to the ground floor resolution

C.11 A streetscape analysis is to determine the most appropriate relationships along, across the street and at these intersections.

C.12. 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.13 Setbacks should be measured perpendicular to the boundary to the outer faces of the building, refer Figure 4.3.10.3. Elements in the articulation zone are excluded.

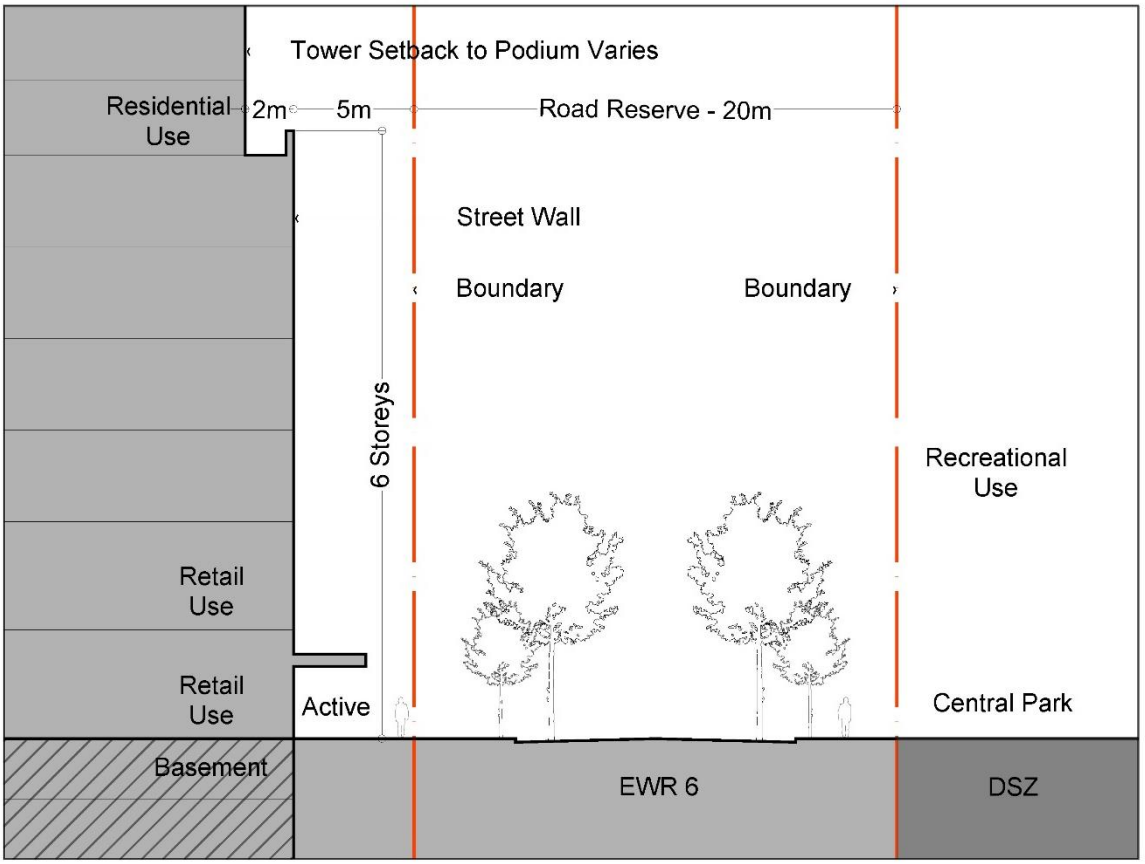

Figure 4.3.10.3 – Street Wall Height in Town Centre

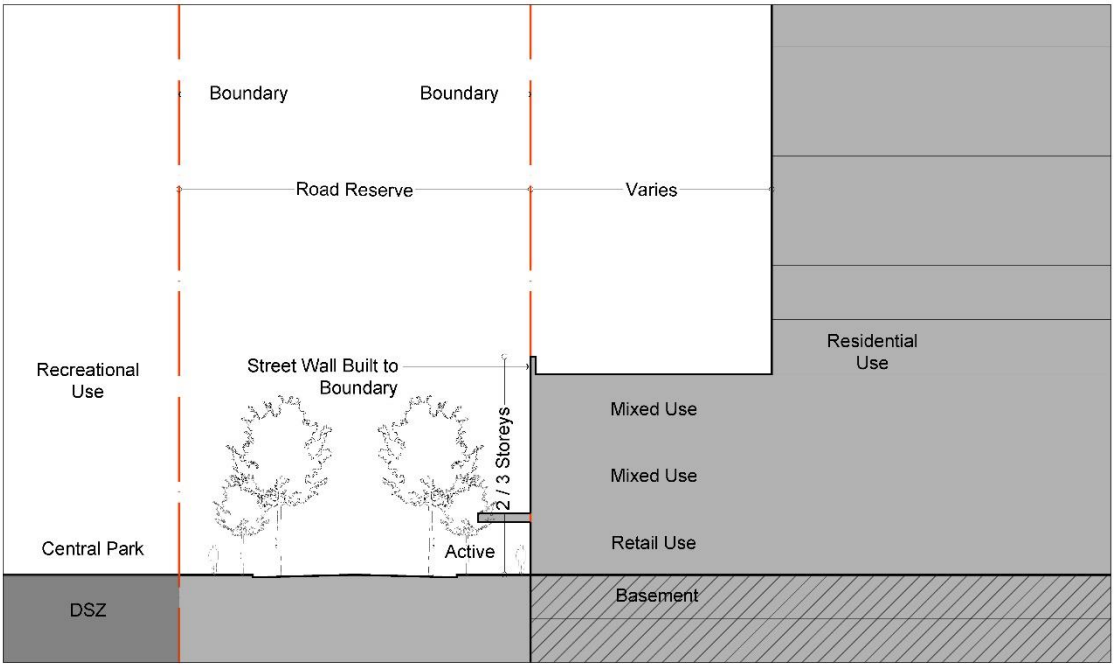

Figure 4.3.10.4 - Street Wall Height at Key Intersection

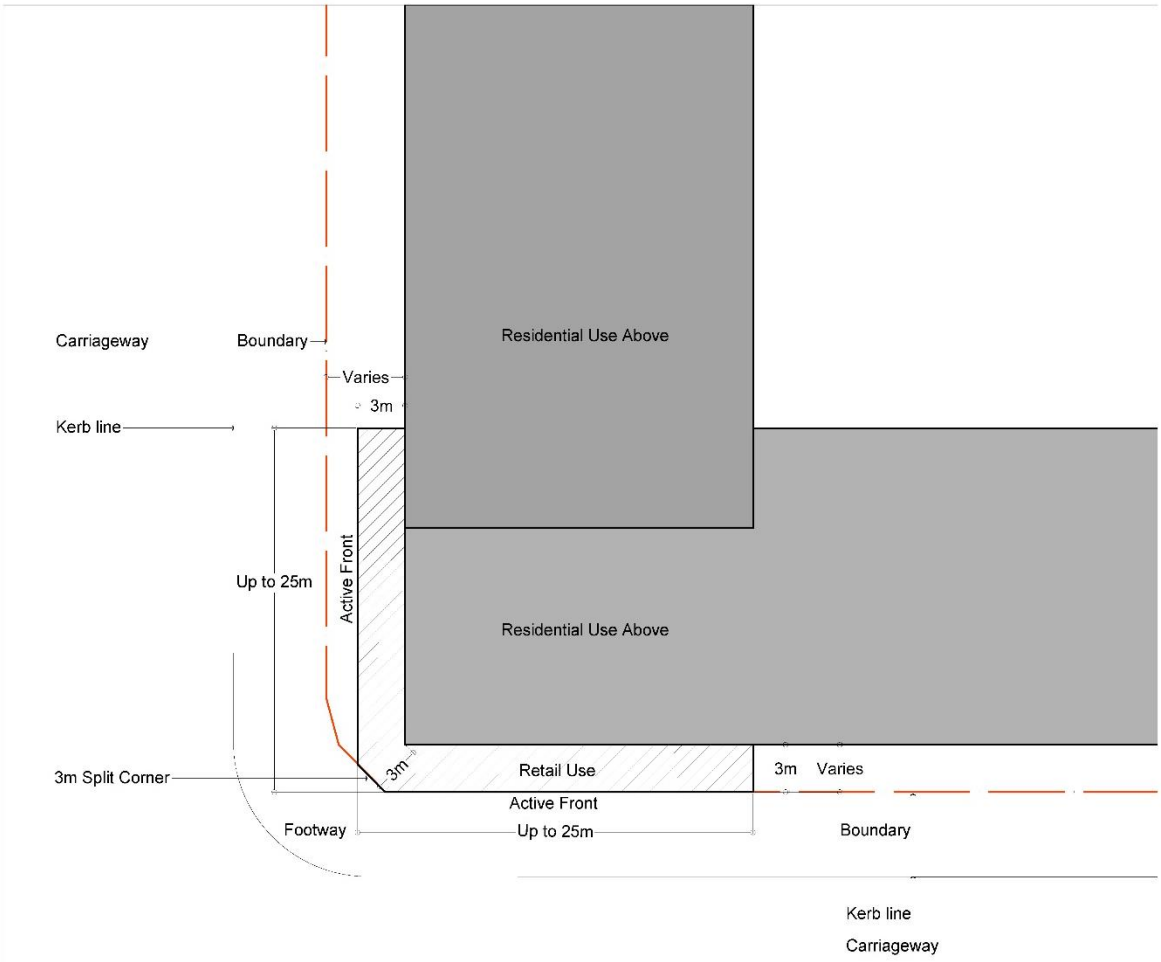

Figure 4.3.10.5 –Indicative Corner Activation at Key Intersections, Plan (NSR 2 and EWR 4 Highest Priority and NSR 3 andEWR 4 Second Highest Priority) NTS

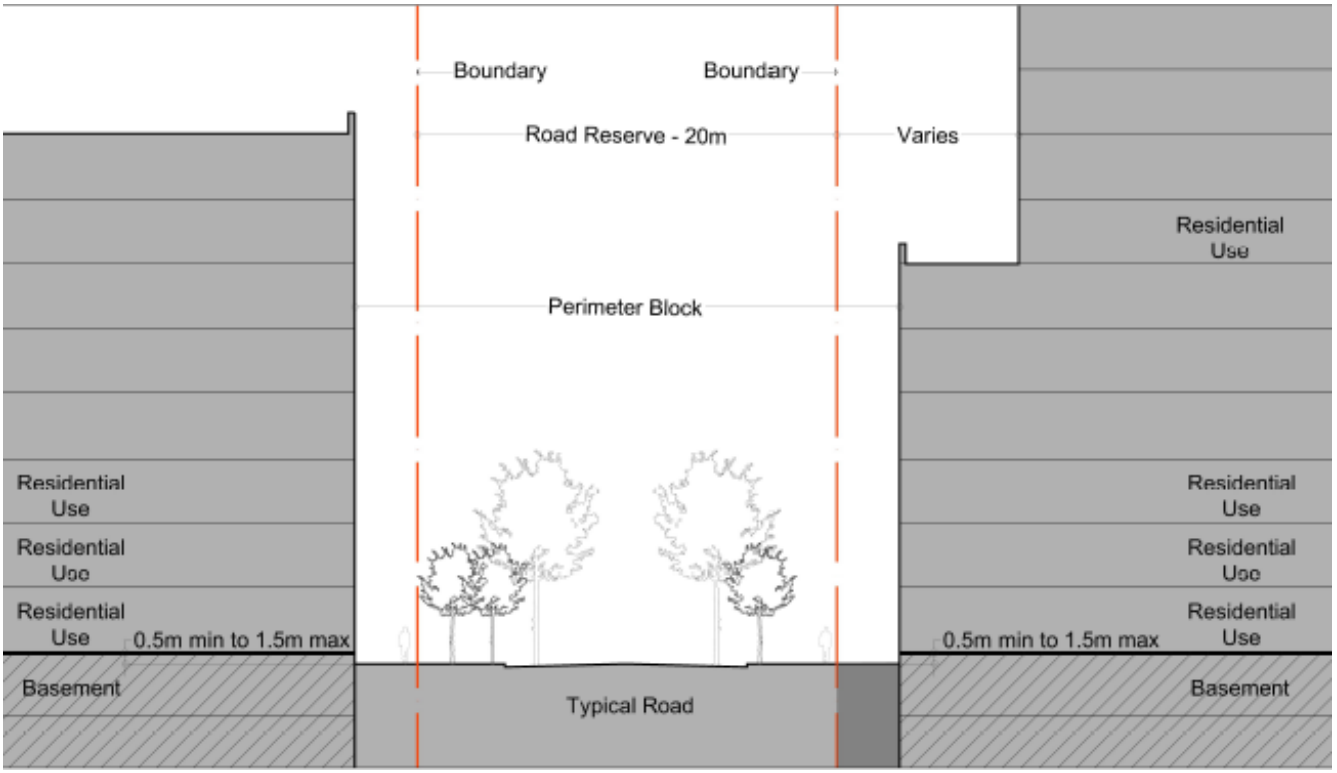

Figure 4.3.10.6 - –Street Wall Height at Typical East West Street, NTS

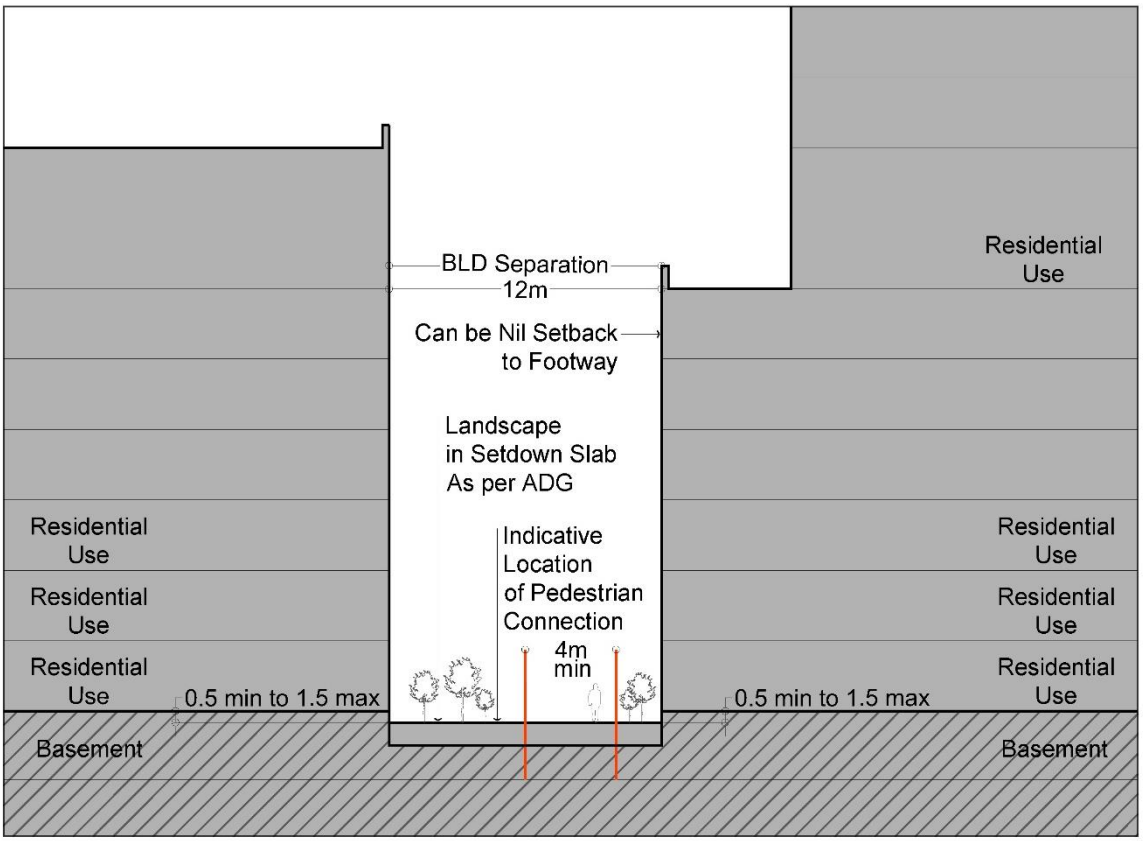

Figure 4.3.10.7 – Street Wall Height at Pedestrian Connection, NTS

4.3.10.2.6 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 should be generally consistent with the Masterplan.

C.02 The separation distances of buildings across courtyards are generally 24 metres building to building except for Site G7 where the courtyard is slightly less

C.03 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 .Refer to Figure 4.3.10.7.

C.04 Issues of visual and noise privacy are to be addressed in the design of the buildings.

C.05 Separation distances should be measured perpendicular to the boundary to the outer faces of the building. Elements in the articulation zone are excluded.

4.3.10.2.7 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.

Melrose Park North has 17 buildings 10 storeys and above. The residential towers have nil set back to the lower levels on their long frontages. For this reason, towers need to make a positive spatial relationship with the lower levels of the buildings, neighbouring towers, and the public domain.

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 1,000m^2

C.02 The maximum floorplate for a commercial tower should be 1,500m^2

C.03 The maximum length of the part of a building above 10 storeys should be 50m.

C.04 Tower forms should not extend around corners so that they are 'L' shaped in plan.

C.05 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.06 The higher building forms are to be integrated with the lower levels and should define positive spaces for streets, open spaces,and courtyards

C.07 Towers should meet sustainability measures

C.08 Tower design should respond to context, climate, and views

4.3.10.2.8 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 Melrose Park South, and the 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 Masterplan and Appendix 2

4.3.10.2.9 FLOOR TO FLOOR HEIGHTS

Objectives

O.01 Provie 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 levels in the masterplan, Appendix 2 and Appendix 5.

C.02 Minimum floor to floor heights are identifies in Table 4.3.10.1

Table 4.3.10.1 – Minimum floor to floor heights

USE	**MINIMUM FLOOR TO FLOOR HEIGHT**
Commercial	3.6m
Residential floor to floor heights from level 2 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 and first floor	7.6m

4.3.10.2.10 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 North 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 Optimise active frontages in the Town Centre and at key intersections

O.05 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 shown on the Masterplan. 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 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.

g) 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 Above ground car parking is only permitted for 3 levels in the Town Centre. It is to be sleeved by other uses on the East / West frontages EWR 6 and Hope Street. On the North / South frontages it is to be screened.

C.04 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.

4.3.10.2.11 RETAIL GROUND FLOOR FRONTAGE

Objectives

O.01 Enable retail uses along the streets in the Town Centre and at key intersections

O.02 Ensure retail streets have comfort and shelter for pedestrians

O.03 Provide visual interest

O.04 Address water management

Controls

C.01 Active ground floor uses should occupy the ground floor frontage in the Town Centre and at key intersections

C.02 Service frontages should be minimised.

C.02 The internal tenancy widths, foyers and lobbies to the towers in the Town Centre 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 within the Town Centre is to be provided, where required.

C.06 Fire escapes and service doors should be seamlessly incorporated into the facade with qualitymaterials.

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.

4.3.10.2.12 TOWN CENTRE MALL INTERFACE

Objectives

O.01 Link the external spatial network with the internal spatial network in the Town Centre

O.02 Improve connectivity

O.03 Encourage walkability

O.04 Maintain the number and variety of safe routes of travel throughout Melrose Park North as shown in the Masterplan

Controls

C.01 Provide direct access and sight lines from the 6 metre north / south pedestrian path from the EWR2 to the Parramatta River through the Town Centre

C.02 Define the access internally to reflect the external space

C.03 Allow for pedestrian access to Hope Street during the hours of operation of the Light Rail through the Town Centre

C.04 Provide an east / west connection through the Detention Basin open space to the Mall. This is to be located to relate to any proposed entrances on the western side of the Mall or if entrances are not proposed to connect to the corner of EWR5 and NSR2.This connection is to ultimately connect to Hughes Avenue

4.3.10.2.13 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 ıresidential 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 4.3.10.9.

C.02 Generally, ground floor apartment levels should be a minimum of 500mm and maximum of 1500mm abovefootpath 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 4.8.10.9.

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 within the building.

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 lessthan 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 4.3.10.8):

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 ascontributing to the street.

C.14 Co-locate the deep soil planting with the courtyard planting where the courtyards face the streetsetback

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.

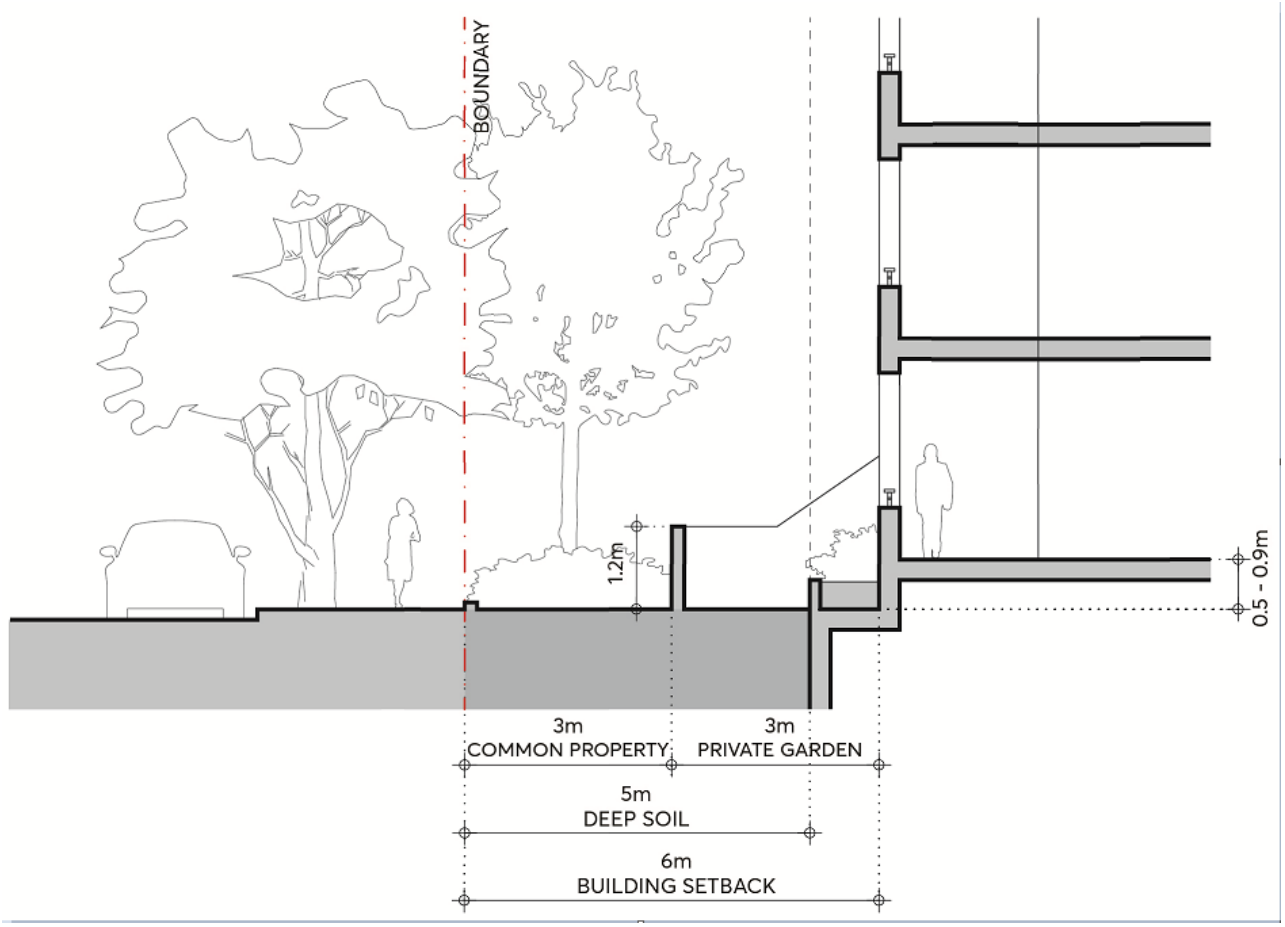

Figure 4.3.10.8. Residential ground floor

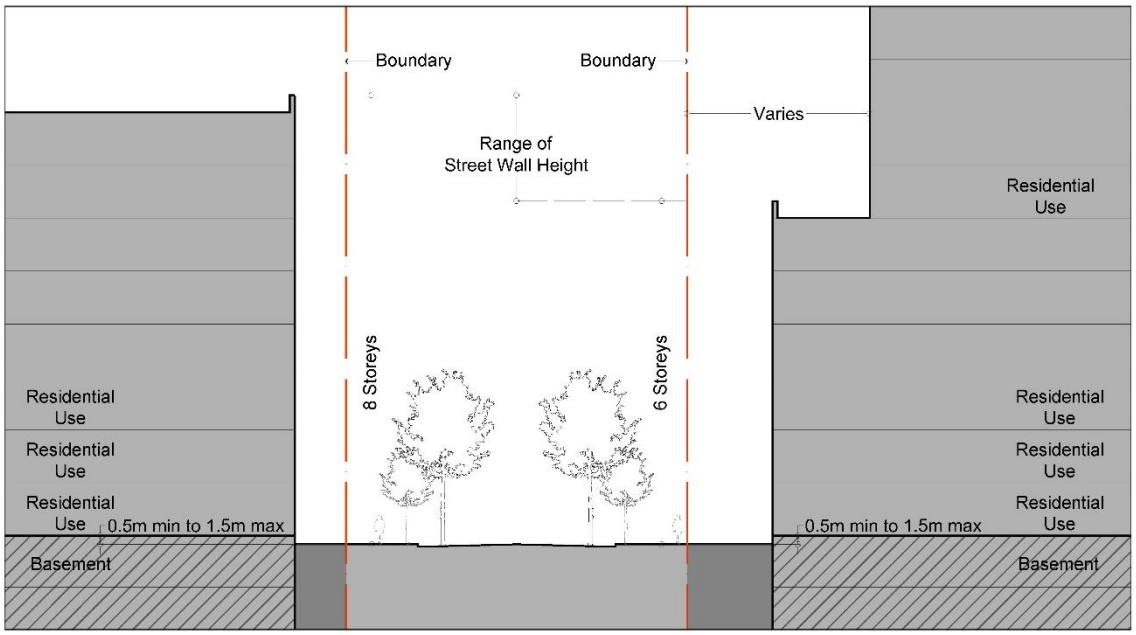

Figure 4.3.10.9 —Podium / Street Wall Height with Setback, NTS

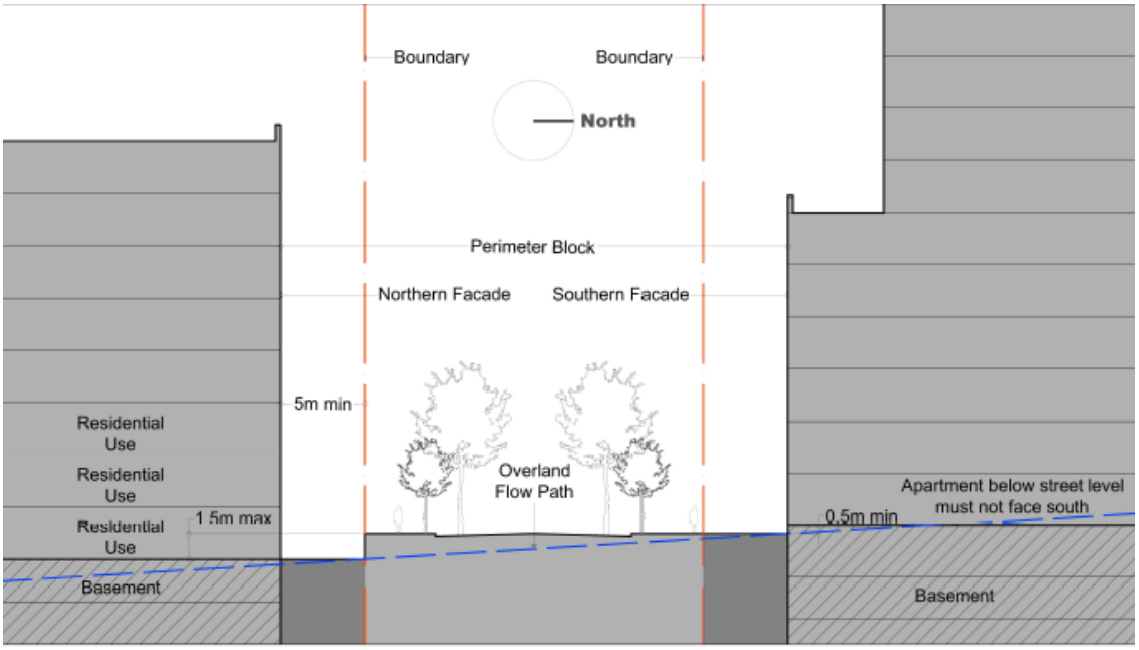

Figure 4.3.10.10 – Apartment below Street Level, NTS

4.3.10.2.14 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 Daylight and natural ventilation should be provided to all common circulation spaces and windows should be visible from lift cores as well as the ends of corridors.

C.06 Where practicable, balconies should be orientated with the longer side facing outwards.

C.07 Divisions between apartment balconies should be of solid construction and extend from floor to ceiling.

C.08 Common open space should include a unisex WC, seating, solid sun shading, and a BBQ and food preparation area with a sink.

C.09 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

4.3.10.2.15 SOLAR ACCESS (RESIDENTIAL)

Objectives

O.01 Ensure that development does not unreasonably dimmish 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

4.3.10.2.16 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:

a) 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.

b) 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.

4.3.10.2.17 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 louvers 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 andallow 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

4.3.10.2.18 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 4.3.10.2 is to be used as a guide for the apartments in Melrose Park:

Table 4.3.10.2 – 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 beconsistent 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

4.3.10.2.19 MATERIALS

Melrose Park proposes very high densities with towers and perimeter block buildings in close proximity but unlike a CBD condition they do not have a continuous street wall except for the Town Centre. To achieve bothvariety 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 excessivedifferences 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

4.3.10.2.20 RETAINING WALLS

Melrose Park is located on sloping terrain. Many of the development lots and the open space and school sites will require retaining walls. 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

4.3.10.2.21 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 om the street can be common property.

C.04 The height of fences can vary up to approximately 2000mm.

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4.3.10.2.22 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 Provide a communal space for relaxation and communal activities

O.04 Provide passive surveillance opportunities public areas

O.05 Have generous planting

O.06 Assist with reducing urban heat

O.07 Assist with flood management

Controls

C.01 Courtyards are to be located as shown on the masterplan. Refer to Appendix 1.

C.02 Courtyards should:

- be visually and physically linked with streets, open spaces and pedestrian connections
- be delightful outdoor rooms and should be considered with regard to 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 4.3.10.11 for guidance on street interface.

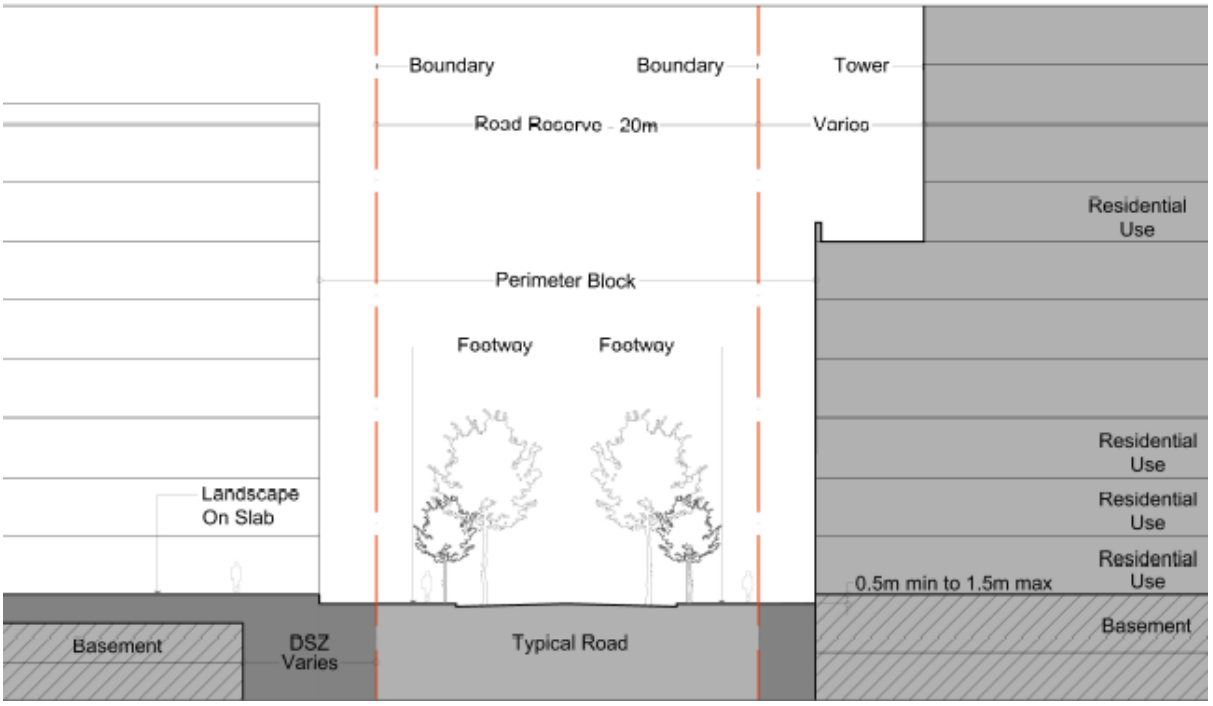

Figure 4.3.10.11 - Courtyard Basement – Interface with Street

4.3.10.2.23 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 Masterplan, and the Public Domain Plan and the Public Domain Guidelines, indicate intended public domain for Melrose Park North.

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 North.

This section details aspects of the design of the public domain and should be read in conjunction with the Masterplan, 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 4.3.10.12 to 4.3.10.21 are indicative. For final street tree arrangements refer to the Public Domain Plan and the Public Domain Design Guidelines.

4.3.10.3.1 STREET NETWORK AND FOOTPATHS

The streets and footways in Melrose Park North 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 Masterplan.

C.02 Streets, footways and footpath layout and widths vary for each street type and should be laid out as per the Masterplan 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.

C.04 Street Trees are to be planted as per latest version of Public Domain Plan and Public Domain Guidelines. -Melrose Park

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 North.

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	BRTP	BIORETENTION TREE PIT
SHP	SHARED PATH	SW/RG	SWALE / RAIN GARDEN
B	BIKE PATH	B/V	LANE ABLE TO PLY BUSUS
P	PARKING	V	VEHICULAR LANE

Note:

a. Level changes to be managed within the building footprint

b. Light poles are indicative and for locations only. Lighting is subject to specialist design. Light pole and type to be confirmed.

Type 1 – Major Road (typical to NSR 2)

- 25 m wide road corridor as typical
- 3.5m wide footpaths both sides
- Trees in parking Lanes

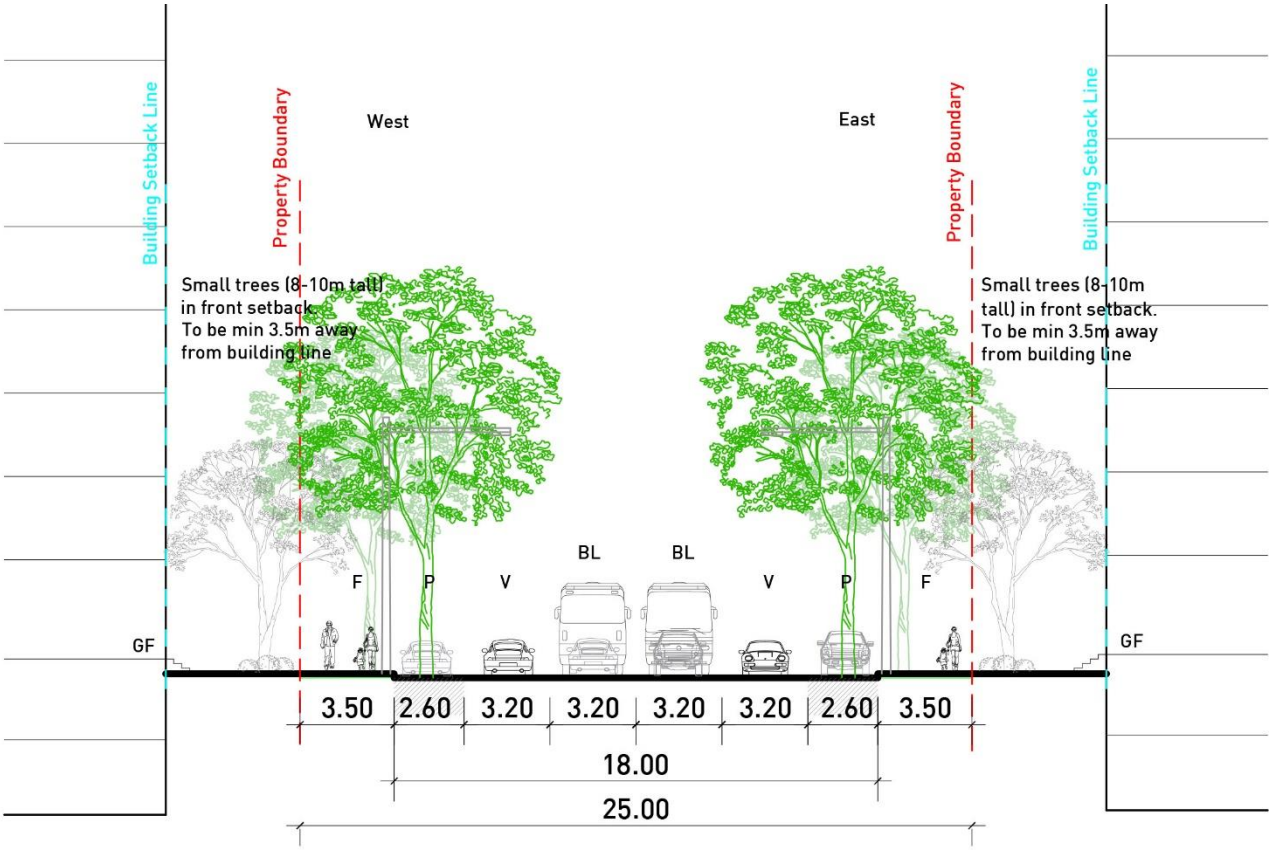

Figure 4.3.10.12 – Type 1a Major Road Building to Building (NSR 2)

Type 1b – Major Road (typical to NSR 2) between EWR 4 and EWR 6

- 22 m wide road corridor
- Minimum 3.4m wide footpaths both sides
- Trees in footpath and/or verge
- WSUD details to be applied.
- Trees in deep soil in the 5m front setbacks

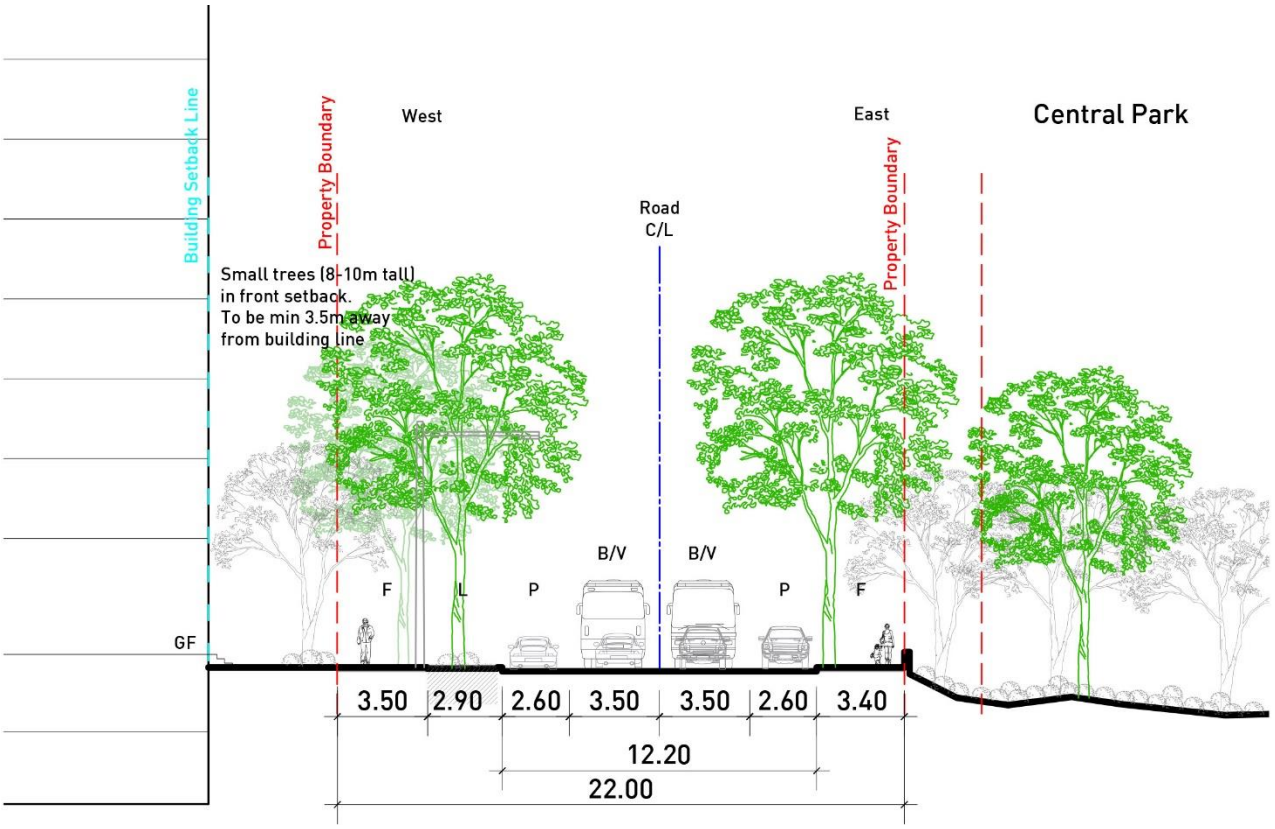

Figure 4.3.10.13- Type 1b Major Road Central Park Interface (NSR 2 between EWR 4 and EWR 6)

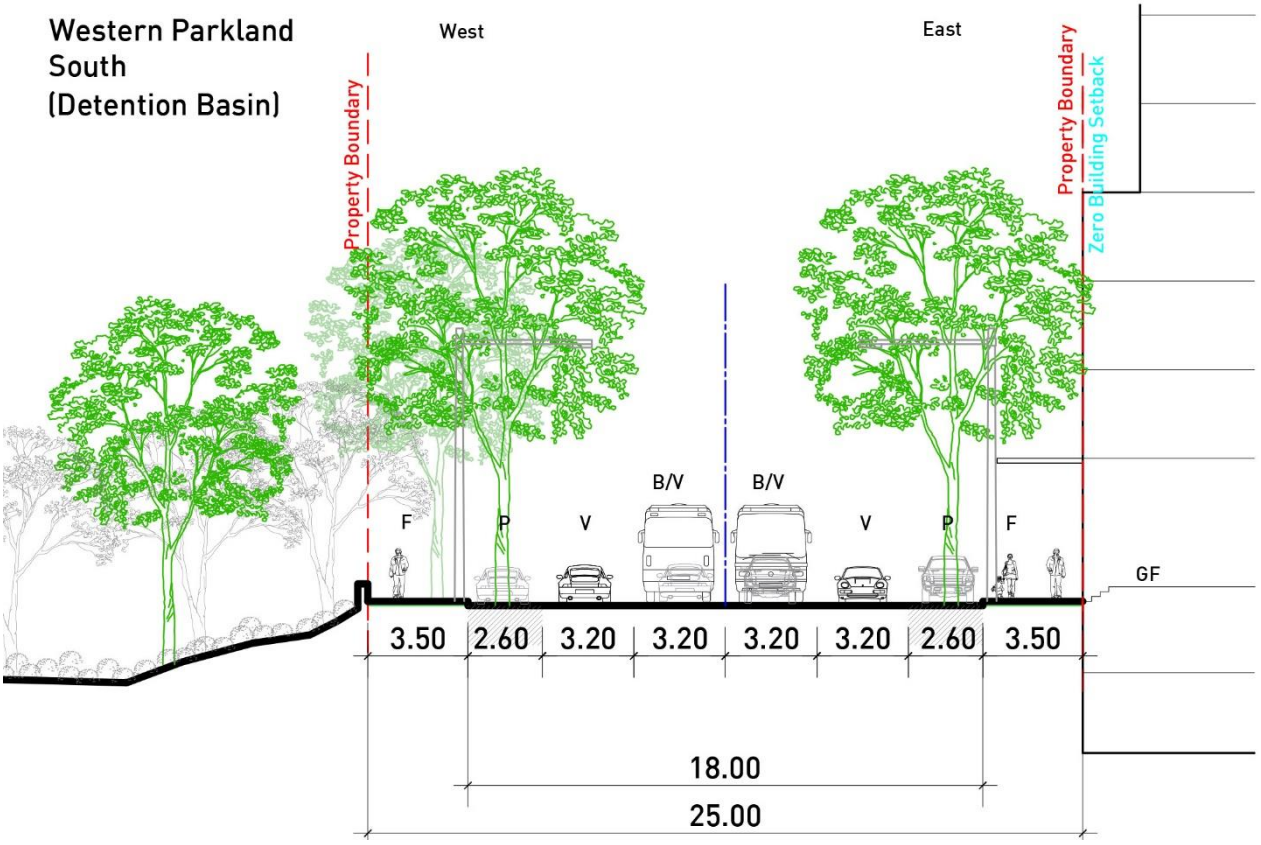

Figure 4.3.10.14 - Type 1c Major Road Town Centre and Western Park Interface (NSR 2)

Type 2 – Main Road with Cycle Tracks (typical to NSR 3)

- 23.5 m wide road corridor
- 1.8 m wide footpaths both sides
- One-way Paired, separated bicycle paths: 1.5m wide with an additional 1m buffer with parking lane, on both sides (2.5m corridor each side)
- Trees in parking Lanes.
- WSUD details to be applied.
- Trees in open planted beds between the footpath and cycle track.
- Trees in 5m front setback

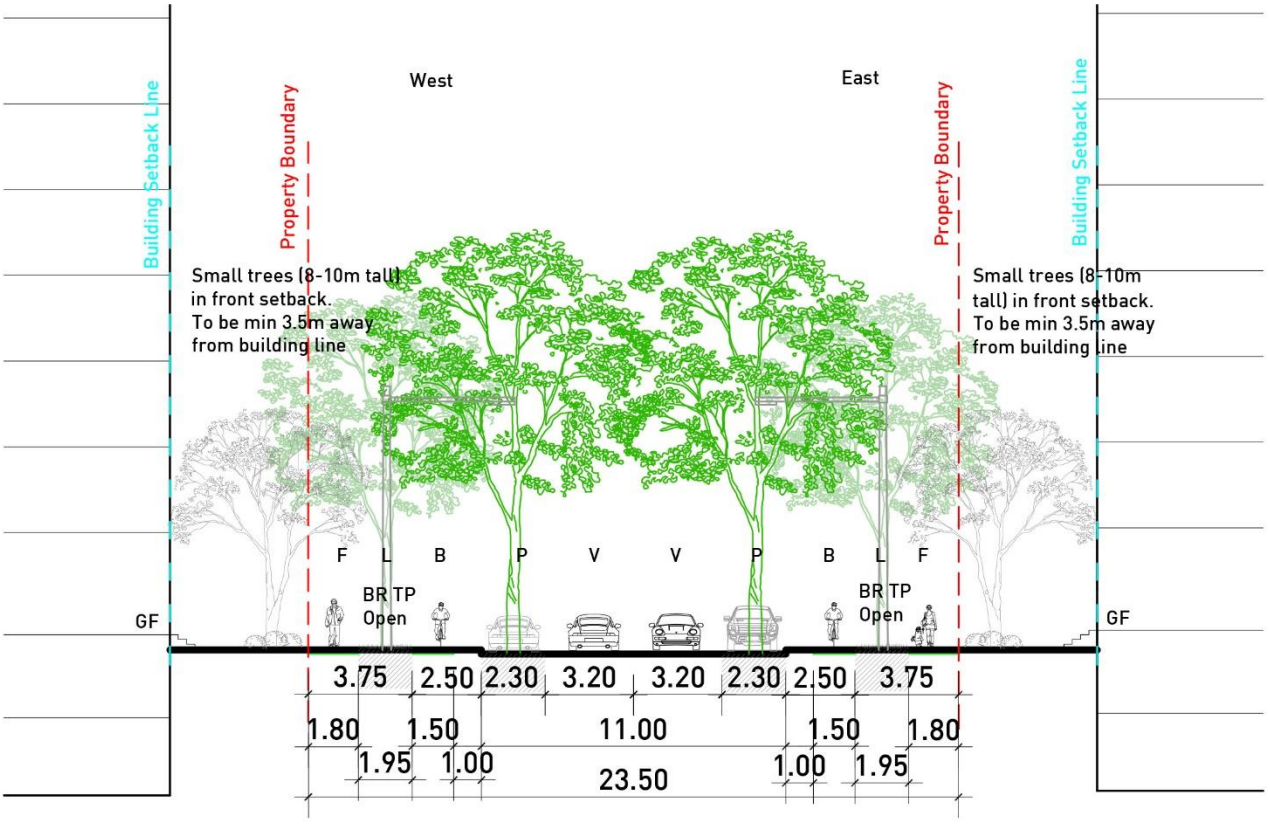

Figure 4.3.10.15 – Type 2b Main Road with Cycle Tracks (NSR

Type 2d – Main Road with Cycle Tracks (typical to NSR 3) between EWR 4 and EWR 6

- 26.5 m wide road corridor
- 2m wide footpath on western side and 1.8 m wide on eastern side
- One-way Paired, separated bicycle paths: 1.5m wide with an additional 1m buffer with parking lane, on both sides (2.5m corridor each side)
- Trees in parking Lanes.
- WSUD details to be applied.
- Trees in open planted beds between the footpath and cycle track.
- Vegetated area in the wider public domain on western side
- Trees in 5m front setback

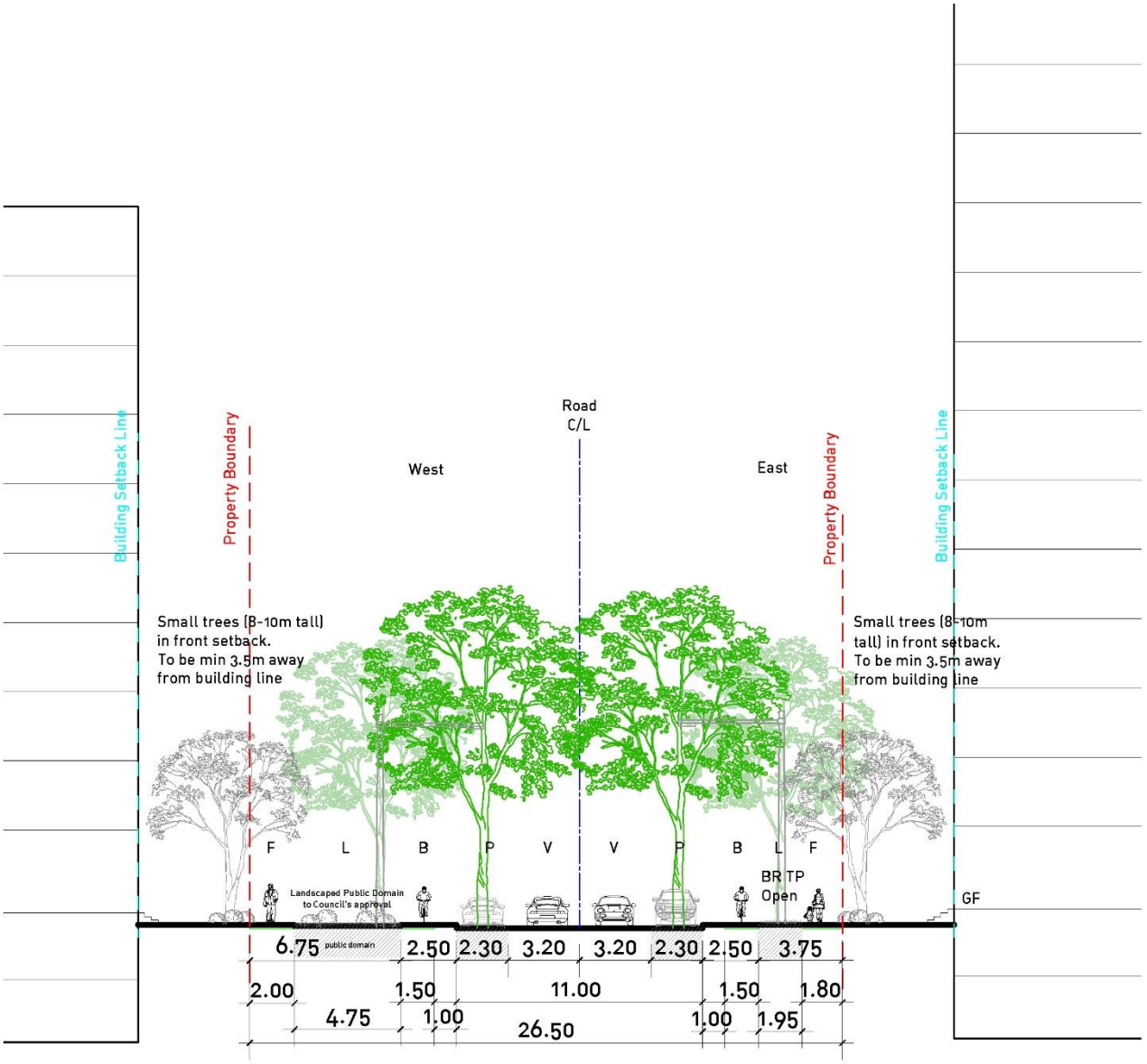

Figure 4.3.10.16 – Type 2d Main Road with Cycle Tracks between EWR 4 and EWR 6 (NSR 3)

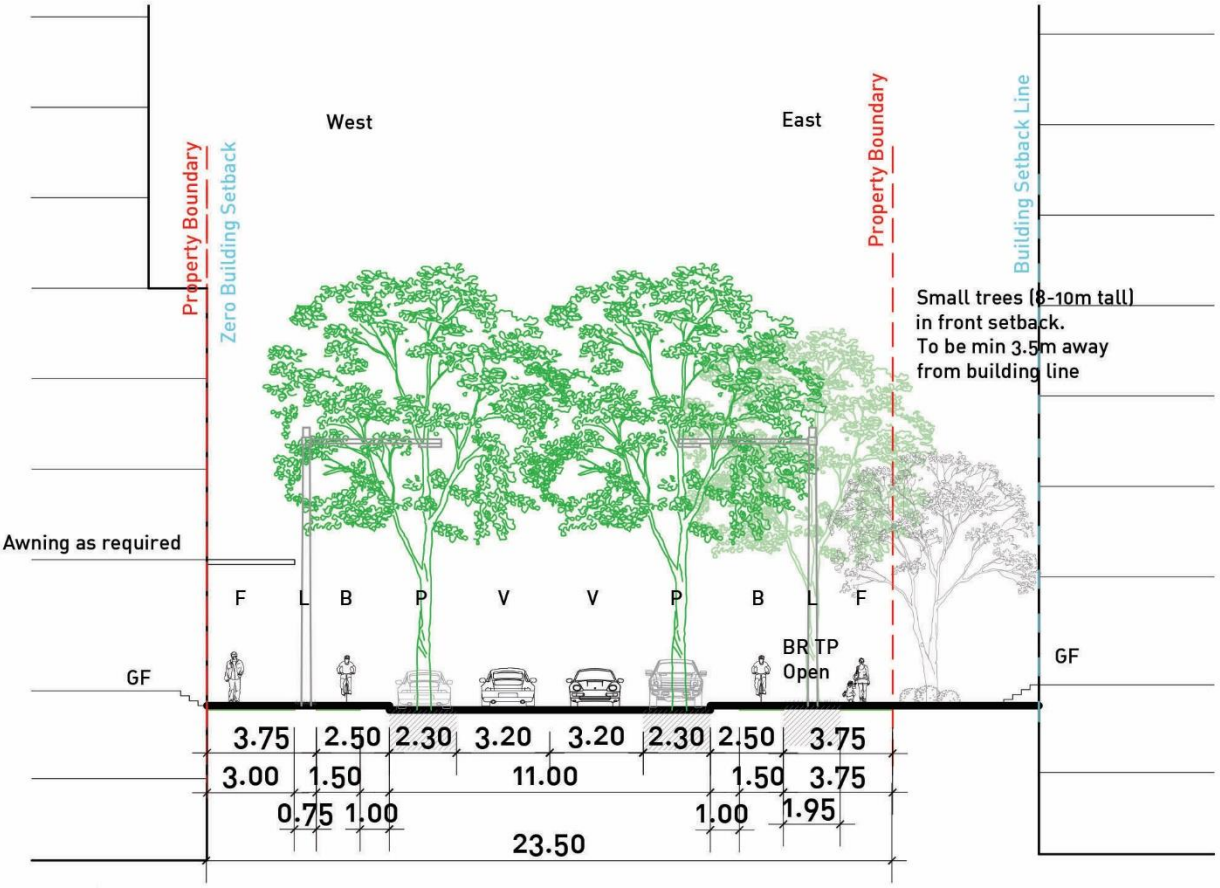

Figure 4.3.10.17 – Type 2c Main Road with Cycle Tracks Town Centre Interface (NSR 3)

Type 3 – Main East West Connector road (typical to EWR 4)

- 20 m wide road corridor
- 3 m wide shared path on northern side of the road
- 2m wide footpath on south side next to swale / rain garden
- WSUD treatment via the continuous Swale / Rain garden
- Trees in parking lanes.
- WSUD details to be applied.
- Trees in deep soil, in the 5m front setback on southern side of the road

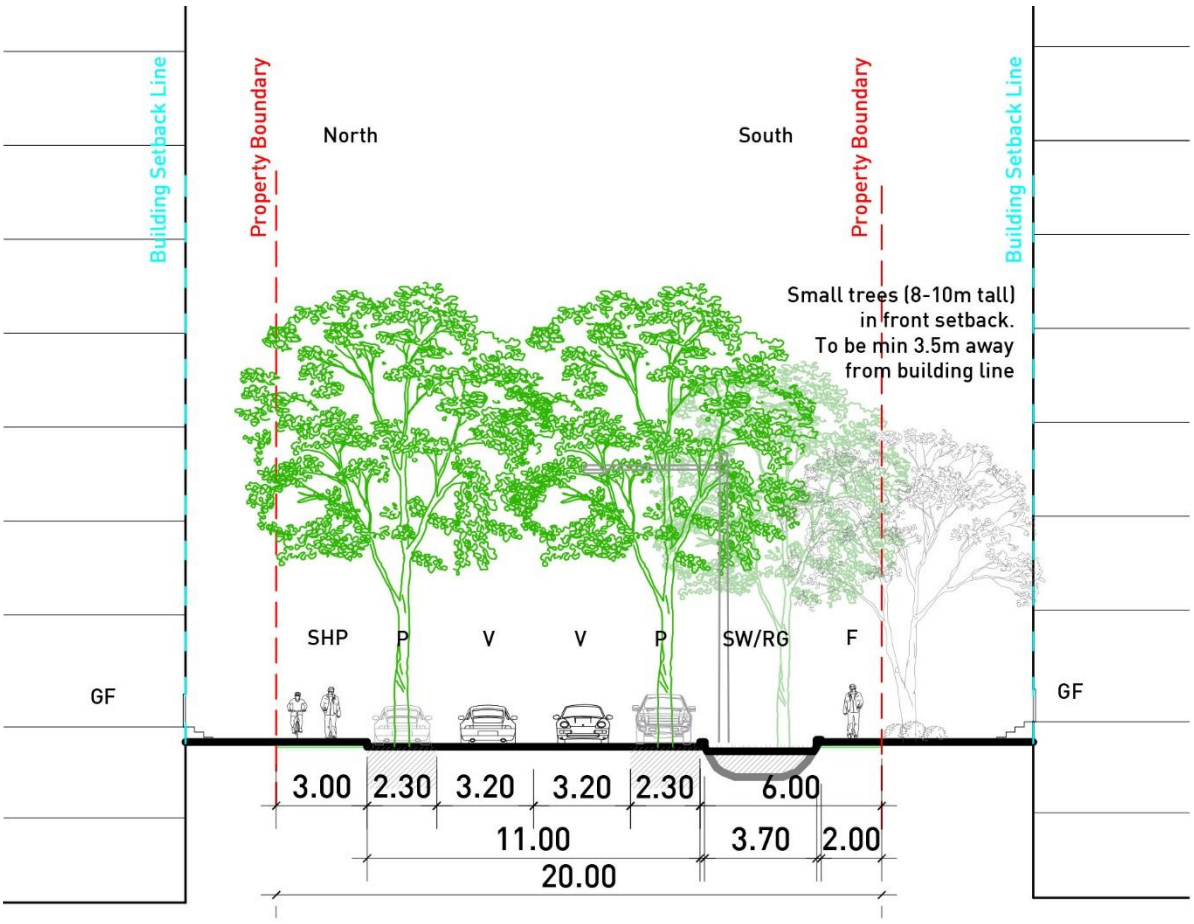

Figure 4.3.10.18 – Type 3 Main East West Connector road

Type 4 – Local Street (typical to EWR 3, 5, 6 and NSR 1 and 4)

- 20 m wide road corridor
- 2 m wide footpaths both sides
- Trees in parking lanes
- WSUD details to be applied.
- Trees in open planted beds in the verge.

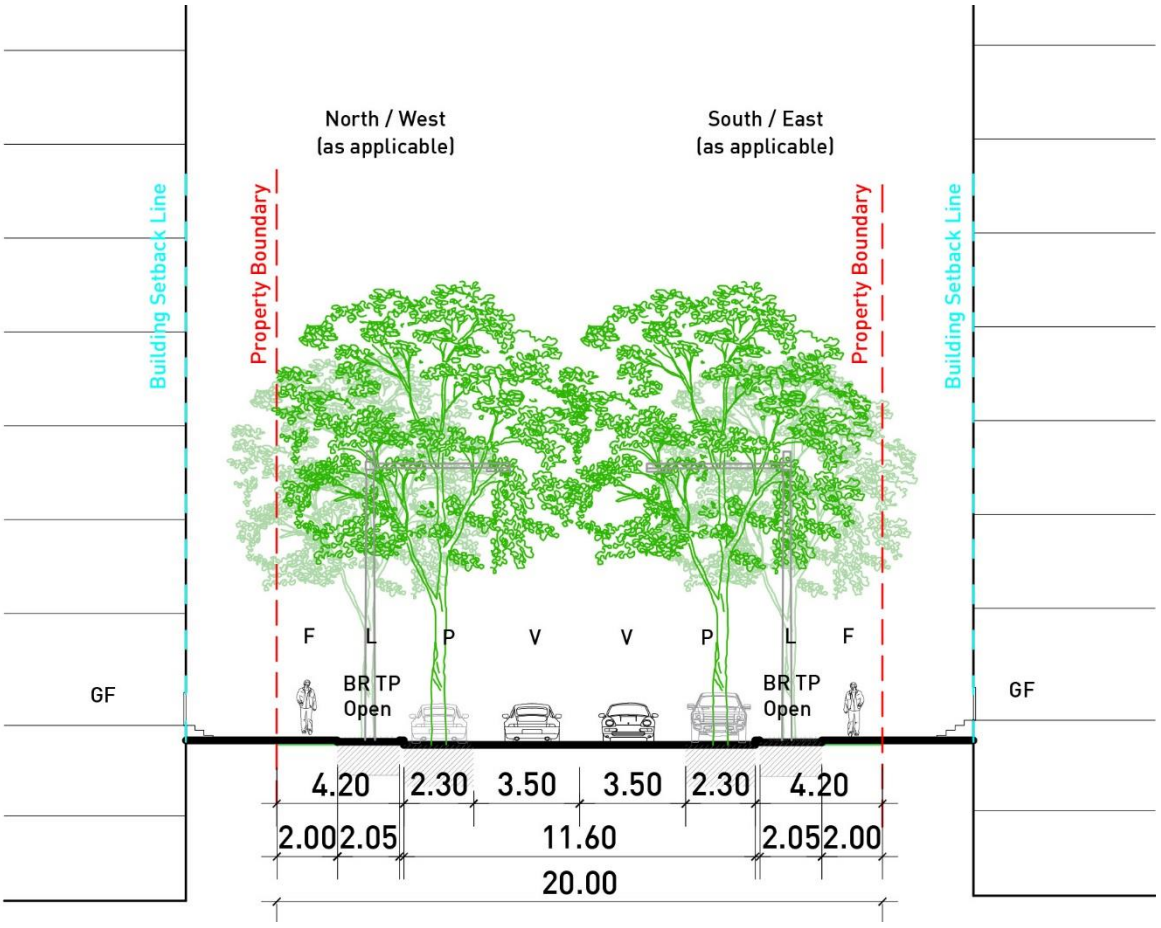

Figure 4.3.10.19 – Type 4 Local Street (EWR 3, 5, 6 and NSR 1

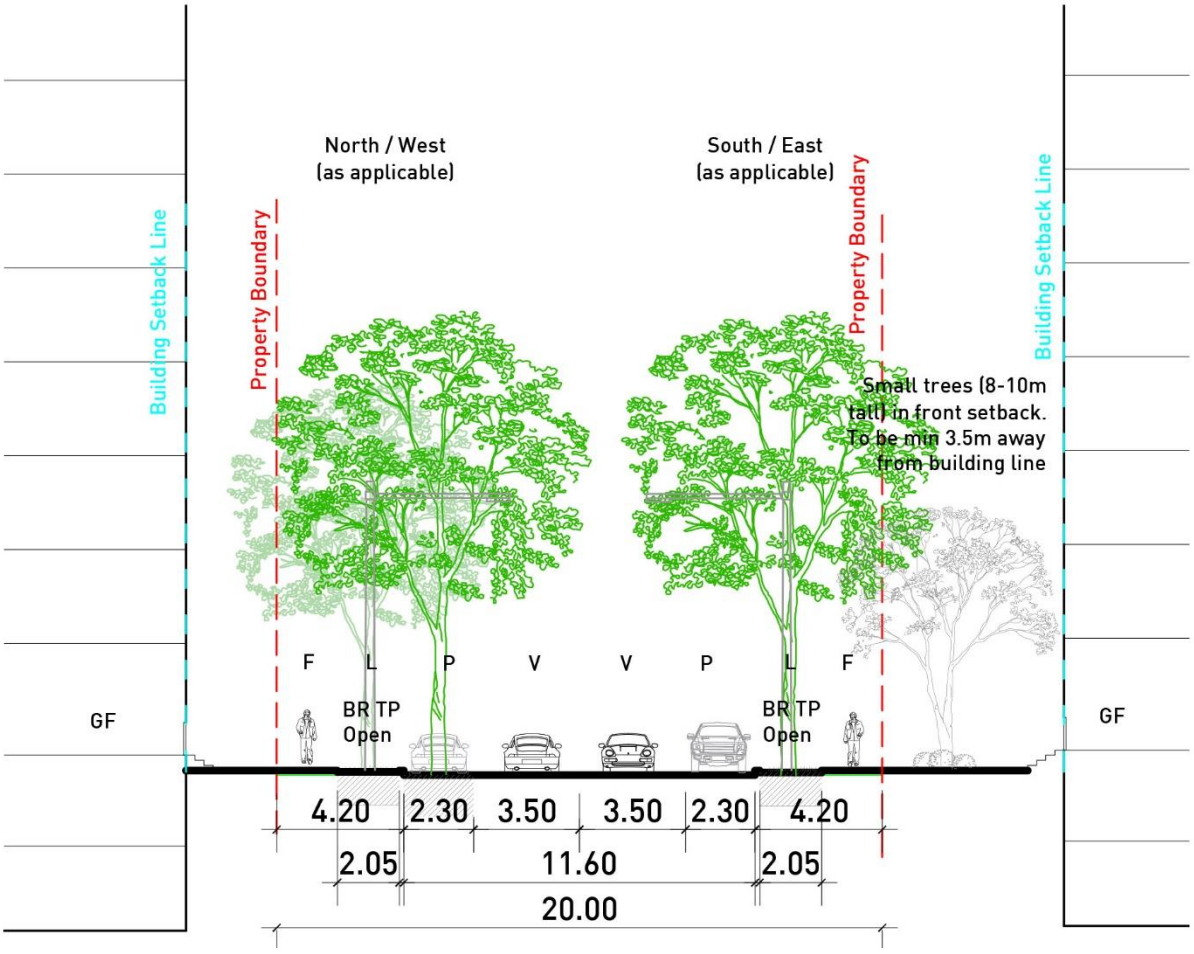

Figure 4.3.10.20 – Type 4a Local Street (EWR 2A and NSR 4)

4.3.10.3.2 PEDESTRIAN CONNECTIONS

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 North enable access for service vehicles but are narrower in width than streets.

Refer Council's Public Domain Guidelines sub-section Melrose Park North 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 Central Park 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 Masterplan

b) 24/7 publicly accessible (except at the mall)

c) extend from street to street or street to park

d) open to sky (except at the mall)

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 DA;
- 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 shown on the masterplan

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 Public Domain Guideline

C.04 The pedestrian connections can provide secondary entry to the buildings and courtyards

C.05 Central Park north/south connection, refer Figure 4.3.10.21, is to have:

a) A minimum 6 m wide path

b) A low wall located on the park edge, within the 6m boundary.

c) The wall is to be masonry or similar durable material a minimum of 300mm high and up to 1000mm high and suitable for sitting.

d) Canopy trees within the path corridor.

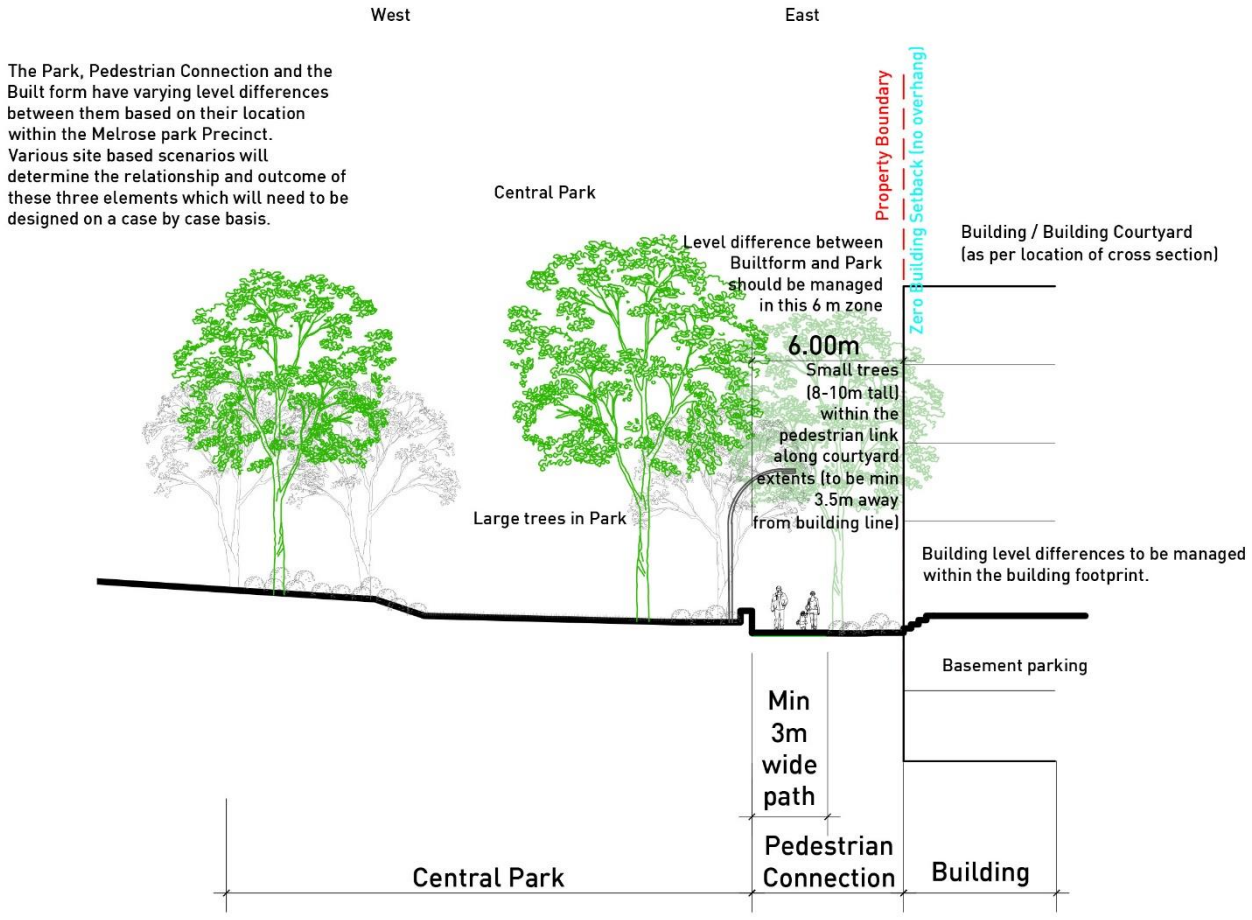

Figure 4.3.10.21 - Pedestrian connection – interface with Central Park

C.06 The north/ south connection is to align with shopping mall entrance and provide pedestrian access to Hope Street through the mall as per the Master Plan.

C.07 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 linesacross the site.

4.3.10.3.3 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 North.

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 ParramattaPublic Domain Guidelines - Melrose Park.

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 10-12 m 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.

4.3.10.3.4 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 North for full lengths of the development site street frontages and should be in accordance with the Public Domain Guidelines.

4.3.10.3.5 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 North should be used at the Town Centre and on 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:

a) Minimum soffit height of 3.3 metres.

b) Low profile, with slim vertical fascias or eaves (generally not to exceed 300mm height)

c) Setback a minimum of 600mm from the face of the kerb

d) Minimum of 2.0 metres deep unless street trees are required.

e) 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 4.3.10.22.

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 SectionSUSTAINABILITY

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 4.3.10.22 - Typical Awning Condition with Street

4.3.10.3.6 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.

4.3.10.3.7 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 Masterplan in accordance with the requirements set out in Table 4.3.10.1.

4.3.10.3.8 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 Masterplan to support the new residential community to meet, walk and recreate. These are:

a) Central Park

b) Playing Field

c) Western Parklands

d) Wharf Road Gardens and

e) The Wetlands

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 Masterplan and, Appendix 6 - Public Open Space Plan and Public Open Space Key Characteristics, Table 4.3.10.3.

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:

a) provide an appropriate balance between stormwater management and recreation functions

b) include appropriate measures to restrict gross pollutants from entering the basin

c) allow the release of detained water within 24 hours of a significant rainfall event to protect landscaping within the basin

d) 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

e) accommodate plant species and structures that can tolerate temporary flood inundation

Table 4.3.10.3 - Public Open Space Key Characteristics

Site	Purpose/s	Use/s
Central Park	District Park	Play, Passive Recreation, Community Events and Gatherings
Playing Field	Sport, WSUD	Active Recreation, Wetland
Western Parklands	Green Link, WSUD	Pedestrian / Cycle Connections, Dog Off-leash, Multi-use courts, Stormwater Detention
Wharf Road Gardens	Landscape Buffer	Passive Recreation
The Wetlands	Stormwater Management	Passive recreation

I. Central Parklands

A district park with a minimum size of approximately 84.89 metres by 207 metres and an approximate area of 17,600m^2 is to be provided in the location identified in the Masterplan and should:

- function as the key open space and principal gathering space for the Melrose Park precinct
- accommodate a range of experiences and activities, including space for outdoor performances and temporary events
- be edged by a 6m north / south pedestrian walkway on the eastern edge between the park and the development
- have a diverse mix of hard and soft landscaping and deep soil planting utilizing 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
  - a district level playground for children that is to:
    - physically and visually integrate into the surrounding park
    - maximise play value, accessibility, and inclusiveness for children of all ages and abilities
    - incorporate nature play to provide opportunities for exploration, imagination, and creativity
- 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

- provide new street trees to define the boundary of the park
- achieve direct sunlight to the minimum standards.

II. Playing Field

An active recreation park with a minimum size of approximately 75 metres by 108 metres and an approximate area of 8000m^2 is to be provided in the location identified in the Masterplan and should:

- achieve an appropriate balance between active recreation and stormwater detention functions
- provide a multi-use field
- incorporate appropriate
  - floodlighting to maximise capacity and
  - perimeter fencing to minimise potential conflict with pedestrians and vehicles Flood Lighting
- achieve direct sunlight to a minimum of 50% of the playing field between 10am and 2pm on 21 June
- integrated stormwater and floodwater management

III. Western Parklands

A linear park with a minimum size of approximately 20 metres and an approximate area of 15,180 m^2 should be provided along the western boundary of the precinct in the location identified in the Masterplan and should:

- provide for passive and active recreation including multi-use courts, outdoor fitness equipment and skateable elements,
- incorporate a north-south shared pedestrian / cycle connection
- include soft landscaping and deep soil planting utilising indigenous, native and exotic species
- incorporate shade and some formal and informal seating
- provide fenced dog off-leash exercise area
- dual recreation and stormwater detention function
- achieve direct sunlight to a minimum of 50% of the park between 11am and 3pm on 21 June

IV. Wharf Road Gardens

A linear park with a minimum width of approximately 17 metres; 13 metres adjacent to the playing field and an approximate area of 7,500m^{2}should be provided along the eastern boundary of the precinct as identified in the Masterplan 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
-

V. Wetlands

A triangular park with an approximate area of 2,260m^2 should be provided along the eastern boundary of the precinct as identified in the Masterplan and should:

- assist in the management of stormwater
- increase the provision of deep soil
- be accessible to the public 24/7 through a formalised path separated from the stormwater management function
- designed to safe guarded against in appropriate use
- not have underground structures, such as car parking, unless approved by Council

4.3.10.3.9 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.

4.3.10.3.10 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 requirementsfor 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 80m^2 or as agreed by Landscape Management Officer.

Table 4.3.10.4 - 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 4m crown spread at maturity)	800 mm	9 cu m
Shrubs and ground cover	500 m	n/a

4. VEHICULAR ACCESS, PARKING, SERVICING

4.3.10.4.1 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.

4.3.10.4.2 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 Vehicular access is not permitted to cross the swale on the southern side of EWR4.
C.03 The number of street crossings and entrances to basement car parking should be minimised.
C.04 Where possible, limit basement vehicle entries to one per development lot.
C.05 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.06 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.07 Pedestrian and vehicle access should be separate and be clearly differentiated.

C.08 Vehicle access should be a minimum of 3 metres from pedestrian entrances.

C.09 Vehicular access should not ramp along boundary alignments edging the public domain, streets, lanes parks, water frontages and the like.

C.10 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.11 Driveway entries and vehicle crossings should be in accordance with AS2890.1

C.12 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.

4.3.10.4.3 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 for Town Centres as detailed in Paramatta 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.

4.3.10.4.4 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 tip 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

4.3.10.4.5 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 Masterplan and 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.

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5. SUSTAINABILITY

4.3.10.5.1 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 drinking 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

4.3.10.5.2 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.*

4.3.10.5.3 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).

4.3.10.5.4 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 increase 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 cites 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 podia height controls as shown in the Masterplan
- 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

Reduce the contribution of development in Melrose Park to urban heat in the Parramatta Local Government Area.

Improve user comfort in Melrose Park (private open space and the public domain).

4.3.10.5.5 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.

4.3.10.5.6 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 , podia , 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 4.3.10.4 as calculated on 21 December on the east facing façade at 10am, northeast and southeast facing façade at 11.30am, north facing façade at1pm, northwest and southwest facing façade at 2.30pm and the west facing faced at 4pm.

Table 4.3.10.4 - 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 4.3.10.5 for sun angles corresponding to shading reference times.

Calculation of RSR for each relevant façade must also be submitted with the development application.

Table 4.3.10.5 - 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 4.3.10.6 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, northwestand southwest facing façade at 2.30pm and the west facing faced at 4pm.

Table 4.3.10.6 - 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 generallyacceptable.

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.

4.3.10.5.7 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.

4.3.10.5.8 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 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 onStructures'.

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

4.3.10.5.9 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 that 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.

4.3.10.5.10 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 testare 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.

4.3.10.5.11 ECOLOGY

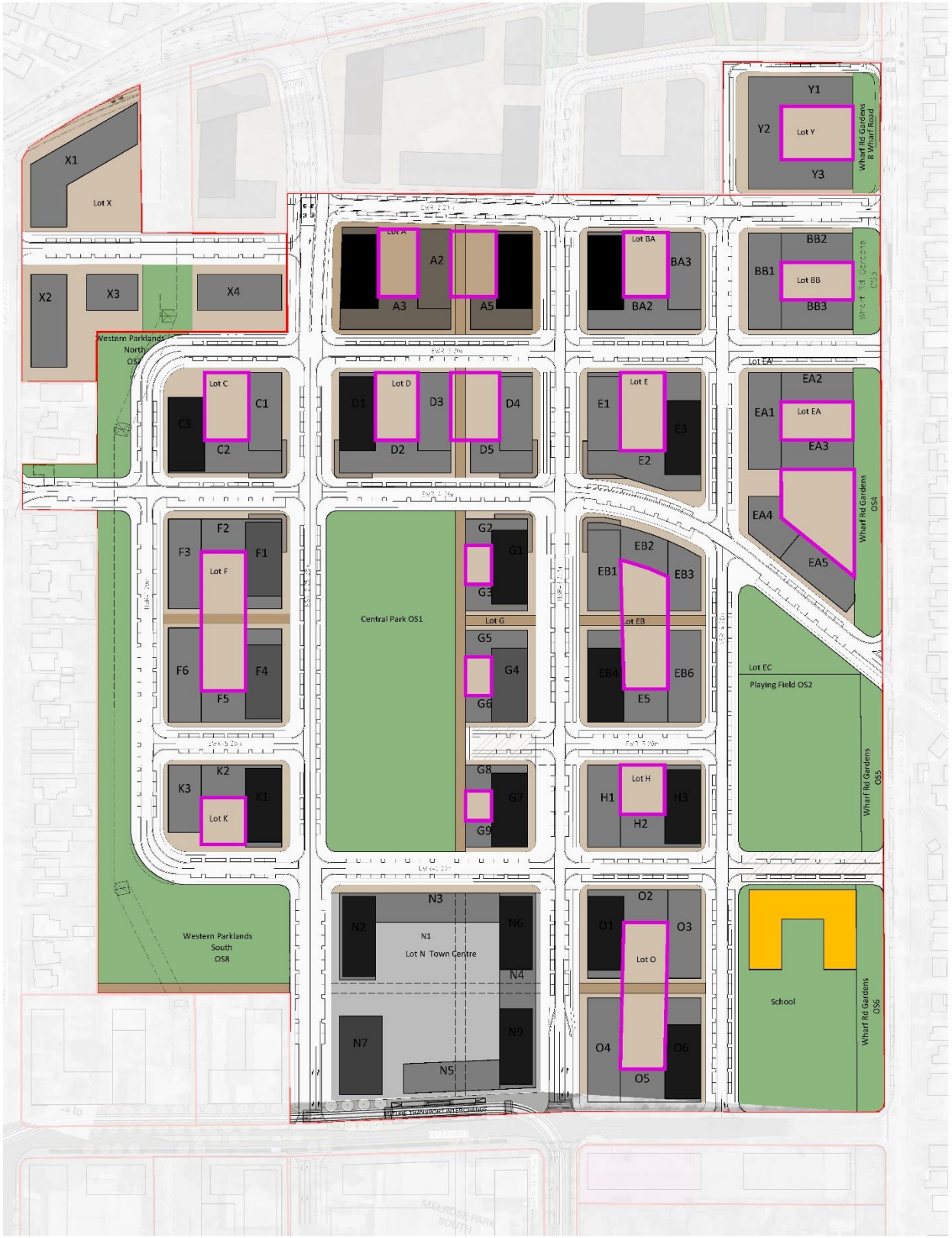
Objective

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.

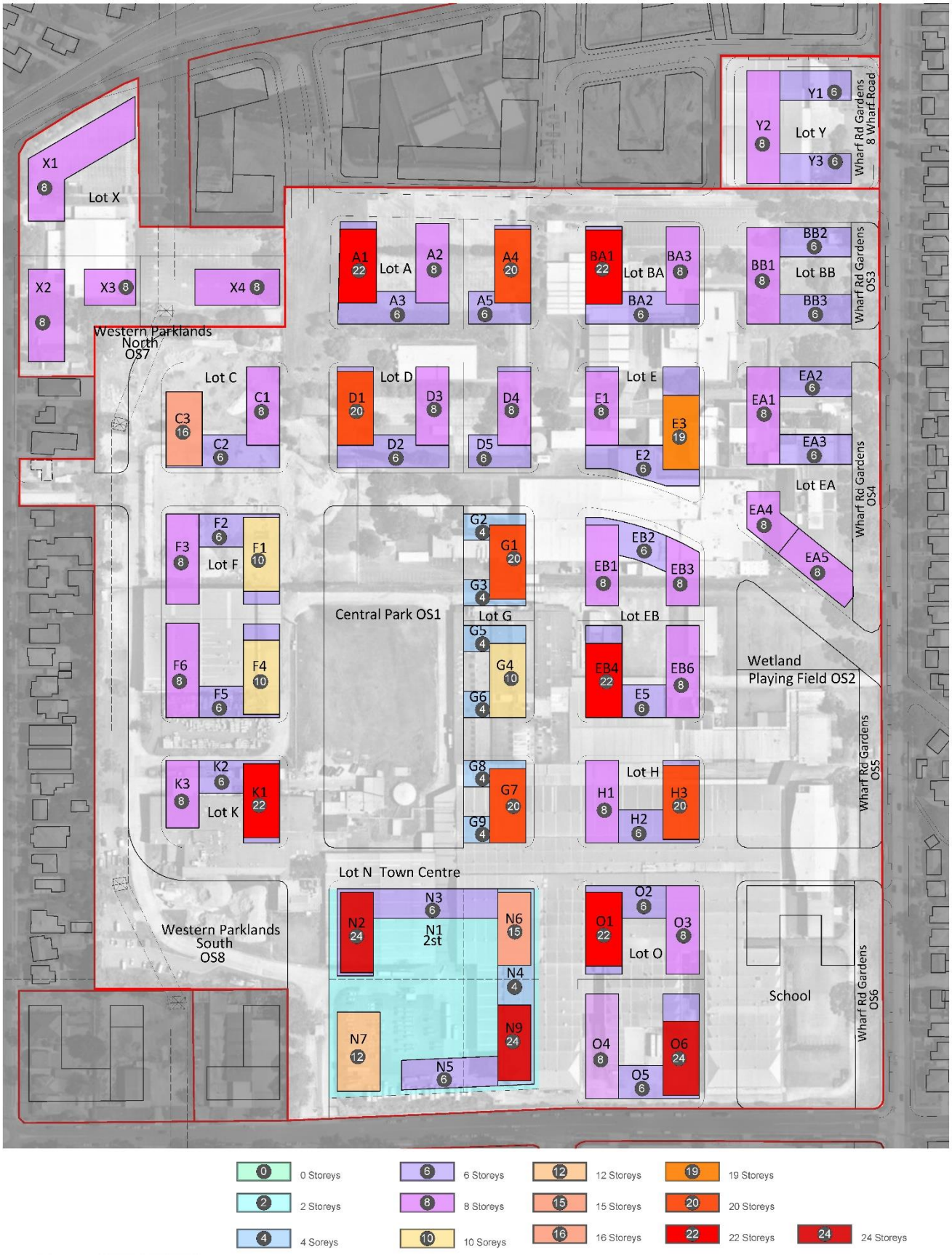
Appendix 1 – Melrose Park North Master Plan



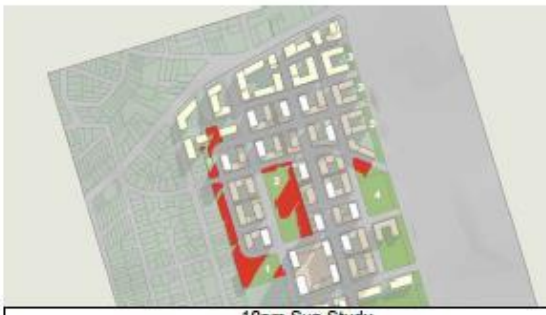
Pubblic accessible private street

Internal Courtyard

Appendix 2 – Building Heights



Appendix 3 – Solar Access Plan



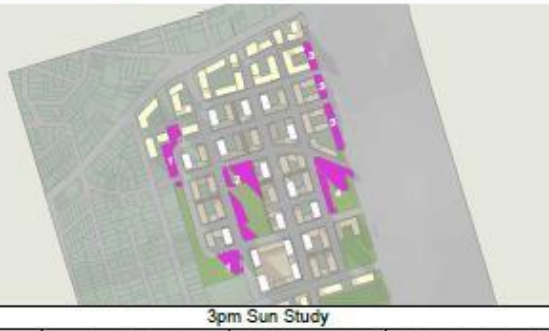
10am Sun Study			
Area	Area in Sun (sqm)	Total Area (sqm)	Percentage in Sun (%)
1	6100	16013	38
2	8990	16341	55
3	5016	5016	100
4	8600	11684	74

11am Sun Study			
Area	Area in Sun (sqm)	Total Area (sqm)	Percentage in Sun (%)
1	9480	16031	59
2	12912	16341	79
3	5016	5016	100
4	8830	11684	76

12pm Sun Study			
Area	Area in Sun (sqm)	Total Area (sqm)	Percentage in Sun (%)
1	12398	16013	77
2	14855	16341	91
3	5016	5016	100
4	10676	11684	91

1pm Sun Study			
Area	Area in Sun (sqm)	Total Area (sqm)	Percentage in Sun (%)
1	13173	16031	82
2	13651	16341	84
3	4866	5016	97
4	9059	11684	78

2pm Sun Study			
Area	Area in Sun (sqm)	Total Area (sqm)	Percentage in Sun (%)
1	13204	16031	82
2	11815	16341	72
3	2365	5016	47
4	6799	11684	58



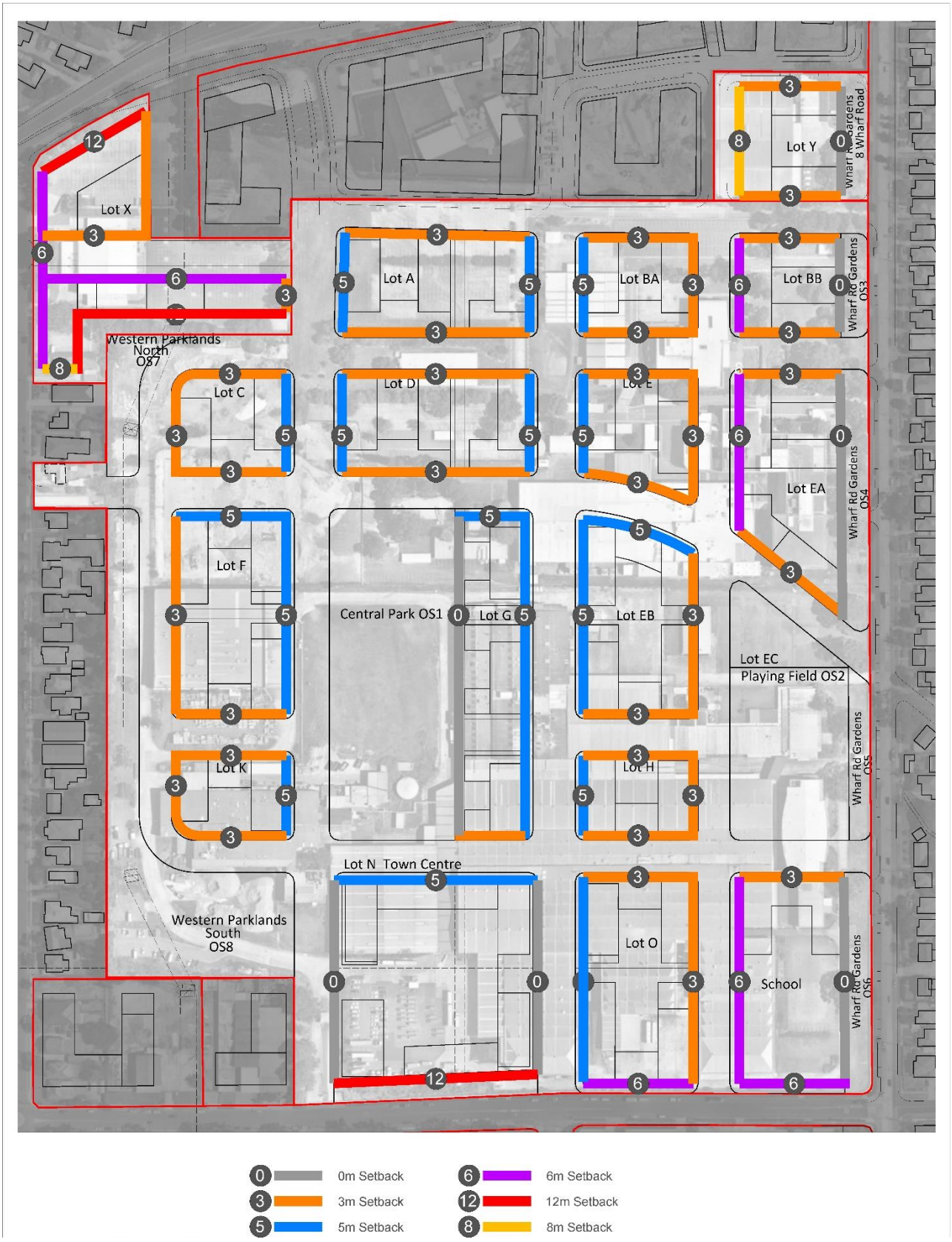
3pm Sun Study			
Area	Area in Sun (sqm)	Total Area (sqm)	Percentage in Sun (%)
1	10436	16013	65
2	9662	16341	59
3	551	5016	11
4	1818	11684	16

Cumulative Sun Access to Open Space

Cumulative Shadow Cast from Development to Open Space

Cumulative Sun Access to Public Open Spaces					
Area	Total Area	Max Sun Access Times	Total Area in Sun	Percentage in Sun	Total Area in Shadow
1	16013	12pm - 2pm	9921	62	6092
2	16341	11am - 1pm	10354	63	5987
3	5016	10am - 12pm	5016	100	0
4	11684	11am - 1pm	10266	88	1418

Appendix 4 – Building Setbacks



Appendix 5 – Indicative Application of Building Envelopes

Overview

Appendix 5 comprises two parts. The purpose of this information is to clarify for the architects and assessment officers how the masterplan and the setback controls are to be interpreted.

Part 1 Setbacks provides information and a table of how the upper-level setbacks to all buildings above are determined on each block.

Part 2, Illustrated Examples provides drawings of how the heights and setbacks are to be applied. The lots selected are D, G and EA because they show different building types and different topography.

PART 1 | SETBACKS

Assumptions

Base Building Element

- The perimeter block height is generally 6 storeys.
- Block G is 4 storeys
- The Town Centre is 2 retail + 3 car parking levels sleeved with residential.
- The 6 storey and 4 storey elements of all buildings must extend to the required street setbacks and align with the streets
- The podium of the Town Centre must extend to the street setbacks

Length and Width of Buildings

- The length of buildings that are 10 storeys and above are drawn at 50 metres.
- The width of buildings aligned East-West are drawn at 20 metres.
- The width of buildings aligned North - South without tower are drawn at 20 metres
- The width of buildings aligned North -South with tower are drawn at 22 metres

Changes to the length and width in the detail design of buildings may alter some of the setbacks and heights but these differences will only be minor.

Alignments

The Masterplan has organised the building envelopes at ground and above to define a series of spaces .For example

a) Buildings C1, D1, D3, D4, E1 align on the southern side
b) Buildings A1, A2, A4, BA1, BA3 align on the southern side
c) Buildings C3, F3 and EA1 align on the southern side
d) Buildings C3, F3 align on the northern side
e) Buildings F3, G1, EB1, EB3 align on the southern side
f) Buildings F6, F4,G4, EB4, EB6 align on the southern side
g) Buildings K1, G7, H1, H3 align on the southern side
h) Buildings O4, O6 align on the southern side
i) Buildings O1, O3 align on the northern side

Minor discrepancies in the Masterplan drawings are evident because of scale of the drawing and where streets are slightly non orthogonal.

BUILDING SETBACKS ABOVE PERIMETER BLOCK AND PODIUM					
			NORTH	**EAST + WEST**	**SOUTH**
LOT	**BUILDING NUMBER**	**NUMBER of STOREYS**	**SETBACK ABOVE PERIMETER BLOCK HEIGHT**	**SET BACK ABOVE PERIMETER BLOCK HEIGHT**	**SET BACK ABOVE PERIMETER BLOCK HEIGHT**

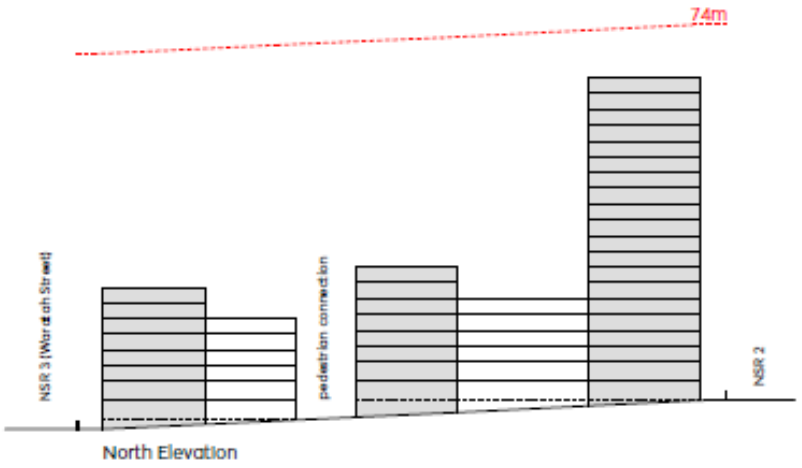
X	X1	8	Optional 1 or 2 Storeys	Optional 1or 2 Storeys	Optional 1or 2 Storeys
	X2	8	Optional 1 or 2 Storeys	Optional 1or 2 Storeys	Optional 1or 2 Storeys
	X3	8	Optional 1 or 2 Storeys	Optional 1or 2 Storeys	Optional 1or 2 Storeys
	X4	8	Optional 1 or 2 Storeys	Optional 1or 2 Storeys	Optional 1or 2 Storeys
A	A1	22	Optional	Nil	Mandatory Approximately 13-14 metres
	A2	8	Optional	Nil	Mandatory Approximately 13-14 metres
	A4	20	Optional	Nil	Mandatory Approximately 13-14 metres
BA	BA1	22	Optional	Nil	Mandatory Approximately 13-14 metres
	BA3	8	Optional	Nil	Mandatory Approximately 13-14 metres
Y	Y2	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
BB	BB1	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
C	C3	16	Nil	Nil	Nil
	C1	8	Nil	Nil	Mandatory Approximately 13-14 metres
D	D1	20	Optional	Nil	Mandatory Approximately 13-14 metres
	D3	8	Optional1 or 2 Storeys	Nil	Mandatory Approximately 13-14 metres
	D4	8	Optional1 or 2 Storeys	Nil	Mandatory Approximately 13-14 metres
E	E1	8	Optional1 or 2 Storeys	Nil	Mandatory Approximately 13-14 metres
	E3	19	Remainder	Nil	Mandatory to align with EA1and C3
EA	EA1	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	EA4	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	EA5	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
F	F3	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	F1	10	Nil	Nil	Remainder
	F6	8	Optional 1 or 2 Storeys		
	F4	10	Remainder	Nil	Nil
G Base Perimeter Block of 4 storeys					
G	G1	20	Block Dimension minus length of	Nil on West Block Dimension	Nil

			tower	minus width of tower on East	
	G4	10	Block Dimension minus length of tower	Nil on West Block Dimension minus width of tower on East	Nil
	G7	20	Block Dimension minus length of tower	Nil on West Block Dimension minus width of tower on East	Nil
EB	EB1	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	EB3	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	EB4	22	Block Dimension minus length of tower	Nil	Nil
	EB6	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
K	K3	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	K1	22	Nil	Nil	Nil
H	H1	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	H3	20	Block Dimension minus length of tower to align with G7	Nil	Nil
O	O1	22	Block Dimension minus length of tower	Nil	Nil
	O3	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	O4	8	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys	Optional 1 or 2 Storeys
	O6	24	Block Dimension minus length of tower	Nil	Nil
TOWN CENTRE Setbacks to the podium are flexible but buildings are to align with the streets 12 metres between N6 + N9; 12 metres between N2 + N7					
N	N2	24	N2 to align with N6 North Side		
	N6	15	N6 to align with N9 East Side and West Side		
	N7	12	N7 to align with N2 West Side		
	N9	24			

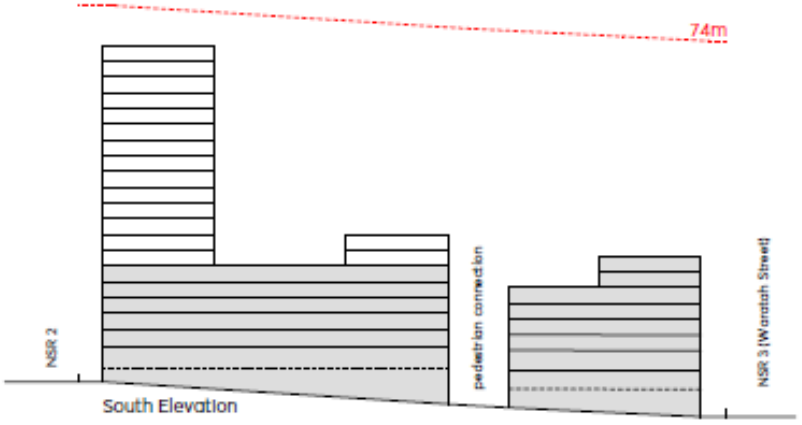
PART 2 | ILLUSTRATED EXAMPLES

Examples of Blocks D, G and EA have been prepared to illustrate how the height and setbacks controls are interpreted. These illustrate that:

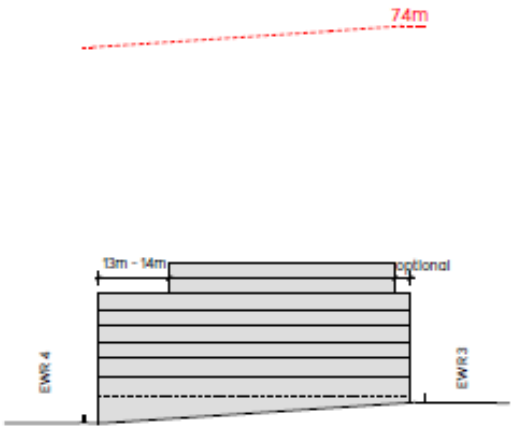
- The different topographical levels are to be taken up in the lower levels so the upper levels of buildings are not stepped
- The height nominated on the Building Height Drawing Appendix 2 for the base building (4 and 6 storeys) is to be located on the high side of the lot and the additional height on the lower side of the lot.



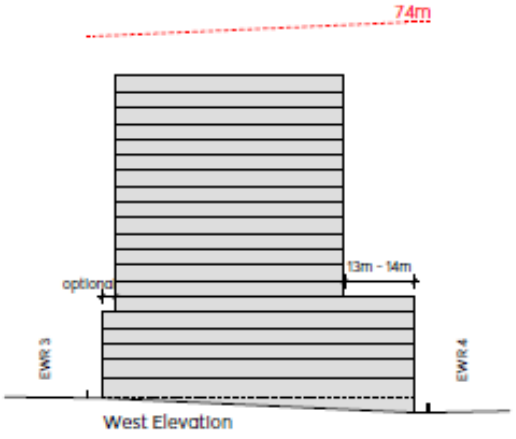
North Elevation



South Elevation



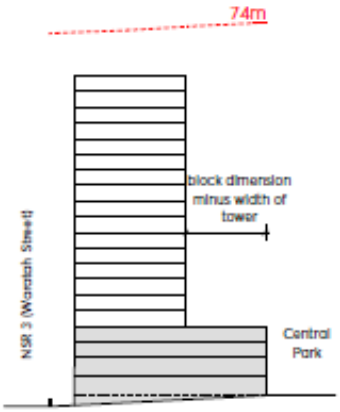
East Elevation



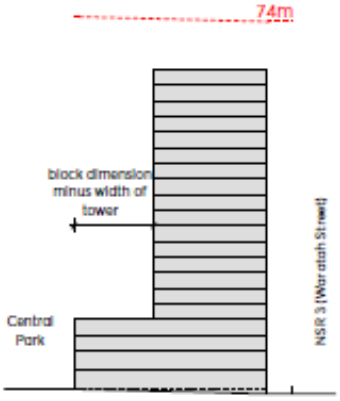
West Elevation

0 5 10 20

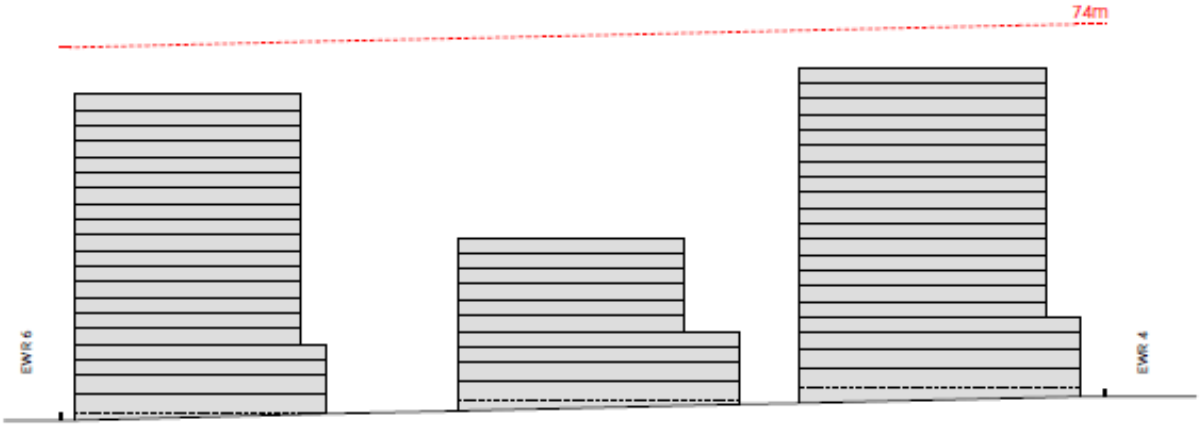
Block D



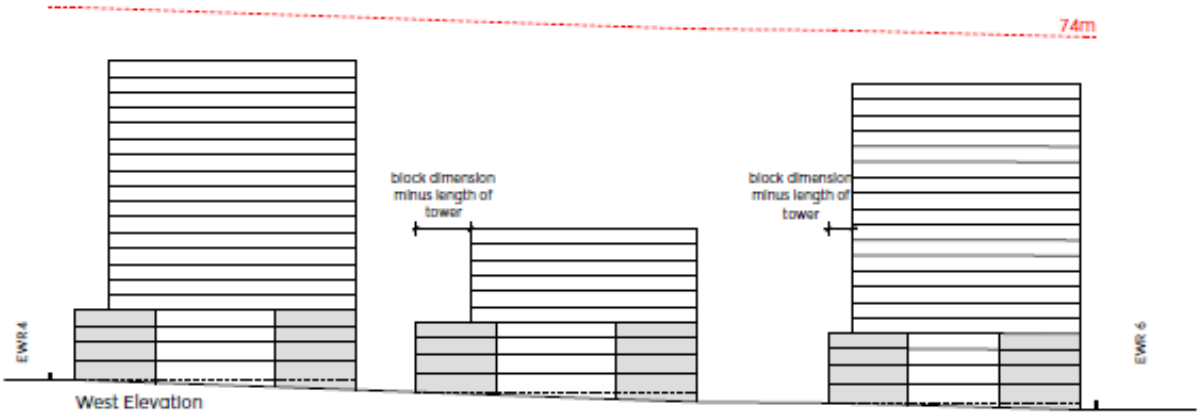
North Elevation



South Elevation



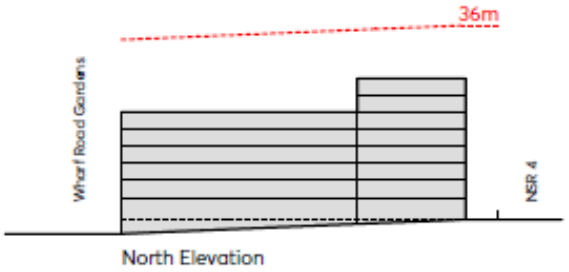
East Elevation



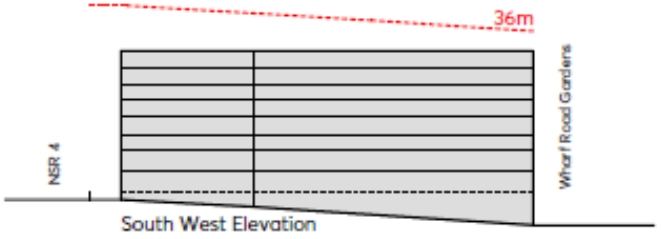
West Elevation

0 5 10 20

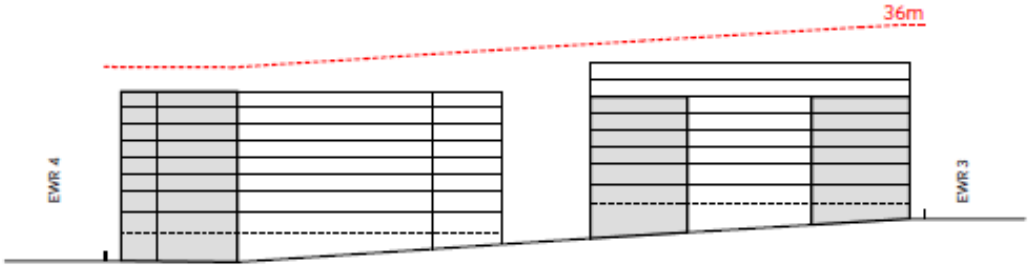
Block G



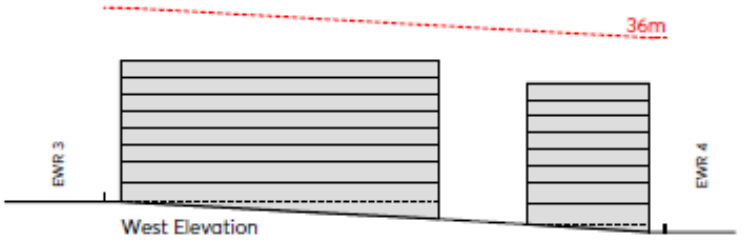
North Elevation



South West Elevation



East Elevation



West Elevation

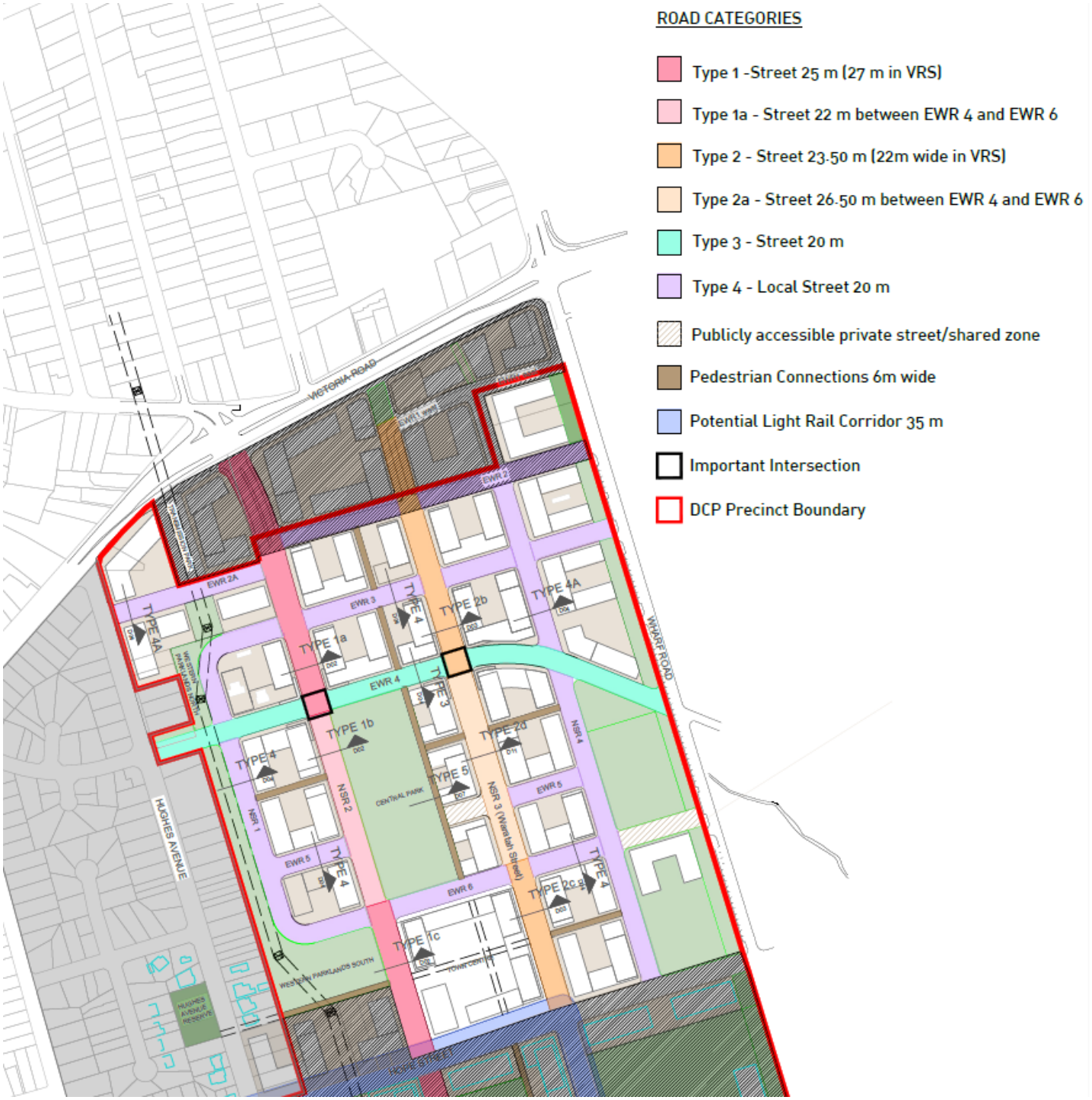
Optional setbacks of 1 or 2 storeys on 8 storey component

0 5 10 20

Block EA

Appendix 6 – Public Open Space

Appendix 7 – Street Hierarchy



Appendix 8 – Street Schedule

City of Parramatta

Melrose Park North : Urban Design Public Domain Street Layouts

Author: VH **Rev: V5** **Date: 19.04.2021**

Melrose Park North RZ/1/2016 masterplan (Work in Progress)

S.No	Street / Pedestrian Connection name	Street / Pedestrian Connection Corridor Width	Direction	Proposed Street Nomenclature	Proposed Building Setback		Description of Elements in Road Reserve											
					W/N side of road corridor (whichever is applicable)	E/S side of road corridor (whichever is applicable)	Footway Width W/N (whichever is applicable)	Footway Width E/S (whichever is applicable)	Footpath W/N (whichever is applicable)	Footpath E/S (whichever is applicable)	Planting Beds W/N (whichever is applicable)	Planting Beds E/S (whichever is applicable)	Trees	Parking	Vehicular lanes	Bicycle Path/ Lane	WSUD Planter	Notes
Streets																		
1	NSR-1	20m	North South	XX Crescent	Western Parklands North and South	3m	4.2m	4.2m	2m	2m	Yes. 2.05m clear width	Yes. 2.05m clear width	Larger trees in Parking; smaller trees in planting beds	2.3m wide both sides	single lane 3.5 m wide, each way	No	Bio retention open tree pit for the smaller trees, WSUD treatment for tree in parking (planter or paving TBC)	
2	NSR-2 Typical (Type 1a)	25m	North South	XX Boulevard	5m typical along developments/ 0m at Western Parkland South opposite Town Centre	5m Typical	3.5m	3.5m	3.5m	3.5m	No	No	Larger trees in Parking; smaller trees in front setbacks, possible third row in footpath	2.6m wide both sides	Two 3.2 m wide lanes each way with buses plying on this street	No	For the tree in parking - either in planter or paving TBC Trees in verge to possibly have bio-retention tree pits	Bus Route on road. NSR 2 town centre has zero setback. Public domain on western side of street between EWR 4 and EWR 6, to possibly house a linear park with elements like seating spaces, exercise areas, games etc. in its footway width of 6.4 m.
	NSR-2 (Type 1b) between EWR 4 and EWR 6	22m				0m at Central Park	6.4m	3.4m		3.4m	Yes. Possible linear park		Larger trees in footpath on eastern side, and in verge on western side		Single 3.5 m wide lanes each way			
	NSR-2 (Type 1c) Town Centre Interface	25m				0m at Town Centre	3.5m	3.5m		3.5m	No		Larger trees in Parking; possible second row in western footpath		Two 3.2 m wide lanes each way OR single 3.5 m wide lanes each way with line marked median, depending on the connection to Hope Street. Buses ply on this street			
3	NSR-3	23.5m	North South	Waratah Street	5m overall / 0m at Town Centre	5m	6.25 includes cycleway	6.25 includes cycleway	1.8m	1.8m	Yes. 1.95m clear width	Yes. 1.95m clear width	Larger trees in Parking; smaller trees in between the footpath and the cycle track	2.3m wide both sides	single lane 3.2 m wide, each way	Yes - one way paired, separated bicycle paths - both sides having an assumed 2.5m wide bicycle corridor, 1.5m wide on both sides asphalted with a 1m concreted portion alongside to allow for people coming out of parked cars from the on-street parking lane	For the tree in parking - either in planter or paving TBC	NSR 3 Town Centre condition, town centre setback is 0m and development side is a 5m setback. 3m wider public domain on western side of street between EWR 4 and EWR 6. Total public area available (excluding the cycleway) is 6.75 and this can house a linear park with elements like seating spaces, exercise areas, games etc.
	NSR-3 (Type 2d) between EWR 4 and EWR 6	26.5m			5m		9.25 includes cycleway	6.25 includes cycleway	2m		Possible Linear Park							
4	NSR-4	20m	North South	XX Street	3m	6m for developments / Lot EC (Wetland) and playing field / 6m for school	4.2m	4.2m	2m	2m	Yes. 2.05m clear width	Yes. 2.05m clear width	Larger trees in Parking; smaller trees in planting beds. 3rd row of trees in 6m setback	2.3m wide both sides	single lane 3.5 m wide, each way	No	Bio retention open tree pit for the smaller trees, WSUD treatment for tree in parking (planter or paving TBC)	
5	Wharf road	existing road	North South	Wharf Road					3m shared path							Yes - shared		The shared path is desired to be 3m but is to be adjusted in width depending on future additional traffic lanes. Where possible, a 3m path should be put in and reduced where constraints exist. Bus route on road
6	EWR-2A	20m	East West	XX Street	3m	6m	4.2m	4.2m	2m	2m	Yes. 2.05m clear width	Yes. 2.05m clear width	Larger trees in Parking; smaller trees in planting beds	2.3m wide both sides	single lane 3.5 m wide, each way	No	Bio retention open tree pit for the smaller trees, WSUD treatment for tree in parking (planter or paving TBC)	The possibility of connecting the EWR-2A to NSR 2 needs to be explored. Levels could be an issue in trying to achieve this outcome. Layout and connection subject to final advice from Traffic.
7	EWR-3	20m	East West	XX Street	3m	3m	4.2m	4.2m	2m	2m	Yes. 2.05m clear width	Yes. 2.05m clear width	Larger trees in Parking; smaller trees in planting beds	2.3m wide both sides	single lane 3.5 m wide, each way	No	Bio retention open tree pit for the smaller trees, WSUD treatment for tree in parking (planter or paving TBC)	
8	EWR-4	20m	East West	XX Grove	3m	5m / lot EC (Wetland)	3m	6m	3m wide shared path	2m wide	no	in swale	Larger trees in Parking	2.3m wide both sides	single lane 3.2 m wide, each way	Yes - shared, on northern side of the street	Open Continuous Swale / Raingarden	
9	EWR-5	20m	East West	XX Street	3m	3m	4.2m	4.2m	2m	2m	Yes. 2.05m clear width	Yes. 2.05m clear width	Larger trees in Parking; smaller trees in planting beds	2.3m wide both sides	single lane 3.5 m wide, each way	No	Bio retention open tree pit for the smaller trees, WSUD treatment for tree in parking (planter or paving TBC)	
10	EWR-6	20m	East West	XX Street	3m Typical / Central Park / Playing Field	3m Typical / 5m at Town Centre	4.2m	4.2m	2m	2m	Yes. 2.05m clear width	Yes. 2.05m clear width	Larger trees in Parking; smaller trees in planting beds	2.3m wide both sides	single lane 3.5 m wide, each way	No	Bio retention open tree pit for the smaller trees, WSUD treatment for tree in parking (planter or paving TBC)	

Publicly accessible private street/ shared space -																	
11	Connection between G6/G4 and G8, links to EWR 3	20m	East West	xx Lane	3m	3m	possibly 4.2m	possibly 4.2m	possibly 2m	possibly 2m	yes	yes	Large trees along the sides	possibly yes	Shared lanes possibly 3.2 to 3.5m wide each way	No	Possibly Bio retention open tree pits for the trees	
12	Connection between Playing Field and School, links to NSR 4 and possibly Wharf Road	20m	East West	xx Lane	3m	3m	possibly 4.2m	possibly 4.2m	possibly 2m	possibly 2m	yes	yes	Large trees along the sides	possibly yes in a width of 2.3 m both sides	Shared lanes possibly 3.5m wide each way	No	Possibly Bio retention open tree pits for the trees	
Pedestrian Connections -																		
13	Pedestrian connection between A2-A4/A5 and links EWR2 and EWR 3	6m wide (12m building to building), extending street to street	North South	xx Lane		**Refer Masterplan Drawing A01 dated 19.04.2021 Rev M and Street Hierarchy Plan drawing L01 Rev K dated 16.04.2021** **Controls –** **The Pedestrian Connections are to be:** - Located as per the Masterplan - 24/7 publicly accessible - Extend from street to street or street to park - Open to sky (except at the mall) - Located within property boundaries on deep soil (preferably) and or on basement slab except one along central park which is located within the park boundaries. - Available for controlled access for light weight maintenance/service vehicles - Fully accessible using, in order of preference – - graded walkways (no steeper than 1:20) where possible; 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; **The Pedestrian Connections are to have:** - View lines along lane easement to align across all blocks - Building to building separation as shown on the masterplan - A public path 3-6m wide (based on site situation and constraints) and the balance of the 12m, where applicable, with landscape and canopy trees - Trees in deep soil (preferably) or in set down slabs and planters to encourage and sustain large canopy trees as per ADG requirements including soil volumes, soil depth, irrigation and sub-soil drainage - Pedestrian lighting to provide safe 24/7 access using Council approved lane lighting types as per the PDG - Materials as per the PDG (TBC) - The Pedestrian Connections should provide secondary entry to the buildings and courtyards - Park edge north/south connection is to have: - A low wall located along the park edge within the 6m lane boundary assumption. This wall could occur on both sides of the path depending on levels difference between the park and private boundary. The wall is to be masonry, a minimum of 450mm wide and a suitable option for sitting. - Canopy trees within the pathway in a set down slab (if required) to define park edge - The North South connection is to align with shopping mall entrance and provide direct access to Hope Street through the mall as per the master plan. This connection should be fully accessible (based on principles described above) and should be accessible 24/7. - Where retaining walls are required they are to be located within property boundary (except along Central Park). - 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 particular recognition of the grades and sight lines across the site. - Fences, to courtyards adjoining the laneways, are to have a masonry base and be designed to provide views into the courtyards.	
14	Pedestrian connection between D3-D4/D5 and links EWR 3 and EWR 4	6m wide (12m building to building), extending street to street	North South	xx Lane														
15	Pedestrian connection between Central park and blocks G2, G3, G5, G6, G8 & G9; and links EWR 4 and EWR 6	6m wide, extending street to street	North South	xx Lane														
16	Pedestrian connection between F3 & F6 and F1 & F4, and links NSR 1 & NSR 2	6m wide (12m building to building), extending street to street	East West	xx Lane														
17	Pedestrian connection betweenG1/G3 and G5 and links NSR 3 and Central Park	6m wide (12m building to building), extending street to street	East West	xx Lane														
18	Pedestrian connection between EB1 & EB4 and EB3 & EB6, links NSR 3 & NSR 4	6m wide (12m building to building), extending street to street	East West	xx Lane														
19	Pedestrian connection between O1 & O4 and O3 & O6, links NSR 3 & NSR 4	6m wide (12m building to building), extending street to street	East West	xx Lane														
20	24/7 Pedestrian access connections through town centre as shown on the drawing	6m	North South	xx Place														
21	24/7 Pedestrian access connections through town centre as shown on the drawing	6m	East West	xx Place														
22	Pedestrian connection between Western Parklands south and lots P & Q; and links Hughes Avenue reserve (across Hughes avenue) and NSR 2	6m wide, extending street to street through lot along Hughes Avenue	East West	xx Lane														

ELEMENTS & MATERIALS :
All Footpaths - Concrete, as per Council's details (unless otherwise specified), widths as specified above.
Town Centre, Shops & Cafe Areas, and important intersections' Paving & Footpaths - Provision of Stone Paving to be investigated
Bicycle paths - Asphalt finish on concrete. Pavement markings and cross section as specified in CoP Bicycle facilities Design Guide (Draft) - To be forwarded to the applicants.
Shared Paths - Concrete. Pavement marking (TBC) to be as specified in CoP Bicycle facilities Design Guide.
Kerb and gutter - Concrete. Dimensions and arrangement as per Council's details.
Roads - Asphalt to Council's standard details; however, other materials to help reduce heat to be explored.
Water Sensitive Urban Design (WSUD) Details - To be worked out based on requirements noted above. **WSUD techniques** to follow best practice and be appropriate for site specific applications, in particular street grades, and approved by Manager DTSU.
Street Furniture - Placement of elements as per the Parramatta Public Domain Guidelines (PPDG)
Lighting Design & Light Pole types - To be confirmed based on detailed lighting plan of the Melrose Park North Precinct. Light pole locations in plan and spacing to be confirmed based on required lighting levels and luminaire type.
Tree Species - Selection to be informed by DCP building height, setback controls and subsequent solar access.
Tree Pits - All tree pits to be designed to include structural soil support systems e.g. 'Strata Vaults' and WSUD guided soil profiles, as specified.
All Fill in the public domain and on private lot deep soil to use constructed soil profile as approved by Manager DTSU.
Road Intersections - To be designed to suit usage and surrounding elements. These must have blisters at all intersections but these may be more extensive at important intersections. Designs may vary depending on pedestrian and bicycle requirements.
Pedestrian Laneways - To be fully accessible. Arrangement, materials and cross sections to be confirmed.
Retaining walls and Fences - To be designed to Council's satisfaction, and to be located in the private domain in their entirety.

ASSUMPTION:
Access to building car parking is always from the southern side of the building unless otherwise noted.

Appendix 9 – Public Domain Plan

Appendix 10 – Water Management Plan